

FOR THE AMSTRAD
CPC464, CPC664, CPC6128

DEEBUG
SOFT

LOCKSMITH
Disc & Tape
Transfer Package

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FOR THE AMSTRAD

CPC 464, CPC 664 & CPC 6128

by S. POTTER

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1. INTRODUCTION

1.1 Overview

Locksmith is a comprehensive Tape and Disc transfer package specially developed for the CPC 464, CPC 664, and CPC 6128 range of computers, and is available on tape, disc or rom. It will quickly and easily transfer programs from tape to disc, tape to tape, disc to disc, and disc to tape.

For ease of use all Locksmith commands may be entered with a unique command name directly from the keyboard, or they can be selected from a main menu. A special Help command is provided to give the user information on the syntax of all Locksmith commands, and as a further aid, parameters required by the various Locksmith routines are prompted for, if not supplied by the user.

Locksmith will faithfully transfer tape programs to disc, except for those that are too long to run on a disc system, or were originally saved to a non standard tape format. Once transferred to disc it may be necessary to alter programs slightly for them to run correctly. Section 5 of this manual gives some notes on how to do this. The Disc to Disc command can only transfer disc files that can be catalogued in the normal way, although the Backup command is capable of making an exact copy of almost all discs.

Locksmith should not be used to infringe the copyright laws. Programs transferred by Locksmith are intended for your own personal backup use, and should not be sold, lent or given away.

1.2 Features Of Locksmith

TAPE to DISC transfer.

TAPE to TAPE transfer.

DISC to DISC transfer.

DISC to TAPE transfer.

Transfer single files or blocks of files.

AUTO and MANUAL modes of operation.

Load and list protected Basic programs.

Comprehensive tape and disc header reader.

Relocator for files that overwrite disc workspace.

Routine to aid transfer of headerless files.

HELP command to list the commands and their parameters.

Menu or command driven.

2. LOADING INSTRUCTIONS

2.1 Loading The Tape Version

Note that loading Locksmith will destroy any Basic program resident in memory, so please save your programs first.

Insert your cassette into the datacorder ensuring that it is fully rewound. Hold down the **CTRL** key and press the small **ENTER** key on the numeric keypad. You will be prompted to press the play button on the datacorder and then press any key on the keyboard. When loading is complete, the familiar 'Ready' message will appear.

If you want to load the cassette version on a CPC 664 or CPC 6128 then you must type `!tape` before loading. If your tape recorder does not use remote control then remember to stop the recorder when the main program has loaded.

2.2 Loading The Disc Version

Insert the disc into the disc drive and type:

```
run"disc
```

Press **ENTER** and the program will load. When the 'Ready' message appears, Locksmith is ready for use.

If you have more than one drive connected to your computer then the disc should be inserted into drive A.

2.3 Fitting The Rom Version

If Locksmith is supplied on rom, you will need an external rom board attachment. These may be purchased from a number of suppliers, and you should consult the instructions which accompany your rom socket about its connection to your computer, and the insertion of Locksmith into it. Once fitted in this way, Locksmith will remain on call at all times without the inconvenience of having to load it from tape or disc.

3. GETTING STARTED

3.1 Conventions Used In This Manual

In this manual specific key presses required by Locksmith (such as the 'Enter' key) will be indicated thus: **ENTER**.

All parameters are shown in this manual enclosed in brackets. Single sets of brackets <> indicate essential parameters, while double brackets <<>> indicate optional parameters.

3.2 Memory Used By Locksmith

Tape and disc versions of Locksmith will remain in memory until you switch off your machine, unless they are overwritten in memory by other programs. The rom version will remain on call at all times. Once Locksmith is resident in your machine (whether on rom or in memory), you may use your computer as normal except that where Locksmith has been loaded into memory from tape or disc, less free memory will be available for Basic programs.

