The program is recorded twice on one side of the tape.Please familiarise yourself with these instructions before use.

To load: Type 'LOAD'(return).Once loaded,the additional commands may be executed at any time,just like the normal direct mode commands.

@SAVE   will save any block of Ram at standard rate(including "hidden" Ram).Input the start and end addresses when prompted.Note that the end address should be one greater than the last byte to be saved.

@HYP B   Will Hypersave the Basic program currently in memory.

@HYP M   Will Hypersave any block of Ram(including "hidden" Ram).Input start/end addresses when prompted.

@HYP V   Will verify the program just Hypersaved.It operates just like the normal verify command - simply rewind the tape to the start of the program and execute the command.

@HYP X   A special command provided to convert your existing programs.It will Hypersave the program which has just been loaded.

Note that syntax must be observed - the @ symbol must be used,and the space is important. The filename may have up to 15 characters.Hypersave operations may be aborted with 'RUN/RESTORE' Start/end addresses must be input in Hexadecimal.@HYP B and @HYP X do not require start/end addresses.

Autostart
          A Basic program will run if loaded with 'SHIFT/RUN',or not if you use 'LOAD'(return), just like a normal Basic program.Hypersave provides the facility to autorun a machine code program.Simply enter the command @AUTO,start(return) before Hypersaving,where "start" is the entry point of the program(in decimal).Example: say your machine code program is started by the command 'SYS 4096'.Enter @AUTO,4096 before Hypersaving.The Hypersaved program will autostart when loaded.This feature may be disabled by depressing the 'SHIFT/LOCK' key at any time during the load,in which case you will enter 'READY' mode instead of autorunning.
     To autorun a Basic program however it was loaded,enter @AUTO (return) prior to Hypersaving. This feature cannot be disabled.
     After Hypersaving,the default exit(warm start) is restored,so if you are making a second copy,the @AUTO command must be repeated if autorun is required.
     The command @RES (return) will reset the exit to warm start after an aborted Hypersave operation,or after loading a Hypersaved program with Hypersave in memory.

It is suggested that you familiarise yourself with the program by using it with some ordinary Basic programs before moving on to other program types.Most programs can be converted using the @HYP B or @HYP X commands without any programming knowledge required by the user.Hypersave is exhaustively tested and gives reiable results.To ensure maximum reliability,keep your cassette heads clean and demagnetised.The best way to clean your heads is with a cotton bud lightly dampened with Methylated spirit.Use high quality tape - so called "data" tapes are often of extremely poor quality.Good quality audio tape is better suited to high density data storage - we use and recommend TDK D and TDK AD.Keep the Datassette well away from sources of electrical interference.Use the tape counter diligently - make careful note of the start of each program and leave a gap between recordings.
Additional features

Once Hypersave is initialised,your Basic listings will be under 'SHIFT' control.Press 'SHIFT' or 'SHIFT/LOCK' to stop the listing.Release to continue.

The command @OLD will recover a Basic program which has been newed,either by typing 'NEW' or after a cold start(SYS 64738).This enables Hypersave to be loaded without affecting the Basic program currently in memory.Simply enter @OLD after initialising.

Technical Notes

The Hypersave commands may be called directly with SYS calls: @SAVE (SYS 52325) @HYP B (SYS 52947) @HYP V (SYS 52266)
@HYP M (SYS 52971) @HYP X (SYS 52934)

Error messages: 1. BAD INPUT. Non-hex characters were used
                   2. VERIFY ERROR. Self explanatory
                   3. LOAD ERROR. Hypersave saves a two byte checksum which is checked against a calculated checksum after the load.Any discrepancy results in a load error being flagged.

Memory used: Hypersave occupies memory from &CA00 to &D000 and utilises memory from &C900 to &C9FF and &02C1 to &02FF

Buffer save: Hypersave preserves the contents of the cassette buffer from &.0341 to &03FB. Any additional data you wish to save with your program may be stored here.

