THE PATCH for THE QUILL/ILLUSTRATOR

It is assumed that you are thoroughly familiar with THE QUILL and THE
ILLUSTRATOR, especially the use of flags. Although not essential, you are
recommended to use a "C Series" Quill, which has several extra facilities.

INTRODUCTION

The Patch enables you to create graphics adventures with THE QUILL and THE
ILLUSTRATOR and then amend the code so that "Split-Screen" Text/Pictures
are displayed when the adventure is played. It does this by inserting a
number of extra routines into a final adventure which prevent the normal
action of waiting for a key, clearing the screen and restoring colours.
Instead the colours remain as set by the Illustrator and text is printed
from the line specified by flag 27. The Patch also provides you with a
number of extra routines which are accessed using a special form of the
PAUSE command (changing the operation of a program in this way is called
'patching' which is where The Patch gets its name).

HOW TO USE THE PATCH

Careful planning is always necessary when writing a Quilled adventure.
This is even more true when using The Patch as the extra routines do not
have any effect until the final adventure is assembled. It is suggested
that you read through the next part a couple of times before attempting to
write your first "Patched" adventure.

COLOURS
In a "normal" Illustrator adventure, you don't need to worry about the
colours used in pictures, as the text is quite separate and the player
never sees the two together. However, your pictures will now be displayed
with the text.

To make things as easy as possible, The Patch alters the Illustrator
interpreter (using quite an extensive re-write!) so that the background
colours, as specified in the Graphics Start Table, are carried through to
the Quill. The Illustrator also sets PAPER 8 (transparent) and INK 9
(contrast), so your text should always be readable no matter what
background colours you have used for the picture. You can, of course, use
colour control codes buried in your Location Descriptions and Messages to
over-ride the paper 8/ink 9 effect.

The background colours for a picture will be used, even if the pictures
have been turned off or if the picture is not drawn because the player has
previously visited the location. You can therefore rely on the Illustrator
to set the colours for all locations which have a picture.

If a location is a "Subroutine", the Illustrator will NOT set any colours,
and the colours used will be unchanged from the last location. This could
mean that such a location will use different background colours depending
on the direction in which the player is travelling. If this could be a
problem, you can cater for it by specifying the wanted colours in the Event
Table, and deleting the Movement Table entries - assuming you have a C
Series Quill.

If a player uses SAVE (or RAM SAVE) at a "subroutine" location, the colours used will be those current when using LOAD (or RAM LOAD). There is no easy way of overcoming this, but the colours will be properly set at the first location which has a picture. (This is also true in a "normal" Quill or Illustrator/Quill adventure. It's not a fault in The Patch!)

FLAG 27 - THE LINE NUMBER
BEFORE a picture is drawn, Flag 27 must be set to the Line Number at which text printing is to start. It is recommended that you always use Location 0 as an introduction screen, with no picture, and include the following entry early in the Status Table:- AT 0 LET 27 ** ANYKEY GOTO etc., where "**" is the line number appropriate for the first picture.

The Line Numbers used are not, unfortunately, the same as in BASIC. They are numbered 1-24 FROM THE BOTTOM OF THE SCREEN, so if Flag 27 is set to 15 - printing will commence on "BASIC" line 9. If you use a value of less than 4 or more than 24, the Patch will ignore you and use a "default" value which is set as standard to 12. You could, therefore, use the default value throughout the adventure and release flag 27 for use as long as its value is 0 or greater than 24. You can also change the default value - see the later "POKES" section.

Resist the temptation to keep changing the picture size and the value of Flag 27. Remember that players travel "backwards" through an adventure at times, and you need status or Event table entries to change the Flag.

When a picture has not been drawn, because there is no picture or the player is revisiting a location, printing starts at the top of the screen as normal.

Be careful to leave room for the location description AND THE SYSTEM MESSAGE "Give me your command" etc., or your picture will start to scroll off the screen almost as soon as it's drawn. It's a good idea to change all the "Await command" system messages so that they take up only one line. As standard, they include a blank line (two CHR$ 6's) before the actual message. Bear in mind that visible objects also take up one line each, plus the message "I/You can also see:-".

FLAG 28 & PAUSE - THE ROUTINES
All the other routines are accessed by setting Flag 28 to the appropriate number and using a PAUSE command. You can place the necessary entries in the Status or Event Tables. The use of PAUSE in this way may seem a little strange at first, but you'll soon get used to it.