Please note that using any of the following Locksmith commands may destroy any Basic program resident in memory:

- ltapedisc**
- ltapetape**
- ldiscdisc**
- lbackup**
- ldistape**
- lupload**

3.3 Calling Locksmith Commands

Whether Locksmith is on rom or has been loaded into memory from cassette or disc as described above, all routines are called in exactly the same way using 'l' (bar) commands.

For example if you type the following: **lhelpl** **ENTER**
you will see Locksmith's help screen appear.

Although each Locksmith command has a unique command word associated with it, you may find that some of these clash with the names of commands in other roms (if your machine is fitted with an external rom board). Locksmith has a special feature to resolve command name clashes. If, for example, you entered the command **lhelpl** and found that it was intercepted by a rom other than Locksmith, simply preface the command name with a 'b'

– for Beebugsoft – (ie type `l b h e l p l`). This will ensure that the command is intercepted by Locksmith rather than any other rom.

Another way to call a Locksmith command is to type: `l o c k` **ENTER**
This calls a menu from which almost all of Locksmith's routines may be selected.

3.4 Entering Parameters

All Locksmith commands may be entered in upper or lower case, and if parameters are being entered with the command, the command should be followed by a comma, and each parameter separated by a comma. In fact most of Locksmith's routines require one or more parameters to be entered to specify how the commands are to be executed.

For example the tape to disc transfer routine needs to know the name of the file to transfer. This may be entered immediately following the command name as a string enclosed in quotes. Thus, for example, the command `l t a p e d i s c` which will transfer a file from tape to disc, might be called as follows:

```
l t a p e d i s c , " o l d g a m e " ENTER
```

In this case the routine will transfer the file "oldgame" from tape to disc.

If you had selected `l t a p e d i s c` from the Locksmith menu, or had simply entered:

```
l t a p e d i s c ENTER
```

Locksmith would have prompted you for the parameter.

3.5 Optional Parameters

Some parameters are optional, such as the filenames used with the `l t a p e d i s c` command. Optional parameters are indicated in this manual with a double angle bracket thus:

```
l t a p e d i s c , <<filename>> ENTER
```

If you wish to call the command without the parameters, simply type:

```
l t a p e d i s c ENTER
```

and then press **ENTER** in response to the prompt that is printed. Locksmith will then automatically supply sensible default parameters; in this case it will transfer all files. Locksmith will supply default values for all commands that have optional parameters.

3.6 Entering Strings On The CPC 464

Quite a few of Locksmith's routines require text (or strings) to be entered as parameters. One such command is `l p l o a d` ; this routine needs to know the name of the Basic program to load. The correct syntax for this is illustrated by the following example. To load the protected Basic program "utility", you could type the following:

```
l p l o a d , " u t i l i t y " ENTER
```

There is an important point to note here; string parameters may not be entered in a bar command on the CPC 464.

This needs some elaboration. It is feature of the CPC 464 (though not the CPC 664 or the CPC 6128) that strings (ie text) may not be entered in a "l" (or bar) command. So if you have a CPC464 simply enter the command name, and you will be prompted for the parameters. Users of the 664 and 6128 have the option of entering all parameters on the same line as the command name.

By contrast of course, if a Locksmith routine has been called from the main Locksmith menu, there is no opportunity to directly enter any parameters (since you are simply selecting one item from a menu screen), and all parameters will be prompted for regardless of which computer you are using.

3.7 Using Wildcards

Many of Locksmith's disc commands can be used on more than one file at once, by using wildcard characters in the filenames. There are two wildcards available: `?` represents any single character, and `*` represents any number of characters. To give some examples we will use the `l h e a d e r` command, which displays file header information for the file specified.

```
l h e a d e r , " c ? t . * " ENTER will display header information for the files  
"cat", "cbt", "cut" etc. but not for the file "cute".
```

```
l h e a d e r , " p * . * " ENTER will display information for all files beginning  
with "p".
```

```
l h e a d e r , " * . b a s " ENTER will display information for all files with the  
file type "bas".
```

```
l h e a d e r , " * . * " ENTER will display information for all files.
```

3.8 The Escape Key

The **ESC** key may be used at any time to exit a Locksmith routine, or to exit the main Locksmith menu.