To disable RUN/RESTORE during and after loading enter POKE 52805,225 before Hypersaving.To subsequently save a program without disabling RUN/RESTORE enter POKE 52805,237.

HYPERSAVING GAMES TAPES

Hypersave will convert a large number of games tapes to fast-load.If the program is in a single section,all you need to do is:-
1. Load Hypersave.
2. Load the program to be Hypersaved.Use 'LOAD'(return),not 'SHIFT/RUN'
3. Hypersave by typing @HYP X (return).Rewind the tape and verify with @HYP V

Most games consist of two sections,the first being a short Basic "loader" whose only important job is to load the main,long section and then start the game with a SYS command.For example,Hunchback(Ocean):
1. Load Hypersave.
2. Insert Hunchback into the Datassette,rewind to the start and type 'LOAD'(return).This will load the Basic loader without running it.Do not rewind the tape.
3. LIST the program.Line 10 reads: C=C+1 : IF C=2 THEN SYS 16384 .This SYS number(in this case it is 16384)is the start address of the program.Make a note of it.
4. Type 'LOAD"",1,1'(return).This will load the second,long section of Hunchback.
5. Type ' @AUTO ,16384'(return).This will automatically start Hunchback after the Hypersaved version has loaded.
6. Hypersave with @HYP X .Verify with @HYP V .

You will find that most programs fall into one of the above two categories.Some programs are in several sections.Using Hypersave's other facilities,it is possible to convert many of these. You will need to find the Start/End addresses of each section.For this,the header reader incorporated in the Backup copier is invaluable.Once you know where the sections start and end in memory,you can load each section in turn,and Hypersave with @HYP M ,taking the start address as the start of the first section,and the end address as the end of the last section.Note that sections which are unnecessary to the program(eg. Basic loaders)should be omitted.Where a section overwrites Hypersave,there are two alternatives.One is to save this section separately at standard rate,and load it back after Hyperloading the main section.The other is to move the section to a spare area of memory,and write a block move routine which restores the block to it's correct position after loading.See attached example sheet for guidance.

Hidden Start Addresses: Sometimes you will not see a SYS command in the Basic loader.It may be hidden by a REM statement containing "Delete" characters.See Secrets! for the procedure to reveal such lines.Sometimes the SYS command does not start the program,but calls a machine code loader,which is followed by a JMP instruction which starts the program.In these cases it is necessary to dissassemble the code called by the SYS command in order to find the start address Some hard to find start addresses are listed on the Backup copier sheet.

Hypersaving "The Hobbit": This single section Autorun program may be Hypersaved in conjunction with the Backup copier by the following procedure:-
1. Load and run the Backup copier.Enter '1' when prompted for the number of sections.
2. Load "The Hobbit".When prompted "Insert Copy Tape",stop the program.
3. Enter POKE 5412,87 : POKE 5413,241 .This restores the default values to the single vector which causes the autorun when "The Hobbit" is loaded normally(The Input vector).
4. Enter 'GOTO 175'.Save the new version of "The Hobbit".
5. Switch the machine off and on.Load Hypersave and the new version of "The Hobbit".Note that a load error will be flagged at the end of the load because it loads into "hidden Ram".This may be ignored(Manic Miner is another example which loads into hidden Ram).
6. Enter   @AUTO ,40704 for autostart.
7. Hypersave with @HYP M start &0800,end &B000 .Note that we cannot use @HYP X here because the program loads through the screen.This means that a load error will be flagged when the Hypersaved version is reloaded,because the screen contents will not correspond with those saved

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Note that Hypersave attaches a fast load routine to every program which it Hypersaves.This means that Hypersave need not be present in memory before loading a Hypersaved program. Beware of competitors which must be pre-loaded.

Buffer save feature: Uniquely,Hypersave preserves the original contents of the cassette buffer. This means that programs protected by having specific data in the buffer can be successfully Hypersaved.Beware of competitors.

