



Pointer Accessories For the Sinclair QL

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QJUMP Pointer Accessories I

These Pointer Accessories form the first of what we hope will be a series of packages aimed at removing things from your desk and putting them in your QJ. If you find yourself still using the "ordinary" equivalents, we'd like to know why!

This package consists of the "desktop" items of clock, calendar, calculator, typewriter and alarm clock, with the addition of a purely "computer" item, the system monitor. You also have the latest version of the QJUMP Pointer Environment, the Hotkey System II (for which there is a separate manual) and a new "universal" configuration program.

The BOOT file supplied sets up the system with all the accessories available on Hotkeys, and a Hotkey set up to run the configuration program from your boot medium. You will probably wish to merge this with your existing BOOT program, at which point you can copy suitably configured versions of the accessories to your master disc, and select a different set of Hotkeys to start them. The Hotkey System II manual explains the new routines and how to set up your own BOOT file using them.

The Configuration Program

The configuration program can be run by Hotkey after booting from (a copy of) the master medium, by pressing "ALT S". It can also be started by using EXEC flp1_config (or mdv1_ of course) in the usual way.

In use it is fairly simple. It prompts for the name of the file that you wish to configure until you give it one it can find, and then searches that file for any configurable items. It can cope with BOOT_REXT or old-style Hotkey files, which may contain several sets of configurable items. You are unlikely to have any such sets of items in your existing files, of course.

Each set of items has its own title and version number, and you are asked whether you want to configure each set in turn. If there is only one set in the file this looks a bit odd, as each time you say No you're offered the same set again! If you ESCape, then you get the chance to write the newly configured file out, and can then configure another file.

If you choose to configure a set of items, prompts are read from within the file itself, and printed before each item is presented for configuring. Prompts, items and error messages are in different colours so they may easily be distinguished. In all cases "ESC" will stop configuring the current set of items, and proceed to the next set, and "ENTER" will update the current item, proceeding to the next if the entry made was valid.

An item may be a string, a number, a single character or one of a set of pre-defined options. Strings and numbers can be edited in the usual way, and may be limited as to length, content or magnitude - if you can't put more in a string then that's as long as it's allowed to be! Numbers are always unsigned. Single characters are checked instantly, proceeding to the next item if valid; if not, the key you chose will be displayed, but the program will not go on to the next item. Pre-defined options may be stepped through by pressing the space bar: each will be presented in turn, and you can press "ENTER" when you're happy.

The configuration program finds all the data it needs to configure any software within the software itself, and can thus be used on anything that uses the QJUMP Configuration Information format for its

configurable data. It is available, free of charge, to any software house that wishes to adopt it. If you are interested, please contact QJUMP for information on the configuration information format.

The QPAC I Calendar

The calendar provides a view of one month, at any date from 9 A.D. to the foreseeable future, in the English calendar.

When it first appears, the calendar will show the current month, with the date selected. This highlighted date is what we call the "target" date. Items are provided to move backwards and forwards by one month from the one currently visible; these can be "hit" with the pointer, or by pressing the "CTRL LEFT" and "CTRL RIGHT" cursor keys. The date is maintained as close as possible to the last date hit, so if you move from March 31st to May, you will pass through April 30th but end up on May 31st.

If you wish to "time travel" to a more distant date, you can "hit" the month/year item (key "M"), which will allow you to edit the month and year as you wish. If you change your mind you can ESCape. Here the calendar will accept dates in the forms "3 1988" or "sep 1752". If you specify the month in its text form, you may use up to three letters in either upper or lower case, and the first matching month will be found. The month and year must be separated only by spaces, and the year must be specified in full: "Jun 88" will take you back to 88 A.D.! The quotation marks used in these examples should not be typed, of course.

You can change the size of the calendar by hitting the size change item at the top left, either directly or with the "CTRL F3" key. This cycles it through the three possible sizes, the smallest of which contains just the clock and items to move and re-size it.

The largest form of the calendar contains an extended form of the date difference information available on the initial, middle-sized form. The date difference from a given base date is provided in terms of days, weeks and days, and years, months and days. The initial base date is the current date, and can be reset by going to the required year and month, selecting the day by hitting it, and then hitting the "Base:" item. The year/month/day difference is always calculated forwards from the earlier of the base and "target" dates, and thus may be regarded as approximate - it's a bit difficult to do better with the months all funny lengths!