It operates exactly as in Amstrad Basic. A single press of the **ESC** key will halt the screen display, and any other key will reinstate it. Pressing **ESC** twice will return you to Basic, or back to the menu, if the command you were using was called from there.

3.9 Screen Modes

Locksmith will work in all screen modes, though you will find its output clearest in mode 1. When a Locksmith routine is called individually using a bar command, no changes will be made to the currently selected screen mode or ink and pen colours. If on the other hand you call the Locksmith menu, mode 1 will be selected, and the colour palette will be specifically re-defined in order to obtain the clearest display.

4. THE COMMANDS

4.1 LOCK

Syntax: llock

Function: Display a menu from which Locksmith commands may be selected, and set the function keys for use with Locksmith.

The Locksmith menu provides the easiest way of calling Locksmith commands. When llock is entered, screen mode 1 is first selected, and then the colour palette adjusted if necessary for a clear display. The following menu then appears:

```
-----  
  
L O C K S M I T H  
Tape and Disc  
Transfer Package  
from  
B E E B U G S O F T  
  
A AUTO  
B DISC to DISC  
C DISC to TAPE  
D ERASE  
E HCOPI  
F HEADER  
G HELPL  
H MANUAL  
I PLOAD  
J PRINTON  
K PRINTOFF  
L RENAME  
M SPEED  
N STATUS  
O TAPE to DISC  
P TAPE to TAPE  
Q RSX Commands  
R BACKUP  
  
-----  
Enter Option:
```

The user selects a routine by letter, or returns to Basic by pressing **ESC**. If the routine selected requires the entry of parameters, these will be prompted for. When the routine has finished a small cursor block will appear on the screen; press **ESC** to return to Basic, or any other key to return to the menu.

Option 'Q' allows 'l' (bar) commands to be used without leaving the menu. Press any key when the command has executed to return to the menu, or press **ESC** to return to Basic.

FUNCTION KEYS

Calling `llock` will also set the function keys `f0` to `f9` to the following functions for ease of use:

<code>f0</code>	Set mode 0
<code>f1</code>	Set mode 1
<code>f2</code>	Set mode 2
<code>f3</code>	<code>lstatus</code>
<code>f4</code>	<code>lhelpl</code>
<code>f5</code>	catalogue drive A
<code>f6</code>	catalogue drive B
<code>f7</code>	<code>lprinton</code>
<code>f8</code>	<code>lprintoff</code>
<code>f9</code>	<code>llock</code>

Thus once `llock` has been called, the main Locksmith menu can be recalled at any time by pressing the `9` key on the keypad at the right hand side of the keyboard. The other defined keys work in a similar way. Press `1` and you will set up mode 1, and so on.

Also, if you have a disc interface connected, `CTRL` together with the small `ENTER` key on the numeric keypad will be defined:

```
run"disc
```

This will automatically 'boot' start discs containing the file 'disc'.

4.2 LOCKOFF

Syntax: `llockoff`
Function: Clear Locksmith from memory.

This command is for use on tape and disc versions only, and is used to reclaim space for Basic, should the need ever arise, by clearing Locksmith from memory. The operation leaves resident Basic programs intact. To use Locksmith routines after this command has been used, Locksmith will need to be reloaded into the machine.

As a safety precaution whenever this command is issued, the user is asked to confirm his intention before Locksmith is cleared.

4.3 HELPL

Syntax: `lhelpl`
Function: General help pages giving command list, and syntax.