Hidden Ram: Many programs load into the Ram which is "hidden" by the Basic Rom.Hypersave switches out the Basic Rom before saving a program.This means that your longest programs may be Hypersaved(up to 48K).Beware of competitors.

TURBO LOADERS

The Turbo loader, used by Anirog, resides in the cassette buffer, starting at location 849 decimal. When a Turbo program is loaded, this routine is auto-booted by a load into the vector table (&0300 to &0333). The start address of the program is stored in the I/O start address pointer at &C1 - &C2 hex (193 - 194 decimal), and the end address is stored in the end of Basic pointer VARTAB (&2D - &2E hex). Once loaded, the program is in memory as if it was a Basic program, and is initiated by a single Basic line which is a SYS call which starts the main, machine code program. The following, very short program will load a Turbo program without autorunning it:

```
10 SYS 63276 : REM THIS IS A ROM ROUTINE WHICH LOADS A TAPE HEADER
20 POKE 913,237 :REM PREVENT THE STOP KEY FROM BEING DISABLED
30 POKE 924,126:POKE 925,227 :REM RETURN TO READY MODE  AFTER LOADING
40 POKE 192,0 : SYS 849 :REM SWITCH ON TAPE MOTOR AND CALL THE TURBO ROUTINE
```

The above may be entered as a single line (the REMS, of course, may be omitted)

To Hypersave:
1. Load Hypersave, enter 'NEW' (return), enter SYS 52221 (return)
2. Put the Turbo program in the tape deck, enter the above program and run it.
3. Once loaded, Hypersave with @HYP B. No start/end addresses need be entered.
4. The Hypersaved version will run if loaded with SHIFT/RUN, just like a normal basic prog.

To save the program at standard rate, simply enter and run the above program, and save it with a normal Basic 'SAVE' command.

Space Pilot: This 60K program is in 2 sections. The first moves itself to the top of memory and then loads the second section. Hypersave by following the above procedure for the first section, then repeat for the second section which follows immediately after section one on the tape. When you load the Hypersaved version, the first section, when it runs, will automatically load the second section. Type 'RUN' to start the program.

THE SERIAL PORT

This is the 6 pin din socket at the back of the computer, immediately next to the cassette interface. It is used for connecting disk drives, printers and the like, but has 2 other features which we shall discuss here;
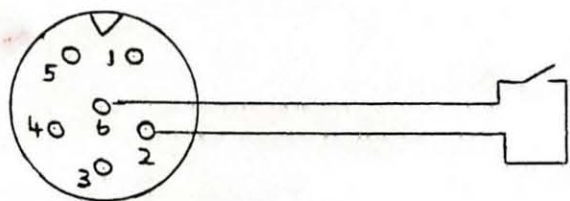
1. Total system reset. If pins 2 and 6 are connected, the processor will perform a cold start. This resets the machine as if it were just switched on, but any machine code program will remain unaffected in memory. A basic program is 'newed'. This may be recovered by using the @REGAIN command provided with Hypersave.
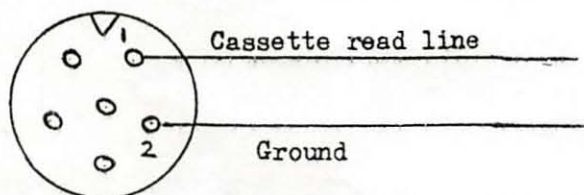
2. Cassette Read Line

This is directly connected to pin 1 of the serial port, and can be used to construct a copying lead. Using this lead, you can:-

a) Make a copy of a program onto a second tape deck while the program is loading.
b) Make two copies of a program simultaneously.
c) Listen to the audio signal while a program is being saved/loaded.

These connections are quite safe. No damage will result from using the port in this way, but if connection is made to a Hi-Fi amplifier, keep the volume low. The plug is a standard 6 pin din, available from most electrical shops.

