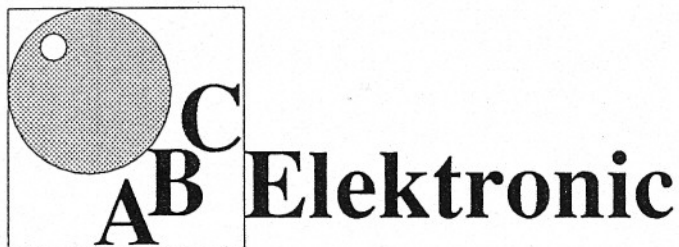


QL-keybord-interface

User's Manual



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Contents

Contents	2
General	3
Installation of the interface	4
.Connecting the interrupt-line	2
.The additional EPROM-socket	5
The keyboard-software	6
.The new command	7
.KEYROW	7
.Hints	8

General

The keyboard-interface fits into the EPROM-slot at the rear of the QL. You may connect any IBM PC/XT-compatible keyboard. There is another EPROM-socket on the board in which you may insert a 27128 or 27512 EPROM which you would normally plug directly into the EPROM-slot.

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In no circumstances will ABC-Electronik be liable for any direct, indirect or consequential damage or loss including but not limited to loss of use, stored data, profit or contracts which may arise from any error, defect or failure of the interface.

We carefully tested the hard- and software and found no bugs. If you find any malfunction, please tell us the bug and what configuration you use with this interface (e.g. Floppy Controller, RAM expansion) and the program which ran when the error occurred. If this error depends on the soft/hardware of the interface we will try to remove it. There is no claim on free upgrades on the soft/hardware.

Installation of the interface

Switch the QL off and remove all cables and interfaces. Turn your QL upside down and remove all 8 screws at the outer edges of the case. Leave the 2 screws near the front underneath the microdrives.

Hold the case together and turn the QL the right way up, facing you. Lift the front of the keyboard up and away from you. When it is vertical, lock it and take care not to pull the wires of the LEDs out of their sockets. Now remove both ROMs out of their sockets (marked QL.JM0000 and QL.JM8000 or QL.JS0000 and QL.JS8000 etc.). Wrap them up in aluminium-foil so that all pins are connected to each other.

Connecting the interrupt-line

As the keyboard produces interrupts, you have to connect an interrupt line. Solder it to pin 30b of the expansion bus (the third pin counted from the backside. Another way is to remove the chip ZX8302, put the wire into pin 2 (the second pin from the upper left of the socket) and put the chip into the socket so that it holds the wire. Be very carefully! Lead the other end of the wire through the EPROM-slot and put it into the back of the keyboard-interface.

Please notice that the QL will only work with the keyboard-interface connected. If you wish to use the QL without this interface you have to place the ROMs at their original place. The left socket holds ROM 0000, the right 8000, with the notch pointing to the backside of the QL.

Now you can build your QL together and push the keyboard-interface into the EPROM-slot. You may fix the interface with a screw to the QL case.

When you fixed the interface to the QL, plug the 5-pin plug of the keyboard into the plug of the interface. Now you may connect the power to the QL. As long as the keyboard-interface is connected, the QL's keyboard is disabled.

Attention! Do not remove the keyboard from the interface or the interface itself from the QL while the power is on. This will surely damage your hardware.

The additional EPROM-socket

If you got an EPROM-card which plugs into the EPROM-slot (e.g. SuperToolkit II, CP/Mulator) you can remove the EPROM and put it into the addition EPROM-socket. If you are able to program EPROMs you may place the contents of four of this EPROMs into one 27512 EPROM which you may put into this socket and then select one of the bank. Naturally you may insert one of the original EPROMs directly. There is also 16k ROM space in the EPROM delivered with the interface. You may switch from the lower und upper 16k with the left switch:

up 16k in delivered ROM / upper socket deselected

down 16k in upper socket selected

If you placed a 27512 into the upper socket, you may select one of four banks of the EPROM with the right switch:

up down address in EPROM

left	left	c000-ffff
left	right	4000-7fff
right	left	8000-bfff
right	right	0000-3fff

The ROM space in the lower EPROM is c000-ffff (this is the normal EPROM-area).

The keyboard-software

When you press F1/F2 the new keyboard is ready to use. The QL-keyboard is totally disabled, to save time.