The help command will first give a list of all of Locksmith's keywords, and their syntax. A second page gives the function key settings described in section 4.1.

```
auto
backup,<source drive>,<destination drive>
discdisc,<<filename>>,<<destination drive>>
disctape,<<filename>>
era
hcopy,<filename>,<<sync byte>>,<<length>>
header,<<filename>>
help
lock
lockoff
manual
pload,<filename>
printon
printoff
ren
speed,<save speed>
status
tapedisc,<<filename>>
tapetape,<<filename>>
```

As in this manual itself, essential parameters are enclosed in single angular brackets <>, whilst optional parameters have a double bracket <<>>.

4.4 TAPEDISC

Syntax: **tapedisc,<<filename>>**
Function: **Transfer tape files to disc.**

This command will transfer single or groups of files from tape to disc. Although files will be accurately copied to disc, you may find that some of them will not run on disc without some changes being made. Section 5 of this manual gives some ideas that will help to get programs running. There is one parameter <filename>, which specifies the name of the file to transfer. It cannot contain wildcard characters.

To use the command simply position your tape just before the file that you wish to transfer, type in the command, and then follow the screen prompts. If you want to transfer all of the files on your tape, you should type the command without the filename parameter, and press **ENTER** in response to the prompt 'Enter Filename'. If you choose to transfer all files then press **ESC** when the end of the tape is reached. Locksmith will always transfer files to the disc in the default drive (normally drive A).

Two problems that sometimes occur when transferring files from tape to disc are:

1. Tape filenames can be up to 16 characters long, but on disc they can only be up to 8 characters long. This means that a long tape filename may have to be shortened to make it valid.
2. The disc operating system uses some extra memory for its workspace; some tape files are quite often located in this area of memory, and if loaded could possibly cause the system to crash.

Locksmith handles these two problems in different ways depending on whether Locksmith is in Auto or Manual mode. The default mode is Auto, but can be changed at any time by using the `lmanual` and `lauto` commands.

AUTO

In this mode Locksmith will handle everything automatically without any user intervention. It will automatically make filenames valid for saving to disc, and add a small relocater to any tape files that would overwrite disc workspace.

MANUAL

In this mode Locksmith will always prompt for a new filename before saving to disc. If the tape file overwrites disc workspace, then you will be asked whether you want to add a relocater or not.

Locksmith will display all file information as it transfers files; it is best to keep a record of this information just in case the program will not run afterwards. Section 5 of this manual gives some ideas on how to get programs to run, and it is important that you know the filenames and load/execute addresses.

CPC 464 users wishing to use this command should type the command name only; the filename will then be prompted for. If **ENTER** is pressed in response to the prompt, then Locksmith will transfer all files from the tape.

Please note that this command will overwrite the contents of memory, so make sure you save your current program before using it.

4.5 DISCDISC

Syntax: `!discdisc,<<filename>>,<<destination drive>>`
Function: `Transfer files from one disc to another.`

This command will transfer files from the source (or default) drive to the destination drive specified.

Only files that appear in the normal disc catalogue can be transferred. If this command fails to transfer files correctly, then use the Backup command to produce an identical copy of your disc on a new disc.

The filename may include wildcard characters (see section 3.7). For example:

```
ldiscdisc,"program.*","B" ENTER
```

will transfer all files called "program" with any file type, from the source drive to drive B. The source drive is normally drive A, but can be changed by using the Amsdos command `ldrive`. Alternatively the source drive can be specified at the beginning of the filename. For example:

```
ldiscdisc,"b:program","A" ENTER
```

will transfer the file "program" from drive B to drive A.

Both the source and destination drives can be the same, so that users with only one disc drive can easily transfer disc files. In this situation, Locksmith will prompt you to insert your source and destination discs as necessary.

CPC 464 users wishing to use this command should type the command name only; the parameters will then be prompted for. If **ENTER** is pressed in response to the prompts, then Locksmith will transfer all files.

Please note that this command may overwrite the contents of memory, so make sure you save your current program before using it.

4.6 BACKUP

Syntax: `lbackup,<source drive>,<destination drive>`

Function: Backup one disc onto another disc.