Connection for reset switch. Use a miniature push-to-make switch, or simply touch the wires together.

Cassette read line

Ground

connection for copying lead. Note that the signal is read only - you cannot record onto the datassette from the second recorder. Connect the plug to a suitable sized jack plug, or to two stereo phono plugs

TWIN KINGDOM VALLEY

This long multi-section program is in six parts,filenames "twin"and parts to 5.It may be Hypersaved if the following procedure is followed exactly:-

1. Load all six sections in turn using 'LOAD"",1,1 .The entire program is now in memory.

2. Part 4 of the program resides at &C000 to &CFFF ,and must be moved to make room for Hypersave:-

FOR I = 0 TO 3071 : POKE 24832 + I , PEEK(50176 + I) : NEXT

This moves part 4 to a spare block of memory,and takes quite a while.

3. Type in and run the following program:-

```
10 FOR I = 0 TO 37 : READ A : N = N + A : POKE 36864 + I , A : NEXT
20 IF N <> 6974 THEN PRINT "DATA ERROR"
30 DATA 169,0,168,133,251,133,253,169
40 DATA 97,133,252,169,196,133,254,177
50 DATA 251,145,253,230,251,230,253,208
60 DATA 4,230,252,230,254,165,254,201
70 DATA 208,208,236,76,0,148
```

Check the program carefully befor running it.If you get a 'data error',correct the program and run it again.

This is a machine code block move which will put part 4 back into it's correct position after loading,and then jump to the start of Twin Kingdom.(&9400 , or SYS 37888)

4. Load Hypersave and enter: @AUTO,36864   which will initiate the block move after loading.

5. Save the entire program using the @HYP M command.Start/end addresses are:

START &0C00   END &9800

The above procedure illustrates how,with a little ingenuity,multi-part programs may be Hyper-saved.Each program must be treated on it's merits.It is suggested that a block diagram is made showing the start and end of each section,so that you can see exactly how it resides in mem-ory,and take it from there.

SLAGGER

This program is in 5 sections.Only the last two(A3 and A2)are important. Hypersave with the following procedure:-

1. VERIFY the first 3 sections.Ignore the errors.Do not rewind the tape.
2. LOAD the next section("A3").Use 'LOAD"",1,1'.Enter 'NEW'.
3. Enter: FOR I = 0 TO 3072 : POKE 31744 + I, PEEK(49152+I) : NEXT
4. Enter and run the following block move program:-

```
10 FOR I = 0 TO 38 : READ A : N=N+A : POKE 34817 + I, A : NEXT
15 IF N <> 6820 THEN PRINT "DATA ERROR"
20 DATA 169,0,168,133,251,133,253,169,124,133,252,169,192,133,254,162
30 DATA 13,177,251,145,253,200,208,249,230,252,230,254,202,208,242,169
40 DATA 200,141,22,208,76,184,11
```

5. Load the next section("A2")with 'LOAD"",1,1'
6. Load Hypersave and enter: @AUTO,34817
7. Hypersave using @HYP M ,start &0800,end &8880

MR.WIMPEY

A 2 part program,which can be Hypersaved as a single section if we make a small alteration to the first,Basic section:-

1. Load Hypersave.Load the first section with 'LOAD"",1,1'and list line 1.
2. Change line 1 to read: 1 POKE 45,246 : POKE 46,17 : CLR
3. Load the second section(WM1)with 'LOAD"",1,1' .Hypersave with @HYP B

Note: When a program is loaded in direct mode,the end of Basic pointer stores the end address of the program,but the start of Basic pointer remains unaltered.Therefore we can Hypersave both sections as a single block using @HYP B,without bothering about start/end addresses.Mr.Wimpey will auto-run if loaded with 'SHIFT/RUN',just like a normal Basic program.

The program is recorded twice on one side of the tape.Please familiarise yourself with these instructions before use.