The difference items may be edited in a similar way to the month/year item. The keystrokes for hitting them are "D" for the day difference, "W" for the week, and "Y" for the year. You may enter a new difference as one or more numbers separated by spaces, and the calendar will be re-drawn with the appropriate day highlighted. If your "target" date is before the base date, you should enter just *one* minus sign before the number(s). In addition, you can move forwards or backwards from the target date by preceding the new difference by ">" or "<", in which case the new difference is added to or subtracted from the old one, rather than over-writing it. This editing facility is available on the middle-sized version of the calendar, although beware of altering the base date before going back to this version - you may find it confusing.

You can reconfigure the layout of the clock in the same way as the independent CLOCK program. See below.

The QPAC I Clock

The QPAC clock is just another of those silly little digital clock programs that you can get for the QL. Or, to put it another way, it is most of those silly little clock programs, plus a few others all rolled into one.

The clock can be made a permanent fixture, a movable utility or a pop-up and vanish utility. It can be made to appear in a fixed position, or at the current pointer position. You can re-configure the text in the clock window, and even make it send the contents of the window (usually the date and time!) to the program you are working with. It neither sings nor dances.

Clock Configurations

The clock may be configured using the standard configuration program CONFIG supplied with QPAC I and other recent QJump products.

First you can configure your clock to be TEMPORARY or not. If it is temporary, then, after you have invoked it, it will remove itself if you freeze the screen (CTRL F5) or lock the clock's window (by moving the mouse over the clock or burying the clock) for more than about 2 seconds. It will also remove itself if you "hit" it with any key other than the left button or SPACE bar. If you "hit" it with the right button (DO) or the ENTER key, then, in its final death throes, it will stuff the clock window contents into the most convenient keyboard queue it can find. This may be where you want it.

If you have a temporary clock set up on a Hotkey, then you can pop it up whenever you want, and it will go away at the least provocation.

Next you can choose to have a shadow below your clock. This is a purely personal preference.

Next you can configure the positioning of the clock. If you select an IMMOVABLE clock, it will appear where you tell it to (or as near as it can) and you will not be able to move it. If you select DEFAULT position, it will appear where you tell it to, while if you select POINTER position, it will appear at the current pointer position. In either case you will be able to move it by "hitting" it with the left button or the SPACE bar.

Using SuperToolkit II, you can make the clock appear at any position, regardless of the method of positioning chosen. You should use the EX command and add a string with the required XY pixel position:

EX 'clock'; '440,230' cLock at 440 pixels across, 230 down

Finally you can configure the contents of the clock window. To do this you give a string (similar to the SuperToolkit configurable clock) which specifies the parts of the QL DAY\$ and DATE\$ strings you wish to incorporate, and any other characters you wish. The clock itself will work out the window size required to accommodate the contents (and it even adjusts itself for different display modes). Any character other than \$, % or \ will be inserted directly into the display. \$\$ will insert a single \$; %% will insert a single % and \ will insert a single \. Otherwise the \$, % or \ should be followed by an upper or lower case letter.

\$D	day	(eg Mon)	\$M	month	(eg Jan)	\	new line
%C	century	(19/20)	%Y	year	(eg 88)	%D	day of month
%H	hour	(0..23)	%M	minute	(00..59)	%S	second (00..59)

The QPAC I Alarm Clock

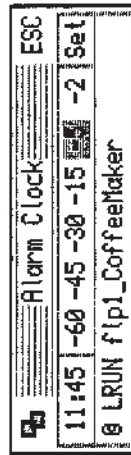
The alarm clock provides a simple alarm facility. As well as the usual alarm at the given time, a selection of prior warnings may be set, and a short reminder message may be attached to the alarm. This message can appear in the Alarm clock's own pop-up window, or it may be sent to another program. Any number of alarms may be active at one time, each with its own time and message.

When the alarm clock is popped up, it has the alarm time set to the current time and a default message. You will need to reset the alarm time, which can be done by "hitting" the time with the pointer or with the "P" key. The time can now be entered in the usual 24-hour format. Hours and minutes may be separated by any non-numeric character. The message may be edited in a similar way, the "M" key being used to "hit" this item. If you end an edit with a key other than "ENTER", then the old item value is restored. If the message starts with a copyright "C" symbol, then, at the alarm time, a program will be started, or if the copyright symbol is followed by a space, the rest of the message will be sent to the SuperBASIC command console. If it is not a space, the symbol following the copyright symbol should be defined as a Hotkey to (load and) execute a program. In this case, when the alarm goes off, the Hotkey is invoked and the message will be sent to the program as a standard command line parameter.