This command will make an exact copy of one disc onto another disc, formatting the new disc correctly at the same time. There are two parameters `<source drive>` and `<destination drive>`, which are prompted for if not specified after the command name. The command:

```
lbackup,"a","b"
```

will produce an exact copy of the disc in drive 'a' onto the disc in drive 'b'. Both the source drive and destination drive may be the same, so that users with only one drive can easily produce backup copies of their discs. In this situation, Locksmith will prompt you to insert your source and destination discs as necessary.

Please note that this command will backup discs that cannot normally be backed up using the system disc. It will handle non standard formats, damaged and non formatted tracks.

4.7 TAPETAPE

Syntax: `ltapetape,<<filename>>`
Function: Transfer tape files from one tape to another.

This command will transfer a file or group of files from one tape to another. There is one parameter, <filename> which is the name of the file to transfer; it cannot contain wildcard characters.

To use the command simply position your tape just before the file that you wish to transfer, type in the command and follow the screen prompts. If you want your copy to be saved at a faster speed, then first use the Locksmith `!speed` command.

CPC 464 users wishing to use this command should type the command name only; the filename will then be prompted for. If **ENTER** is pressed in response to the prompt, then Locksmith will transfer all files from the source tape. If you choose to transfer all files then press **ESC** when the end of the tape is reached.

Please note that this command will overwrite the contents of memory, so make sure you save your current program before using it.

4.8 DISCTAPE

Syntax: `ldisctape,<<filename>>`
Function: Transfer files from disc to tape.

This command will transfer files from the source (or default) drive to tape. The filename may include wildcard characters, and the source drive may be specified at the beginning of the filename. For example:

```
ldisctape,"*.*" ENTER
```

will transfer all files from the source drive (usually drive A) to tape.

```
ldisctape,"b:p*.*" ENTER
```

will transfer all files beginning with "p", from drive B to tape.

CPC 464 users wishing to use this command should type the command name only; the <filename> parameter will then be prompted for. If **ENTER** is pressed in response to the prompt, then Locksmith will transfer all files.

Please note that this command may overwrite the contents of memory, so make sure you save your current program before using it.

4.9 AUTO

Syntax: `lauto`
Function: **Set automatic mode for tape to disc transfer**

This command alters the way that the tape to disc transfer utility `ltapedisc` operates. It causes two things to happen automatically during the transfer:

1. If the filename of a program being transferred to disc is more than 8 characters long, then it will be truncated to make it legal.
2. A small relocater is added to any file that would otherwise overwrite disc workspace.

Please note that this command does not transfer any files, it just sets the mode for tape to disc transfer.

For further information please refer to the detailed description of the command `ltapedisc` described in section 4.4, and see also the command `lmanual`.

4.10 MANUAL

Syntax: `lmanual`
Function: **Set manual mode for tape to disc transfer**

This command alters the way that the tape to disc transfer utility `ltapedisc` operates. It causes Locksmith to prompt for two things during the transfer:

1. Locksmith will prompt for a new filename when saving to disc.
2. If a file is likely to overwrite disc workspace, Locksmith will ask whether it should be relocated.

Please note that this command does not transfer any files, it just sets the mode for tape to disc transfer.

For further information please refer to the detailed description of the command `ltapedisc` described in section 4.4, and see also the command `lauto`.

4.11 HEADER

Syntax: `lheader,<<filename>>`

Function: **Display comprehensive file header information.**

This command displays header information for both tape and disc filing systems. When used on a disc system, the parameter <filename> may contain the usual wildcard characters. A header for a disc file is similar to the following:

```
FILE1 .BAS R/W 04K
File Type      :% Basic
Start Addr     :&3000
Length         :&1000
End Addr       :&4000
Exec Addr      :&3500
User Number    :00
```

A header for a tape file is similar to that above, except that **B**lock **N**umber is displayed instead of **U**ser **N**umber.