To load: Type 'LOAD'(return).When loaded type 'NEW'(return),then 'SYS 52221'(return) to initialise the program.The following additional direct mode Basic commands are provided:-

<u>@SAV N</u> will save any block of Ram at standard rate(including "hidden" Ram).Input the start and end addresses when prompted.Note that the end address should be one greater than the last byte to be saved.

<u>@HYP B</u> Will Hypersave the Basic program currently in memory.

<u>@HYP M</u> Will Hypersave any block of Ram(including "hidden" Ram).Input start/end addresses when prompted.

<u>@HYP V</u> Will verify the program just Hypersaved.It operates just like the normal verify command - simply rewind the tape to the start of the program and execute the command.

<u>@HYP X</u> A special command provided to convert your existing programs.It will Hypersave the program which has just been loaded.

Note that syntax must be observed - the @ symbol must be used,and the space is important. The filename may have up to 15 characters.Hypersave operations may be aborted with 'RUN/RESTORE Start/end addresses must be input in Hexadecimal.@HYP B and @HYP X do not require start/end addresses.

<u>Variable speed</u>: If the Hypersave commands are suffixed with either 1 or 2,speed will be increased by up to 25%.Example: @HYP B1 will Hypersave a Basic program at boosted speed. @HYP X2 will Hypersave the program just loaded at maximum speed.Note that the @HYP V command must have the same suffix as that used when saving the program.

    Approximate speeds: a) No suffix: Eight times normal speed
                         b) Suffix 1 : Nine times normal speed
                         c) Suffix 2 : Ten point two times normal speed

Autostart

        A Basic program will run if loaded with 'SHIFT/RUN',in the normal manner.If you require the program to run however it was loaded,use the command @AUTOSTART(return) prior to Hypersaving.

        To autorun a machine code program,use the command <u>SYS 52672,start</u>(return) where start is the entry point of the program(in DECIMAL).Example: say the program is started by the command SYS 4096.You would enter SYS 52672,4096(return) before Hypersaving.The program will autorun when loaded,PROVIDED that location 1023 contains zero(it's default value).To disable the autorun,POKE 1023,1 before loading.Basic autorun cannot be disabled.

It is suggested that you familiarise yourself with the program by using it with some ordinary Basic programs before moving on to other program types.Most programs can be converted using the @HYP B or @HYP X commands without any programming knowledge required by the user.Hypersave is exhaustively tested and gives reiable results.To ensure maximum reliability,keep your cassette heads clean and demagnetised.The best way to clean your heads is with a cotton bud lightly dampened with Methylated spirit.Use high quality tape - so called "data" tapes are often of extremely poor quality.Good quality audio tape is better suited to high density data storage - we use and recommend TDK D and TDK AD.Keep the Datassette well away from sources of electrical interference.Use the tape counter diligently - make careful note of the start of each program and leave a gap between recordings.

Additional features

Once Hypersave is initialised,your Basic listings will be under 'SHIFT' control.Press 'SHIFT' or 'SHIFT/LOCK' to stop the listing.Release to continue.

The command <u>@REGAIN</u> will recover a Basic program which has been newed,either by typing 'NEW' or after a cold start(SYS 64738).This enables Hypersave to be loaded without affecting the Basic program currently in memory.Simply enter @REGAIN after initialising.

Technical Notes

| The Hypersave commands may be called directly with SYS calls: | @SAV N (SYS 52325) @HYP M (SYS 52971) | @HYP B (SYS 52947) @HYP X (SYS 52934) | @HYP V (SYS 52266) |

Error messages: 1. BAD INPUT. Non-hex characters were used
                 2. VERIFY ERROR. Self explanatory
                 3. LOAD ERROR. Hypersave saves a two byte checksum which is checked against a calculated checksum after the load.Any discrepancy results in a load error being flagged.

