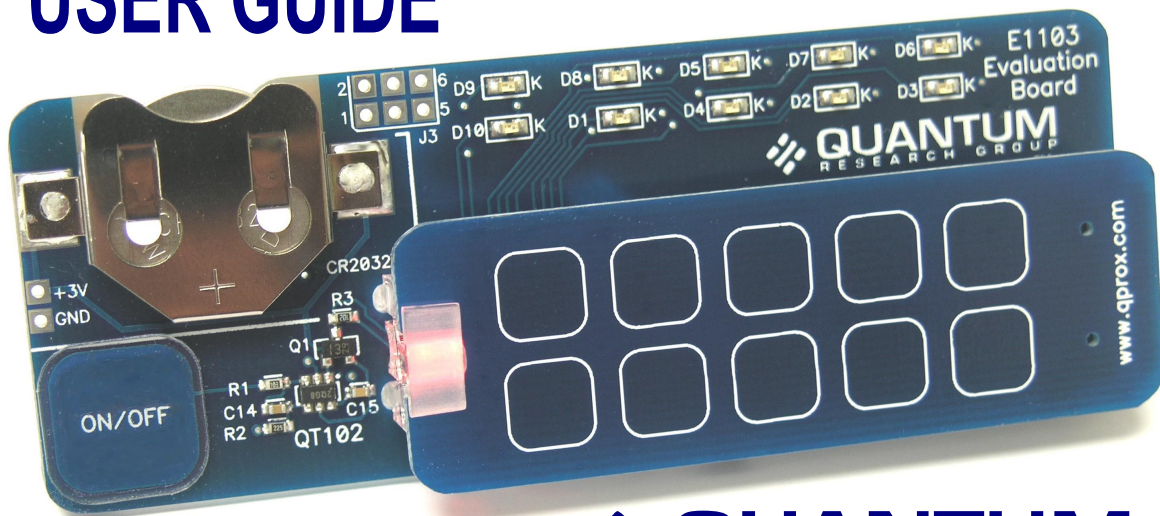


# E1103 EVALUATION ASSEMBLY USER GUIDE



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 **QUANTUM**  
RESEARCH GROUP

## Using the E1103:

This kit is designed for the evaluation and development of applications using the QT1103-ISG Integrated Circuit (IC). In this example the QT1103-ISG is run in Simplified mode.

**Refer to the QT1103-ISG datasheet for details (see [www.qprox.com/downloads](http://www.qprox.com/downloads)).**

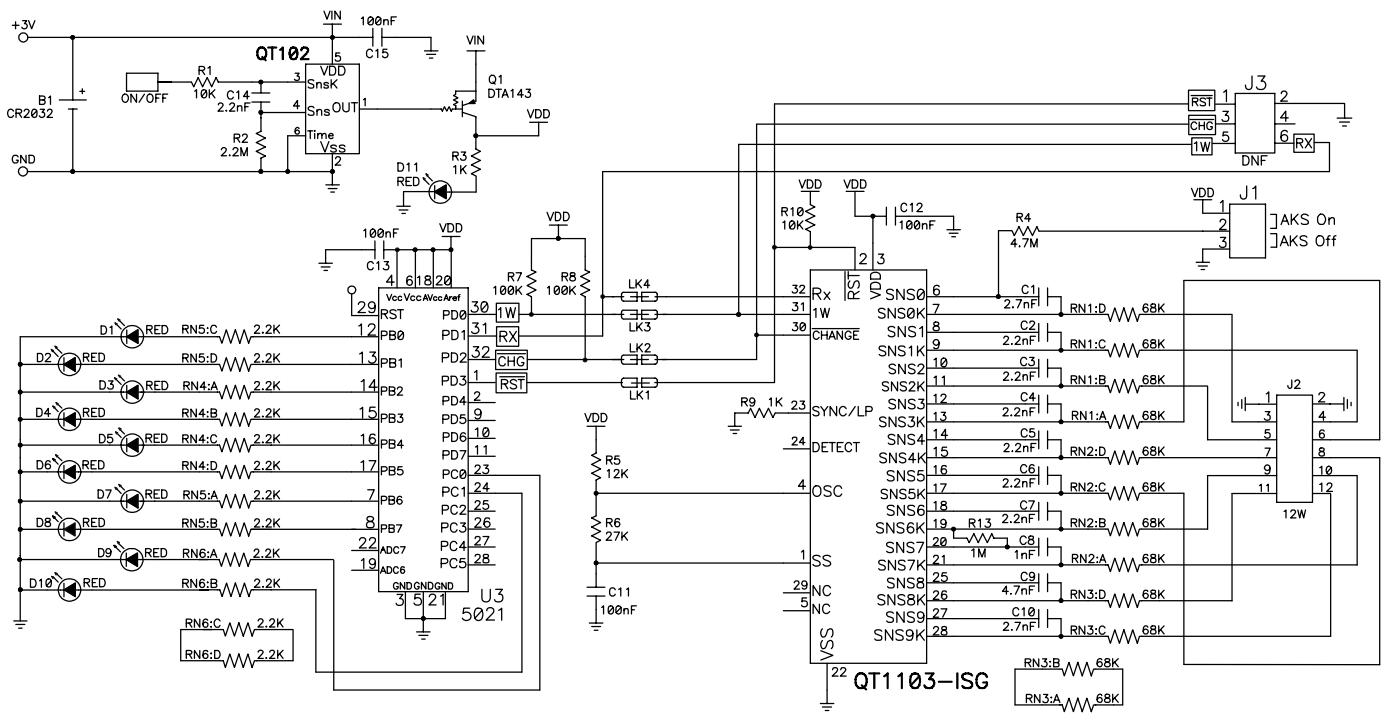
- Ensure the E1103 Keyboard PCB is connected to J2 on the E1103 Main PCB.
- Select desired Adjacent Key Suppression (AKS) mode by moving the 2-way Jumper at J1.
- Insert the battery provided into the battery holder on the E1103 Main board.  
*Ensure that the battery has the correct orientation (negative (-) side to board) or the E1103 will not work.*
- Touch ON/OFF - The LED (D11) under the standoff will illuminate to indicate power to QT1103-ISG.
- Touch any of the 10 key(s) on the E1103 keyboard and the corresponding LED(s) will illuminate.