CPC 464 users wishing to use this command should type the command name only; the parameter will then be prompted for. If **ENTER** is pressed in response to the prompt, then Locksmith will display header information for all files.

4.12 PLOAD

Syntax: `lload,<filename>`

Function: **Load a protected Basic program.**

This command loads protected Basic programs into memory, so that they may be listed and examined as normal. A protected Basic program is one that was originally saved with the letter "P" following the filename, such as:

```
save"program",P
```

The parameter <filename> cannot contain wildcard characters.

CPC 464 users wishing to use this command should type the command name only; the parameter will then be prompted for. On a tape based system you may press **ENTER** in response to the prompt, and Locksmith will load the first program on the tape.

If the Basic program you load is very long then Locksmith will be automatically wiped from memory to make more room for it.

Please note that this command will overwrite the contents of memory, so make sure you save your current program before using it.

4.13 PRINTON

Syntax: lprinton
Function: Send all command output to printer.

Printon sends screen output from all Locksmith commands to the printer as well as the screen. This is very useful particularly if you wish to keep a record of header information, for example, that may otherwise scroll off the screen.

4.14 PRINTOFF

Syntax: lprintoff
Function: Switch off printer output.

This command cancels the command lprinton, and sends command output to the screen only.

4.15 ERA

Syntax: lera
Function: Erase a file or group of files from disc.

This command is similar to the Amsdos command of the same name, but if only the command name itself is entered (as it must be on the CPC 464), then the name of the file to be erased will be prompted for. The filename may include wildcard characters as usual, and the drive can be specified at the beginning of the filename. For example:

```
lera ENTER  
Enter filename: b:*.bak ENTER
```

This will erase all files on drive B, with the file type "bak". To prevent accidental erasure the user is asked to confirm his intention before any file is erased.

4.16 REN

Syntax: lren
Function: Rename a disc file.

This command is exactly the same as the Amsdos command of the same name, but if only the command name itself is entered (as it must be on the CPC 464), then two filenames will be prompted for. The names cannot

include wildcard characters, but the drive can be specified at the beginning of the parameter <oldname>. For example:

```
lren ENTER  
Enter Newname: update2.bas ENTER  
Enter Oldname: B:update.bas1 ENTER
```

This will rename the file "update1" on drive B, to "update2".

4.17 SPEED

Syntax: `lspeed,<save speed>`
Function: `Reset tape saving speed.`

This command takes one parameter <save speed>, which should be an integer number between 0 and 4. Each number specifies a particular save speed:

```
0 - 1000 baud  
1 - 2000 baud  
2 - 2500 baud  
3 - 3000 baud  
4 - 4000 baud
```

The Locksmith command `lstatus` can be used at any time to find the current speed setting.

Setting the speed to a high number will save files at a faster speed, but may cause re-loading to be less reliable. However increased speeds should be reliable providing you use good quality tapes and keep your tape head clean.

4.18 STATUS

Syntax: `lstatus`
Function: `Display useful status information.`

Using the status command will display something similar to the following:

```
Version No.           : 1.0  
Input Stream          : Disc  
Output Stream         : Disc  
TapeDisc Mode        : Auto  
Printer               : Off  
Speed Write           : 0  
Default Drive        : A  
User Number           : 0
```

The first line gives Locksmith's version number, which should be quoted in all correspondence. Following this are the active input/output streams. These may be changed (on disc systems only) with the usual `ltape` and `ldisc` commands. The next line displays the tape to disc transfer mode, and will be either `Auto` or `Manual` (see commands `lauto` and `lmanual`).

The next line indicates whether printout has been selected, and is followed by the tape save speed. The last two lines refer to disc systems only, and give the Default Drive and User Number. These may be changed by using the `Amsdos` commands `ldrive` and `luser`.

4.19 HCOPI

Syntax: `lhcopy,<filename>,<<sync byte>>,<<length>>`
Function: Transfer a headerless tape file.