Memory used: Hypersave occupies memory from &CA00 to &D000 and utilises memory from &C900 to &C9FF and &02C1 to &02FF

Buffer save: Hypersave preserves the contents of the cassette buffer from & 0341 to &03FB. Any additional data you wish to save with your program may be stored here.

To disable RUN/RESTORE during and after loading enter POKE 52805,225 before Hypersaving.To subsequently save a program without disabling RUN/RESTORE enter POKE 52805,237.

HYPERSAVING GAMES TAPES

Hypersave will convert a large number of games tapes to fast-load.If the program is in a single section,all you need to do is:-
1. Load Hypersave.Type 'NEW'(return).Type SYS 52221(return)
2. Load the program to be Hypersaved.Use 'LOAD'(return),not 'SHIFT/RUN'
3. Hypersave by typing @HYP X (return).Rewind the tape and verify with @HYP V

Most games consist of two sections,the first being a short Basic "loader" whose only important job is to load the main,long section and then start the game with a SYS command.For example,Hunchback(Ocean):
1. Load Hypersave.Type 'NEW'(return).Type SYS 52221(return)
2. Insert Hunchback into the Datassette,rewind to the start and type 'LOAD'(return).This will load the Basic loader without running it.Do not rewind the tape.
3. LIST the program.Line 10 reads: C=C+1 : IF C=2 THEN SYS 16384 .This SYS number(in this case it is 16384)is the start address of the program.Make a note of it.
4. Type 'LOAD"",1,1'(return).This will load the second,long section of Hunchback.
5. Type 'SYS 52672,16384'(return).This will automatically start Hunchback after the Hypersaved version has loaded.
6. Hypersave with @HYP X .Verify with @HYP V .

You will find that most programs fall into one of the above two categories.Some programs are in several sections.Using Hypersave's other facilities,it is possible to convert many of these. You will need to find the Start/End addresses of each section.For this,the header reader incorporated in the Backup copier is invaluable.Once you know where the sections start and end in memory,you can load each section in turn,and Hypersave with @HYP M ,taking the start address as the start of the first section,and the end address as the end of the last section.Note that sections which are unnecessary to the program(eg. Basic loaders)should be omitted.Where a section overwrites Hypersave,there are two alternatives.One is to save this section separately at standard rate,and load it back after Hyperloading the main section.The other is to move the section to a spare area of memory,and write a block move routine which restores the block to it's correct position after loading.See attached example sheet for guidance.

Hidden Start Addresses: Sometimes you will not see a SYS command in the Basic loader.It may be hidden by a REM statement containing "Delete" characters.See Secrets! for the procedure to reveal such lines.Sometimes the SYS command does not start the program,but calls a machine code loader,which is followed by a JMP instruction which starts the program.In these cases it is necessary to dissassemble the code called by the SYS command in order to find the start address. Some hard to find start addresses are listed on the Backup copier sheet.

Hypersaving "The Hobbit": This single section Autorun program may be Hypersaved in conjunction with the Backup copier by the following procedure:-
1. Load and run the Backup copier.Enter '1' when prompted for the number of sections.
2. Load "The Hobbit".When prompted "Insert Copy Tape",stop the program.
3. Enter POKE 5412,87 : POKE 5413,241 .This restores the default values to the single vector which causes the autorun when "The Hobbit" is loaded normally(The Input vector).
4. Enter 'GOTO 175'.Save the new version of "The Hobbit".
5. Switch the machine off and on.Load Hypersave and the new version of "The Hobbit".Note that a load error will be flagged at the end of the load because it loads into "hidden Ram".This may be ignored(Manic Miner is another example which loads into hidden Ram).
6. Enter SYS52672,40704 for autostart.
7. Hypersave with @HYP M start &0800,end &B000 .Note that we cannot use @HYP X here because the program loads through the screen.This means that a load error will be flagged when the Hypersaved version is reloaded,because the screen contents will not correspond with those saved.