The alarm may be set to go off at one or more of the six possible fixed intervals before the alarm time by selecting the required items from the menu. The "-60" item causes the alarm to warn you an hour before the actual alarm time, and so on. These items can be "hit" by the keys "1" to "6".

When you hit "Set" with the pointer or "S" key, the menu will disappear, and the job's name is altered to reflect the final alarm time. When the time reaches the alarm time or one of the warning times, a very similar menu reappears, telling you how long you have before the alarm time, or that that time has been reached. Selecting "OK" will "put it to sleep" until the next time, unless it was the final alarm in which case the job disappears. Selecting "ESC" from either alarm menu will also kill that alarm off.

If, when you select "OK", any warning or alarm time has already passed, that warning will not occur: if the alarm time itself has passed, then the alarm job disappears and you will get no warnings or alarm. The same is true for any passed warning times when you "Set" the alarm, but if the alarm time itself has passed when you set it, then the alarm is set to go off at that time the next day. In this case warning times are also advanced before being checked against the current time.



This is an alarm set to go off at 10:45 (in the morning), give a warning five minutes beforehand (10:40) and stuff the command console with a command to LRUN a SuperBASIC program.

The Calculator

The calculator is a fairly simple five-function ten-memory machine, with few unexpected attributes. All keys may be "pressed" by hitting them with the pointer in the usual way (which is why nobody uses the Mac or Atari calculators), or by pressing the appropriate key on the QL keyboard. The appropriate key is obvious in most cases, except that to change sign the backslash key "\" is used. In the examples below keystrokes are used, rather than the full symbols displayed on the calculator "keys".

It displays twenty characters, consisting of sign, mantissa, decimal point, exponent symbol, and exponent sign and magnitude. Of these, only the mantissa is always present: the format of the display will be altered so as to display the maximum number of significant digits. Internally calculations are performed using floating point string arithmetic, to a precision of 40 digits or so. This accounts for its amazing slowness.

Numbers are entered with the numeric "0" to "9", decimal point ".", exponent "E" and change sign "-" keys. You can switch back and forth between mantissa and exponent with the "." and "E" keys, or clear the current entry with one press of the clear key, "C". Two presses on clear will abort the current calculation entirely.

The usual "infix" form of calculation is used, alternating numbers with operations and completing the calculation with the "=" key. If you select the IMMEDIATE calculation option visible at the bottom right, all operators have equal priority, so 1+2*3 will give the "wrong" answer 9, as opposed to the "correct" 7. Some people like it that way... In either mode, brackets may be used to override the priority, so 2*(3+4) gives 14 as the answer. Dull isn't it?

Ha ha, percentages! No one has yet invented a calculator with a percent key which I understand, so this is my revenge! It is, of course, dead simple. For instance, to add 15% VAT:

Entry	Display	Comment
13+	13	you're going to add to 13...
15	+15	...15? not really...
%	1.96	% calculates 15% of 13
=	14.96	= adds that 15% to the 13

Note that you could have entered 13%, which would have multiplied 13 by 1.96 instead: the operator isn't important. A ten percent discount would be calculated thus:

Entry	Display	Comment
29.90-	29.9	from 29.90, knock off...
10%	2.99	...ten percent
=	26.91	giving you this much

You can work the other way, by giving the percentage to be calculated as a negative number. To knock off the VAT added above:

Entry	Display	Comment
14.96+	14.95	add to 14.95...
15\	-15	...-15
%	-1.95	difficult to explain
=	13	but useful, I think!

Numbers may be stored in any of the ten memories by pressing "Sn", where n is one of the numeric keys 0-9. Any other key will be ignored, so you can change your mind without wiping a memory. Similarly the contents of any memory may be recalled by pressing "Rn". Again, invalid keys will be ignored, as will any attempt to recall from a memory in which nothing has

been stored. All digits of a number are stored, not just those visible in the display. Each copy of the calculator has its own set of memories, which are discarded if you ESCape from that copy.

If you hit any of the calculator keys, or the display, with the "ENTER" key or right "DO" mouse button, then the contents of the display are stuffed into the Hotkey System buffer, and can be recalled within another program via "ALT SPACE" in the usual way.