If commands such as `ltapedisc` or `ltapetape` fail to read a tape file it may be because the file was originally saved without a header. This command will read a headerless file and copy it in the same format to tape, or with a valid header to disc. The file will be transferred to the output stream that is currently active (see `lstatus`). The parameter `<filename>` specifies the new name for the file, and cannot therefore, contain wildcard characters. The two other parameters are explained in more detail below, and can be ignored for the moment. If Locksmith prompts for these two parameters then just press **ENTER**, and Locksmith will supply sensible default values.

To use the command simply position the tape just before the headerless file, type in the command, and then follow the on screen prompts. It may be necessary to listen to the recording on the tape to find the start of the file. Once loaded the file will be transferred to tape or disc, depending on which output stream is selected. If the file fails to load, then refer to the section below, which explains how to find the correct 'sync byte'.

CPC 464 users wishing to use this command should type the command name only; you will then be prompted for the parameters.

Please note that this command may overwrite the contents of memory, so make sure you save your current program before using it.

FINDING THE CORRECT 'SYNC BYTE'

If `lhcopy` does not load the headerless file then it is likely that the 'sync byte' is incorrect. This is the byte stored at the beginning of a file that the computer looks for before it can load the file. The standard sync byte is `&16`, but it can be any value between `&00` and `&FF`. You could try all the values between `&00` and `&FF`, but a quicker method is to try and find the sync byte in the loader program, using a disassembler.

You will find that the headerless file will have a machine code loader program saved just before it on the tape; it is necessary to inspect this loader and locate the following sequence of code and find the sync byte:

LD HL,xyyy	21 yy xx	xyyy=file start
LD DE,xyyy	11 yy xx	xyyy=file length
LD A,xx	3E xx	xx =sync byte
CALL &BCA1	CD A1 BC	
JP xyyy	C3 yy xx	xyyy=exec. address

The sequence may not be in exactly the same order but it will be very similar. You may now use the sync byte and file length parameters to load the file. Also make a note of the file start and exec. addresses for use later.

RUNNING THE PROGRAM – TAPE

Generally, providing all files are saved to tape in the correct order, the program should run correctly.

RUNNING THE PROGRAM – DISC

When a headerless file is transferred to disc, a valid header is added to the start of the file. The original loader program cannot be used, so try using the following program instead:

```
100 load"file",<file start>
110 call <exec. address>
```

Where the values of <file start> and <exec. address> were taken from the loader program as described above.

5. GETTING TAPE PROGRAMS TO RUN ON DISC

5.1 Transfer Problems

This section deals with problems that may occur when using the tape to disc utility `ltapedisc`. In general Locksmith will faithfully transfer all tape files to disc except for those that are too long to fit into memory, or those that have not been saved according to the standard Amstrad tape format.

If you wish to run a program immediately after transferring it to disc, then it is usually best to reset the computer first, to clear Locksmith from memory.

LONG PROGRAMS

The Amstrad disc system uses 1284 bytes of memory for its own workspace, which on the standard CPC 464 computer (without a disc drive) are free for program storage. This means that very long programs originally written on the standard CPC 464 may be too long to load into a system with a disc drive fitted. Where this is the case, the error message 'Memory Full' is displayed. There is no way to overcome this problem as the program is simply too large to fit into your computer at the same time as a disc system.

NON STANDARD TAPE FORMATS

Locksmith can only read tape files that were originally saved using the standard Amstrad 'SAVE' command. If Locksmith fails to read a tape file then it may be a headerless file, so try the `hcopy` command. If it still will not load then the file was probably saved to a non standard format, which Locksmith cannot read.

5.2 Filename Problems

One of the main problems when using `ltapedisc` is caused because disc filenames have two limitations that do not affect tape filenames:

1. Disc filenames can only be up to 8 characters long, while tape filenames can be 16 characters long.
2. Tape filenames can contain virtually any character, whereas disc filenames cannot contain a few special characters.