If you wish to make a second copy of a Hypersaved program,this is the procedure:-
1. Load Hypersave.Type 'NEW'(return).Type SYS 52221(return)
2. Enter POKE 1023,1(return).Load the Hypersaved program.It will not autorun.
3. Enter the autostart command(SYS 52672,etc)and Hypersave with @HYP X.

Hypersave - 64 and the Dosoft Backup Copier have features which combat copy-protected software.They are intended to provide fast loading and security backups of programs either written by or purchased by the user.The illegal distribution of such material is not condoned.

Note that Hypersave attaches a fast load routine to every program which it Hypersaves.This means that Hypersave need not be present in memory before loading a Hypersaved program. Beware of competitors which must be pre-loaded.

Buffer save feature: Uniquely,Hypersave preserves the original contents of the cassette buffer. This means that programs protected by having specific data in the buffer can be successfully Hypersaved.Beware of competitors.

Hidden Ram: Many programs load into the Ram which is "hidden" by the Basic Rom.Hypersave switches out the Basic Rom before saving a program.This means that your longest programs may be Hypersaved(up to 48K).Beware of competitors.

TURBO LOADERS

The Turbo loader,used by Anirog,resides in the cassette buffer,starting at location 849 decimal.When a Turbo program is loaded,this routine is auto-booted by a load into the vector table(&0300 to &0333).The start address of the program is stored in the I/O start address pointer at &C1 - &C2 hex(193 - 194 decimal),and the end address is stored in the end of Basic pointer VARTAB (&2D - &2E hex).Once loaded,the program is in memory as if it was a Basic program,and is initiated by a single Basic line which is a SYS call which starts the main,machine code program.The following,very short program will load a Turbo program without autorunning it:

10 SYS 63276 : REM THIS IS A ROM ROUTINE WHICH LOADS A TAPE HEADER

20 POKE 913,237 :REM PREVENT THE STOP KEY FROM BEING DISABLED

30 POKE 924,126:POKE 925,227 :REM RETURN TO READY MODE AFTER LOADING

40 POKE 192,0 : SYS 849 :REM SWITCH ON TAPE MOTOR AND CALL THE TURBO ROUTINE

The above may be entered as a single line(the REMS,of course,may be omitted)
To Hypersave:
1. Load Hypersave
2. Put the Turbo program in the tape deck,enter the above program and run it.
3. Once loaded,Hypersave with @HYP B.No start/end addresses need be entered.
4. The Hypersaved version will run if loaded with SHIFT/RUN,just like a normal basic prog.

To save the program at standard rate,simply enter and run the above program,and save it with a normal Basic 'SAVE' command.

Space Pilot: This 60K program is in 2 sections.The first moves itself to the top of memory and then loads the second section.Hypersave by following the above procedure for the first section,then repeat for the second section which follows immediately after section one on the tape.When you load the Hypersaved version,the first section,when it runs,will automatically load the second section.Type 'RUN' to start the program.

THE SERIAL PORT

This is the 6 pin din socket at the back of the computer,immediately next to the cassette interface.It is used for connecting disk drives,printers and the like,but has 2 other features which we shall discuss here;
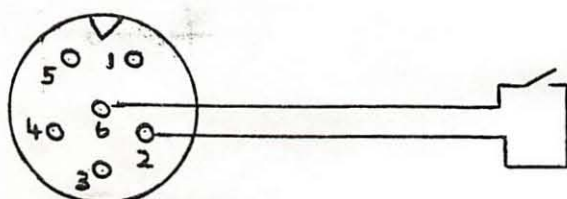
1.Total system reset.If pins 2 and 6 are connected,the processor will perform a cold start. This resets the machine as if it were just switched on,but any machine code program will remain unaffected in memory.A basic program is 'newed'.This may be recovered by using the @REGAIN command provided with Hypersave.
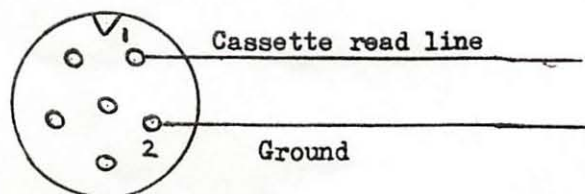2.Cassette Read Line

This is directly connected to pin 1 of the serial port,and can be used to construct a copying lead.Using this lead,you can:-

   a) Make a copy of a program onto a second tape deck while the program is loading.
   b) Make two copies of a program simultaneously.
   c) Listen to the audio signal while a program is being saved/loaded.