The alphanumerical part of the keyboard works the same way the QL-keyboard does. You can get all special characters by pressing SHIFT, CTRL or CTRL-SHIFT (have a look at the CONCEPTS-part of the QL USER GUIDE, CHARACTER SET), for example CTRL_SHIFT-L gives alpha.CAPS LOCK works as usual. The state will be shown by a LED. At the alphanumerical part of the keyboard is one key which is not on the QL keyboard:

<-	delete character left
CTRL <-	delete word left (in editors only)
CTRL SHIFT <-	delete whole line (in editors only)
SHIFT <-	cursor to start of line (in editors only)

There are five new function-keys:

F6	SHIFT F1
F7	SHIFT F2
F8	SHIFT F3
F9	SHIFT F4
F10	SHIFT F5
CTRL SPACE	BREAK
SCROLL LOCK	CTRL F5

NUM LOCK toggles the state of the NUMLOCK LED.

This controls the function of the numerical pad. Is NUMLOCK on, then a keypress on it generates the numbers and characters shown at the keys, otherwise

ARROW KEYS	CURSOR CONTROL
HOME	Cursor to start of line (in editors only)
END	Cursor to end of line (in editors only)
PAGE	UP Scroll up one page (in editors only)
PAGE	DOWN Scroll down one page (in editors only)
DEL	Delete character under cursor
INS	ALT ENTER (with SuperToolkit II)
CTRL -	program slow down
CTRL +	program speed up
SYSREQ	Job-change (function of CTRL C)
CTRL PRtSC	toggles MODE 4 and MODE 8
ALT SHIFT SYSREQ	Level 7 interrupt (CTRL ALT 7 at the QL)
PRtSC	s.u.
ALT SHIFT PRtSC	RESET

By using the keys CTRL and + and - of the number pad the whole speed of the running programs may be varied, e.g. when a game runs to fast to play it.

The new command

KDD-HOT

HOT_KEY char\$ defines the character char\$ to the key PRTSC. If you press PRTSC the keys ALT and the defined character will be created. Example:

HOT_KEY 'A'

defines the character 'A' to be the hotkey. If PRTSC is being pressed, ALT A will be generated. May be used to call the HOTKEY-dump or QRAM. Default is '/'.

KEYROW

Keyrow works the same way the QL keyrow does. Perhaps you get a little bit confused when running games as the new KEYROW works 50 times faster. As the QL-keyboard is totally disabled, you may not use both of the control-ports. Cursor-control is done by the keys on the num-pad. If you wish to use a joystick you may enable it with the command

KEY_ROW parameter

If parameter is 1, it activates the QL-joystick-ports, 0 switches back to the IBM-keyboard.

If you wish to use the joysticks, enter

KEY_ROW 1

and run the program.

Rows 0 to 7 are the same, there are also three new ones:

	1	2	4	8	16	32	64	128
Row								
10	PAGE DOWN	INS	DEL					
9	NUM LOCK	SCROLL LOCK	HOME UP	PAGE (10er)	- (10er)	5 (10er)	+	END
8	SYS REQ	<-	PRT SCR	F6	F7	F8	F9	F10
7	SHIFT	CTRL	ALT	X	V	/	N	,
6	8	2	6	Q	E	0	T	U
5	9	W	I	TAB	R	-	Y	O
4	L	3	H	I	A	P	D	J
3	[CAPS LOCK	K	S	F	=	G	;
2]	Z	.	C	B	£	M	'
1	ENTER	CURSOR LINKS	CURSOR AUF	ESC	CURSOR RECHTS	\ AB	SPACE	CURSOR
0	F4	F1	5	F2	F3	F5	4	7

Hints:

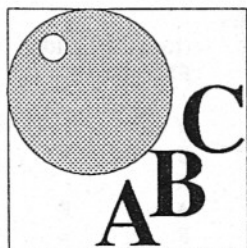
The keyboard does not work with programs which disable the interrupts or clear the interrupt-lists. There are not many programs doing it, only some games.

There may be some problems with different keyboards, depending on the keyboards. This is no problem of the interface or the QL, but a problem of the keyboard. If you press more than three keys together the keyboard enters some internal modes and generates confused control-codes. Press only allowed combinations, e.g. CTRL SHIFT <-.

Never press SHIFT if CAPS LOCK is on. The keyboard internal inverts the state of the keyboard.

Games tested

We tried a lot of games with the interface and nearly all work well. Knight Flight and The Pawn for example behave not that way. QRAM works very well.

worldwide:**Elektronik**

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