When transferring files from tape to disc, Locksmith will make all disc filenames valid in automatic mode, and will allow you to enter a new

filename of your choice in manual mode. In the case of a two part program, it may be necessary for you to alter the first program manually so that it contains the correct filename to load the second program.

EXAMPLE:

You may have a program called DATABASE which loads a second file called OBJECTCODE. If you use Locksmith to transfer these files to disc, the name of the second file will be changed to OBJECTCO, so that it has only eight characters. You will have to load the first program, "DATABASE", and alter the line of the program that loads in OBJECTCODE. If DATABASE is a Basic program then somewhere it will contain a line like this:

```
310 LOAD"OBJECTCODE"  
or 310 LOAD""  
or 310 RUN"OBJECTCODE"  
or 310 RUN""
```

Whichever the case, you must insert the shortened name, OBJECTCO, between the quotes in line 310. If the first program is a binary file then some knowledge of machine code, and the Amstrad firmware system is necessary to make the changes.

USING MANUAL MODE

Manual mode should be used if a program consists of a number of files each with the same name. If these are transferred to disc in automatic mode then each file will overwrite the previous file. If you use manual mode, you can make sure that each file has its own unique filename.

5.3 Relocation problems

In Auto mode Locksmith will relocate files from tape that occupy disc workspace at the top of memory. If the message 'File Relocated' is printed whilst using `l t a p e d i s c`, then make a note of the new Start Address and the Exec Address that are printed just afterwards. There are then two simple rules to follow:

1. If the Exec Address is not zero, then the program should run correctly, and nothing more needs to be done.
2. If the Exec Address is zero, then you should call the new Start Address immediately after the file has loaded.

EXAMPLE

A file called PART2 has to be relocated to the new Start Address &9800. Its Exec Address is zero, and it is loaded and run by the following small Basic program:

```
100 LOAD"PART2":CALL &A200
```

Line 100 should be changed to:

```
100 LOAD"PART2":CALL &9800:CALL &A200
```

This line will now load the file into a safe area of memory, relocate it to its original position, and then finally run it. Once a program has been relocated in this way, the program should run correctly, but disc operations will not work.

6. COMMAND SUMMARY

AUTO

Syntax: |auto
Function: Set automatic mode for tape to disc transfer

BACKUP

Syntax: |backup,<source drive>,<destination drive>
Function: Backup one disc onto another disc.

DISCDISC

Syntax: |discdisc,<<filename>>,<<destination drive>>
Function: Transfer files from one disc to another.

DISCTAPE

Syntax: |disctape,<<filename>>
Function: Transfer files from disc to tape.

ERA

Syntax: |era
Function: Erase a file or group of files from disc.

HCOPY

Syntax: |hcopy,<filename>,<<sync byte>>,<<length>>
Function: Copy a headerless file from one tape to another.

HEADER

Syntax: |header,<<filename>>
Function: Display comprehensive file header information.

HELPL

Syntax: |help
Function: General help page giving command list and syntax.

LOCK

Syntax: |lock
Function: Display a menu from which Locksmith commands may be selected, and set the function keys for use with Locksmith.

LOCKOFF

Syntax: |lockoff
Function: Clear Locksmith from memory.

MANUAL

Syntax: |manual
Function: Set manual mode for tape to disc transfer.

PLOAD

Syntax: |pload,<filename>
Function: Load a protected Basic program.

PRINTON

Syntax: |printon
Function: Send all command output to printer.

PRINTOFF

Syntax: |printoff
Function: Switch off printer output.

REN

Syntax: |ren
Function: Rename a disc file.

SPEED

Syntax: |speed,<save speed>
Function: Reset tape saving speed.

STATUS

Syntax: |status
Function: Display useful status information.

TAPEDISC

Syntax: |tapedisc,<<filename>>
Function: Transfer tape files to disc.

TAPETAPE

Syntax: |tapetape,<<filename>>
Function: Transfer tape files from one tape to another.

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