The QPAC I Typewriter

Typewriter is our version of one of those nasty expensive intelligent typewriters. Add a printer to your QL, and you can type directly to the printer, checking each line for correctness and (for those who have installed QTYP_SPELL) checking the spelling. It will not make the coffee, but, if you put your cup on the right hand end of the QL, it will keep it warm.

The printer device may be configured using the CONFIG program, it will normally be SER or PAR, but may be a file, or even a network device (eg N3_PAR or N1_SCR) if you have a SuperToolkit II network.

When you are using Typewriter, you can change the printer device by pressing F5 (or "hitting" the device name) and editing the printer device name.

Printers vary as to their requirements for an end of line sequence and this may be configured too. Standard dot matrix printers require <LF>, although some will tolerate <CR><LF>. Daisywheel printers and IBM printers will normally accept <CR><LF>, unless you have "auto line feed" selected, in which case you will require <CR> only.

To use Typewriter, move the pointer to the bottom window and type. When you press ENTER, the line will be checked for spelling errors (if the SPELL option is set) and, if accepted, the line will be sent to the printer with the configured newline sequence. When you press SHIFT and ENTER, the line is sent without a newline sequence. As each line is printed, it will be copied into the window above. The newline sequence will appear as a funny blob at the right hand end of each line. If you wish to send non-printing characters to your printer, then you should type the copyright symbol "©", followed by the two hexadecimal digits representing the character. (The copyright symbol itself is the standard ASCII delete character 07f.)

You can move the cursor about on the line with the LEFT or RIGHT cursor keys. Pressing SHIFT at the same time will move a word at a time. Pressing CTRL and pressing LEFT or RIGHT deletes characters. CTRL ALT LEFT deletes the whole line. ESC quits the Typewriter.

To turn the spelling checking on or off, press F4 or hit the SPELL item. This will not be available if you do not have the QTYP_SPELL extensions installed.

If, by now, you do not recognise the two funny symbols at the top left hand corner of the window, "hit" them and play about with the cursor keys and press the SPACE bar.

The QPAC I System Monitor

Sysmon is a system monitor for the QL. Its display shows the memory usage for the whole machine, as well as the usage for each job in turn. At the same time it maintains a continuous check on the health of the QL and it will make an offensive wailing noise if the common heap headers or transient program heap headers become corrupted. This "heap monitor" function will continue even if Sysmon's window is locked.

The Sysmon can be made a permanent fixture, a movable utility or a pop-up and vanish utility. It can be made to appear in a fixed position, or at the current pointer position. Because it acts as a watch-dog for your QL, it is best to configure and use it as a permanent, immovable utility.

The Sysmon display consists of a section at the left showing the current state of the memory, and a Job name at the right. Each dot on the left hand side represents 1/2048 of the RAM in your QL. The dots are arranged in columns of 8: each column represents 1/256 of the RAM. Free memory which is available for the filing system is shown in green. The memory used by the Job whose name appears on the right, is shown in white. The left hand edge is the screen memory, then come the system variables and tables. Next is the Common Heap. At the right, there is the resident procedure area, with the transient program area to the left, and SuperBASIC to the left of that. SuperBASIC and any permanent memory allocations in the Common Heap are identified as "System".

Sysmon Configurations

Sysmon may be configured using the standard configuration program CONFIG supplied with QPAC I and other recent Qjump products.

First you can configure Sysmon to be TEMPORARY or not. If it is temporary, then, after you have invoked it, it will remove itself if you freeze the screen (CTRL F6) or lock Sysmon's window (by moving the mouse over Sysmon or burying Sysmon) for more than about 2 seconds. It will also remove itself if you "hit" it with any key other than the left button or SPACE bar.

Next you can choose to have a shadow below Sysmon. This is a purely personal preference and the screen it occupies might be more useful for some other purpose.

Next you can configure the positioning of Sysmon. If you select IMMOVABLE positioning, it will appear where you tell it to (or as near as it can) and you will not be able to move it. If you select DEFAULT position, it will appear where you tell it to, while if you select POINTER position, it will appear at the current pointer position. In either case you will be able to move it by "hitting" it with the left button or the SPACE bar.

Using SuperToolkit II, you can make Sysmon appear at any position, regardless of the method of positioning chosen. You should use the EX command and add a string with the required x,y pixel position:

```
EX 'sysmon'; '50,0' Sysmon at the top, 50 pixels across
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