After a Routine has been executed, Flag 28 is RESET (i.e. made ZERO) so that any further PAUSE commands behave normally. This has been done to save memory, as otherwise you'd have to Reset it yourself after every use of a Routine. Some of the Routines use the value of the Pause to determine how many repeats, which also saves memory.

The following table shows the necessary setting for Flag 28, and also shows the effect of the number that you use after Pause. A "*" in the Pause column means any number may be used, as it has no effect, but you must still include a Pause command.

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Value of Flag 28	ROUTINE	Effect of PAUSE No.
0	Normal Pause Effect	Normal
1	Sound Effect 1 (Rising Siren)	Length
2	Sound Effect 2 (Telephone)	Repeats
3	Sound Effect 3 (Falling Siren)	Length
4	Sound Effect 4 (Electric Shock)	Repeats
5	Sound Effect 5 (White Noise - Long)	Repeats
6	Sound Effect 6 (White Noise - Short)	Repeats
7	Revert to normal typeface	*
8	Use alternate typeface	*
9	"Wipe" Screen-Clear Effect (use CLS after)	*
10	Replace System Message 1, with System Message n	n
11	Set "Objects Conveyable" to value of Pause.	n
12	Super-Quit (Restarts Adventure)	*
13	Crash (Re-Sets Computer)	*
14	Increase "Objects Conveyable" by value of Pause.	n
15	Decrease "Objects Conveyable" by value of Pause.	n
16	Normal Key-click	*
17	Low-pitched "beep" Key-click	*
18	High-pitched "beep" Key-click	*
19	Turn Pictures OFF - use pause value of 255 (OFF in hex!)	
19	Turn Pictures ON - any other pause value	
20	Amend print position UP screen by value of PAUSE. (N.B. does NOT affect flag 27)	
21	RAM LOAD - Use Pause value of 50 (L = Roman 50)	
21	RAM SAVE - Use any other Pause value.	

N.B. Any other value for Flag 28 produces the normal PAUSE effect, but Flag 28 is NOT cleared.

As an example, an entry (in Status or Event Table) of:-

"LET 28 1 PAUSE 200 LET 28 9 PAUSE 1 CLS PAUSE 50"

would cause:- A rising siren to sound (quite long), followed by the Wipe routine, followed by a pause of one second.

A more detailed description of each routine is given later in this manual.

PATCHING - THE FINISHED PRODUCT
When you have written your adventure (including your special PAUSE actions), drawn the pictures and saved the databases, you can proceed to use The Patch.

a) Load the Illustrator, load in the graphics, select "Save Adventure" and load in the Quill database. Select "SAVE" option and save the game on a blank tape. Reset the computer.

b) Load the Patch and stop the tape when told. Don't rewind yet!

c) Load in the saved game.

d) Replace The Patch in the recorder and start the tape to load in the

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last section of The Patch.

e) If you have at least 768 bytes spare, the Patch will ask "CHR$?". If you wish to use an alternate typeface, answer "y" +Enter and LOAD your typeface from cassette. The Patch will automatically POKE the required locations with the numbers needed to address your typeface.

f) Make a note of the figures given on screen.

g) Insert a blank tape into the recorder and start recording.

h) Press "a" to save all the code in one block, or any other key and the Patch will save your Patched adventure (in three parts) without any further key presses.

i) Make further copies as needed.

N.B. The minimum Basic loader program for a Patched adventure is

    10 CLEAR 24662 : LOAD "" CODE : LOAD "" CODE : RANDOMIZE USR 25000

(If you saved the code as one block, omit a LOAD "" CODE)

The loader may be as long as you can fit beneath RAMTOP, as the Patch reclaims the Basic area for use by the stack - but avoid the use of variables whose space is not reclaimed.

You may test the completed adventure by entering, as a direct command, RANDOMIZE USR 25000. Best of Luck!

SELLING YOUR PATCHED ADVENTURE

I hope that you will find The Patch useful in helping you to create a better, more professional adventure. As with the Quill itself, there are no restrictions on selling your product, but please mention The Patch somewhere.

THE ROUTINES IN DETAIL

0) A value of 0 (or any value greater than 21) for flag 28 will mean that a PAUSE command in the Status or Event tables will behave normally.

1) "LET 28 1 PAUSE n " will invoke the RISING SIREN sound effect. The value of PAUSE will determine the length i.e. the number of "notes" in the sound. The starting pitch is fixed.

2) The TELEPHONE sound effect is very distinctive, and consists of TWO warbles followed by a pause of 1 second. The pause value determines the number of repeats.

3) The FALLING SIREN uses the same starting pitch as 1) above, and is used in exactly the same way.