These connections are quite safe.No damage will result from using the port in this way,but if connection is made to a Hi-Fi amplifier,keep the volume low. The plug is a standard 6 pin din, available from most electrical shops.

Connection for reset switch.Use a miniature push-to-make switch,or simply touch the wires together.

Cassette read line

Ground

connection for copying lead.Note that the signal is read only - you cannot record onto the datassette from the second recorder.Connect the plug to a suitable sized jack plug,or to two stereo phono plugs

Just some of the programs which have been easily and successfully converted to fast-load using HYPERSAVE - 64 :-

MANIC MINER (16384)	PIPELINE	MOTOR MANIA
THE HOBBIT (with backup copier)	JUMPIN' JACK	STIX
REVENGE OF THE MUTANT CAMELS	KONG (SUPERSOFT,ANIROG)	AAARGH! CONDOR
AZTEC CHALLENGE	SKRAMBLE	KICK OFF
FORBIDDEN FOREST	SNOOKER	WIDOW'S REVENGE
GALAXY	MOTHERSHIP (SYS 12994)	AZTEC TOMB ADVENTURE
HOVER BOVVER	FALCON PATROL	ARCADIA
MATRIX	SCUBA DIVE	HYPERSAVE (!)
HUSTLER - 64	JEEPERS CREEPERS	EXTERMINATOR
MUNCHMAN - 64	UGH!	BUMPING BUGGIES
HUNCHBACK	CUDDLY CUBURT (64738)	GRIDRUNNER
SORCEROR'S APPRENTICE	MEGAHAWK	FORT APOCALYPSE
QUEST FOR THE GARDEN OF EDEN	FLYING FEATHERS	GRIDTRAP
ATTACK ON WINDSCALE	ATTACK OF THE MUT. CAMELS	HARRIER ATTACK

This list is by no means exhaustive.

We believe that Hypersave - 64 is the most versatile fast loading utility on the market. Many programs will fail when loaded with other utilities of a similar nature because:-

1. They will not save "hidden" Ram (eg. Manic Miner,The Hobbit)

2. They do not preserve "buffer data" (eg. Sorceror's apprentice,Mothership,Quest,etc.)

Unlike competitors,Hypersave offers auto - run for both basic and machine code programs, avoiding awkward SYS calls to start the program after loading.

SECRETS!   Supplied free with every order for Hypersave.

A guide to cassette saving and loading on the Commodore 64.

1. How the Commodore's load/save routines operate.

2. How to intercept these routines to protect your programs and deprotect others.

3. The insertion and revelation of hidden program lines.

4. Using the Serial port to reset the machine at any time.

5. How to copy a program onto a second cassette deck while it is loading from the datassette

6. How the famous "Turbo" loader operates,and how to break into and make backup copies of such programs.

Plus additional help sheets on Hypersaving multi-part programs,including practical examples of popular programs (notably "Twin Kingdom Valley","Blagger")

Hypersave is easily the most versatile fast-loader you can buy.It will handle the longest programs available for the 64,and the most program types-something no competitor can boast. You remain in full control-the program sits at the very top of memory,and its routines may be called at any time.

The program(s) are recorded at real time on high quality data cassettes with library cases and attractive labels,and carry a no-quibble guarantee against faulty loading.

All orders are despatched by first class return post.
Both programs are for the COMMODORE 64