**Auto Power-Off:** The E1103 will power off after approximately 15 minutes. (Using the auto shut-off features of the QT102-ISG fitted)

An external power supply can be used instead of a battery.

**WARNING:** if an external power supply is used then the battery **MUST** be removed.

# Schematic:



## **AKS Mode:**

On the E1103, AKS is a global setting. Refer to the QT1103-ISG datasheet for details. The AKS mode is changed by moving the 2-way Jumper fitted to J1 as indicated.

- If set to 'On': When touching multiple keys, only the LED associated with the key with the strongest signal is lit.
- If set to 'Off': When touching multiple keys, all associated LEDs will be lit.

## **External Input:**

The E1103 can be connected to User electrodes, using connector J2. The values of C1-C10 (sample capacitors) may require changing.

## **External Output:**

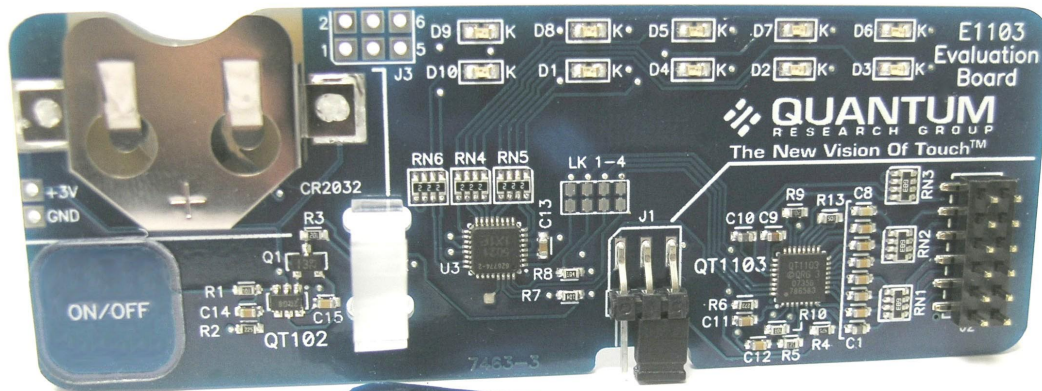
The output of the QT1103-ISG can be accessed using J3. The tracks at LK1-4 can be cut to disconnect the QT1103-ISG from U3, which is the IC used to drive the LEDs on the E1103 Main Board.

## Troubleshooting:

<b>Problem</b>	<b>Potential Solution</b>
<b>E1103 does not work</b>	<p>If the Power LED is off, the 15 minute timeout may have been exceeded. Touch ON/OFF to restore power.</p> <p>If using a battery, check that the negative (-) side is facing the board.</p> <p>Check/replace battery.</p> <p>If using an external power supply, check that the correct connections have been made.</p> <p><i>(Ensure the battery has been removed)</i></p>
<b>LED(s) stuck on</b>	<p>After changing AKS Jumper position, turn power off, then on again.</p> <p>After replacing the E1103 Keyboard, turn the power off, then on again.</p>
<b>AKS Mode unchanged after changing Jumper position</b>	<p>Turn power off, then on again.</p>
<b>Incorrect LED(s) light when keys touched</b>	<p>Check J2 connector pins on E1103 Main PCB and E1103 Keyboard are correctly aligned.</p>

## E1103 Kit Contents:

<b>1x E1103 Evaluation Assembly</b> (E1103 Main PCB and E1103 Keyboard PCB)			
<b>1x CR2032 Battery, 3V, 235mAh</b>			
<b>2x sample QT1103-ISG ICs</b>			
<b>1x E1103 User Guide</b>			
<i>Packed by:</i>		<i>Dated:</i>	



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