4) This is more than just a sound effect, and does the following:- All the attributes on the screen are made "negative" in that black becomes

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white and all the colours take on their "opposite" (blue/yellow etc.). There is then a short burst of white noise accompanied by a multi-coloured striped border. If you use an EVEN number for the Pause value, the screen will end up as normal. An ODD number will give a very odd effect! It could be used to simulate an electric shock, but I'm sure you can find other uses for it.

5) The LONG WHITE NOISE sound effect, can be quite effective when used with repeats (pause value) and can sound like machinery.

6) The SHORT WHITE NOISE sound effect is actually a variant of 5) above, and is used in the same way.

7) "LET 28 7 PAUSE * " will cause the Quill to revert to the normal Spectrum type-face. The initialisation routines inserted into the Quill interpreter by the Patch will also do this, so a "QUIT" (or SUPER-QUIT) will always re-set the type-face to normal. N.B. If you have the space, patience and inclination you may have TWO non-standard type-faces in memory and switch between them, but you lose the normal Spectrum type-face. Details on how to do this are given in the "POKES" section later on.

8) "LET 28 8 PAUSE * " will switch to alternate typeface. If you did not load a typeface when patching, the normal Sinclair typeface is used.

9) The WIPE routine is called with a Flag 28 value of 9. The pause value does not matter (you wouldn't want to REPEAT it would you?) but it should normally be followed by a CLS command or you will get some very odd effects. If it's used just before a GOTO locno, you may omit the CLS as the Quill will clear the screen before making the jump. If, for some strange reason, you do not possess a Series C Quill, you will be able to use "wipe" in the last named manner only, as Series A Quills do not have a CLS function.

10) "LET 28 10 PAUSE n " will cause the System Message "I can also see:-" to be replaced with System Message n. If n>29 the command is ignored. System Message 1 is re-set after a Quit.

Note
System Message 5 is now "spare" for use by this routine, which could be used (with a message like "You are also aware of :-") if the player has been made blind in the adventure etc.

The Quill will now choose between System Messages 2, 3 & 4 in the ratio 45:45:10, when asking for input.

11) "LET 28 11 PAUSE n " will SET the maximum number of Objects Conveyable to the value of n. QUIT (or Super-Quit) will re-set the objects conveyable.

12) "LET 28 12 PAUSE * " will cause a complete RE-START of the game, (SUPER-QUIT). This routine (and the normal QUIT) will also do the following "house-keeping":-

    System Message 1 Re-set.

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Objects Conveyable re-set.
Type-face re-set to normal.
Pictures "ON".
Key-click normal.
+ all usual re-sets as per normal Quill.

You should note that the player will NOT be asked "Do you really want to quit now?" (or whatever you have amended System Message 12 to read) so you should warn the player of this fact in the instructions, or use a different word to invoke the routine. You should not include this routine as a hidden feature of the adventure, as some players can be quite big blokes......

13) This routine (note the number!) will completely clear the player's Spectrum - just like RANDOMISE USR 0 or pulling the plug out. The player should certainly be warned of this (if you include the feature) and it's best to use some peculiar Vocab. words (like ZXZX ZXZX) to invoke it.

It is, of course, a handy way for the player to end a session without going through the normal QUIT routine or pulling the plug. You could, perhaps, also use it in a multi-part adventure where a password needs to be entered in part 2, but use a countdown flag to give the player the chance of making a couple of mistakes before making him/her reload.

14) "LET 28 14 PAUSE n " will INCREASE the maximum number of Objects Conveyable by n, but will not go past 255.

15) "LET 28 15 PAUSE n " will DECREASE the maximum number of Objects Conveyable by n. This routine is best used to add realism. e.g. If the Player is carrying something heavy, or is tired, or is wearing something restricting he/she will not be able to carry as many objects. If the offending garment is removed, or the heavy object is dropped, use routine 14 to amend obj/conv. The number will not decrease past 0.

16) This routine RE-SETS the key-click to the normal Quill type. The pause value is ignored, but must be included.

17) "LET 28 17 PAUSE * " will change the key-click to a low-pitched beep. You could use this to warn of approaching danger, low energy, nearing the goal, wrong direction etc. If you tell the player of the significance in the instructions, it will add to the excitement.

18) This routine is similar to 17) above, but the key-board will emit a higher-pitched beep.

Resist the temptation to over-use the above two routines - a beeping keyboard may annoy some players.

19) "LET 28 19 PAUSE 255" will turn the pictures OFF. This can be very useful, and would normally be under the player's control to allow him/her to step quickly through your adventure to a certain point then restore the pictures. It has no effect on the picture already on screen, unless you follow it with CLS! You could perhaps use it as a penalty, but then the player wouldn't see your works of art.

ANY OTHER value of pause, will turn the pictures ON, which will also have the effect of re-setting the pictures i.e. they will all be drawn the next time they're visited whether or not they've been visited before. If you include the command "DESC" after this routine, the player will get visible confirmation (if there's a picture) as the picture is drawn.

20) This routine requires some thought to use properly, and is best explained by an example.

"MESSAGE 2 LET 28 20 PAUSE 3 PAUSE 200 MESSAGE 3" would have the following effect, if Message 2 was three lines long, and Message 3 was at least as long:-

a) Message 2 is printed on the screen.
b) The "printing line" is advanced 3 lines UP the screen, i.e. to the beginning of Message 2.
c) There is a pause of four seconds.
d) Message 3 is printed OVER THE TOP of Message 2.

As long as the bottom of the screen has not been reached by "Give me your command" and the cursor, the screen will not scroll. You can thus print many messages without losing the picture. The "PAUSE 100" could have been "ANYKEY" to allow the player to read the messages at leisure, or could have been much shorter to "flash" a message on screen. The "covering" message does not have to be as long in text; you could pad with CHR$ 6's.

This routine check's that you're not going off the screen, so you could use a pause value of 24 to ensure printing at the top of the screen, if that's what you want.

21/ The following entry in the Event Table will invoke a RAM SAVE:-
        LET 28 21 PAUSE *   where * is not 50
(It's up to you to define the words which invoke it)
        LET 28 21 PAUSE 50   will invoke a RAM LOAD, and your player will be instantly transported to the position saved, just like a normal cassette load - but quicker.

If a player attempts a RAM LOAD without having first done a RAM SAVE, the Patch will simply ignore the command.

It should be obvious that the RAM SAVED game position is lost when the computer is switched off or cleared, but a cassette save could immediately follow a RAM LOAD at the end of a partially successful session!

POKES

In order to use TWO non-standard typefaces: When patching, answer "Y" to the CHR$? prompt, and load in the typeface which will be the FIRST typeface used. Press CAPS SHIFT & BREAK. POKE 24791, (PEEK 24802) and POKE 24792, (PEEK 24803). Then GOTO 15 (Enter). Answer "y" as before, and LOAD the SECOND TYPEFACE. Put in your blank tape, START RECORDING, and press a key to SAVE the adventure. The Patch will save all the right bits, and you

will find that the adventure will start with the first typeface you loaded.
N.B. If you don't have room for the second typeface, the Patch will NOT
prompt with "CHR$?".

The default value for the printing line on split screen pictures is set to
12 (about halfway down the screen). This can be changed by POKEing address
64414 (#FB9E) with the line number you wish to use as a default value.
REMEMBER:- numbers start at 1, from the BOTTOM of the screen. DO NOT use a
value less than 4 or greater than 24.

To change the cursor, you will need to alter the following addresses:-

27192 & 27180 POKE with 255 minus ASCII Code of Cursor
          required. (it's 255-32=223 for a space at present)

27187   POKE with 255 minus ASCII Code of "Marker" (ie ">" as
          standard)

27186   POKE with 255 for a non-inverse marker.

27179 & 27191 POKE with 255 for non-flashing cursor.

The above addresses are for PATCHED adventures only.

PLEASE NOTE. The Quill's error handling routine has been removed so that a
tape loading error (or BREAK during a cassette save) will re-start the
game. The normal END after QUIT will clear the machine after 6 seconds
even if a key is not pressed.

SAVING SCREEN$ TO CASSETTE

After The Patch on the cassette, you will find two very short blocks of
code named "SCREEN$ SAVE CODE 1" and "SCREEN$ SAVE CODE 2" (using keywords
as part of the filename). If you LOAD each of these into the Illustrator,
using Main Menu option "F" (LOAD GRAPHICS) with a null filename, you will
be able to SAVE your pictures to cassette as a SCREEN$. To do this, select
option "A" (GRAPHICS) from the Main Menu, then option L (+ loc.no.). START
YOUR RECORDER BEFORE PRESSING ENTER, as the SCREEN$ is saved immediately
after drawing. This routine replaces the printer COPY facility.

CREDITS

"The Quill", "The Illustrator", "The Patch" and all associated
          documentation are (c) Gilsoft International Ltd.

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encouragement and the use of a decent printer! Also Colin Russell, for the
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Phil Wade - May 1985