Modern Teaching Aids Pty Ltd ABN 98 000 628 786
PO Box 608 Brookvale NSW 2100 Australia

Telephone enquiries 1800 251 497
Freefax 1800 151 492

QUESTION – My LEGO © MINDSTORMS© Education - NXT® brick is not working, I can't down-load any programs to it, the batteries charged but the brick won't turn on.
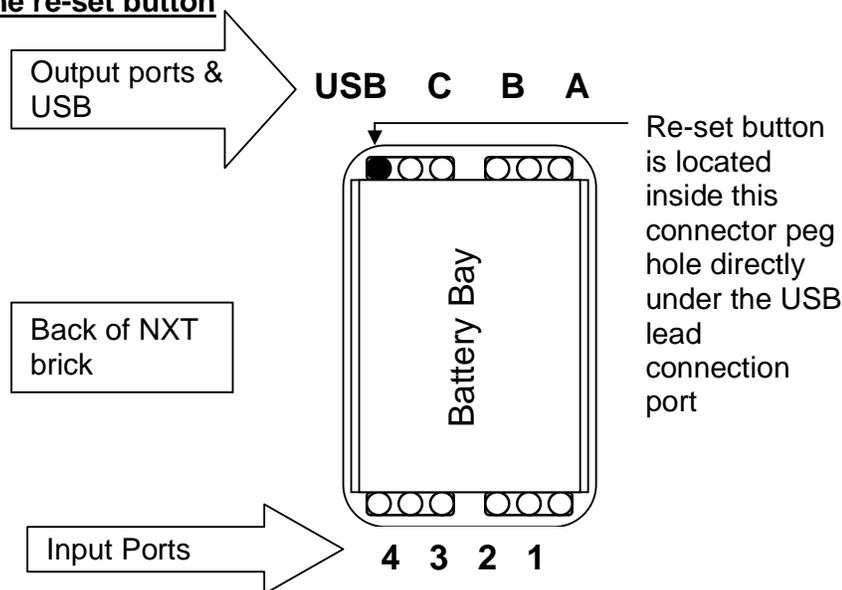## Answer:
NXT "Clicking Syndrome"

Symptoms - NXT brick generally mal-functioning eg- won't turn on, inputs/outputs on ports won't function.
Place the brick to your ear and you may hear a "click…hiss" sound repeating.

Basic Fix

1. Remove the batteries from the brick
2. Use a paperclip the brick

Locating the re-set button

Output ports & USB

USB   C   B   A

Re-set button is located inside this connector peg hole directly under the USB lead connection port

Back of NXT brick

Battery Bay

Input Ports

4   3   2   1

3. Press the re-set button for a minimum of 10 seconds.
4. Replace the batteries /battery pack.
5. Re load the firmware – either RoboLab 2.9 or NXT (see directions following for NXT/ RoboLab 2.9) – Note it doesn't matter if the NXT brick fails to turn on for the download, plug in the USB lead and download anyway. **When your NXT has been reset it will not work until new firmware has been downloaded to it.**

6. Turn the brick on and it should work.

ADVANCED FIX

7. If this method does not work, remove the re-chargeable battery and place new AA Alkaline batteries in the battery bay and repeat 2 and 3.

8. Before trying to re load the firmware establish USB communication with a NXT brick that is working and where you have communication with your computer. Un-plug the working NXT brick and replace the working NXT brick with the re-set brick and download the firmware again. This "Tricks" the computer into finding the mal-functioning brick

9. Turn the brick on, it should work.

10. Once the firmware has been re installed you can replace the Alkaline batteries with the rechargeable battery again.

IF YOU ARE USING NXT SOFTWARE:

HOW DO I ESTABLISH COMMUNICATION WITH A NXT BRICK THAT IS WORKING?

Turn a **working** NXT brick on, it should play a tune and the LCD panel should show 3 icons.

Plug in the NXT USB cable into the computer and then into the brick. If this is the first time you have used the NXT brick on that particular computer , or if this is the first time you have plugged in the USB cable and NXT brick to that particular USB port then you will see 2 messages show at the right hand lower edge of your screen:
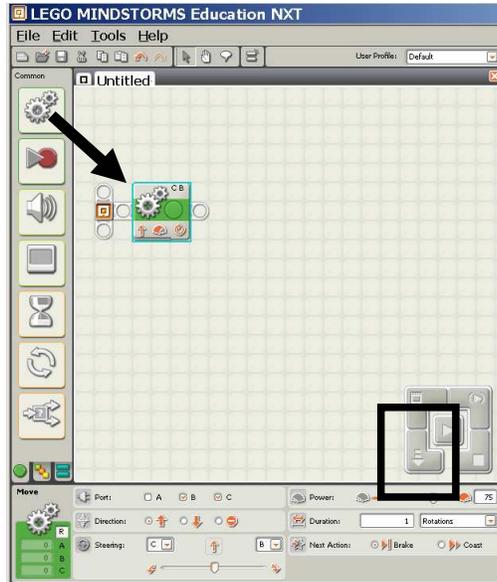
Found new hardware

LEGO NXT brick. Your hardware is installed & ready to use

Please give your computer time to show these two messages and automatically install the USB drivers for the NXT brick.

Your computer can only find your NXT brick if the brick is turned on and the USB cable is plugged in to both the computer and NXT brick

Click   Go>>>>

We will make a basic program just to check that we have communication with the working NXT brick.

Click and drag a NXT MOVE icon onto the programming beam .

click download

This screen (at right) will appear while the download is in progress and will signal SUCCESS when complete, your NXT brick should beep.
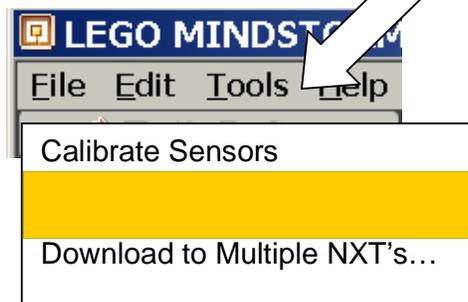
You have successfully communicated with a working NXT brick. Now we will swap over the working NXT brick with the non-working (but re set , with alkaline batteries installed) brick and load the Firmware.
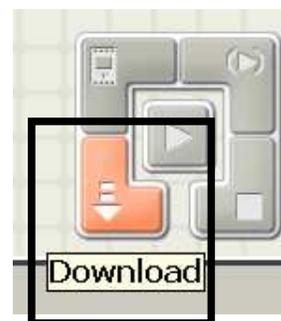
HOW DO I LOAD THE FIRMWARE?

The NXT bricks all come with the NXT firmware pre installed in the brick. In the case of a non responsive brick you will need to replace the firmware after re setting the brick as outlined above as re setting the brick deletes the firmware.

If you are using NXT software with your NXT brick , launch the NXT software on the computer and carry out no 8-10.

To load firmware Click   **TOOLS ,   UPDATE FIRMWARE**

Calibrate Sensors

Download to Multiple NXT's…

Click **DOWNLOAD**

When this screen appears click DOWNLOAD and wait for the process to complete (around 20 seconds)

This process should work by "tricking " your computer into communicating with the re set brick and your Firmware should load .

IF YOU ARE USING ROBOLAB 2.9 SOFTWARE ON YOUR COMPUTER:

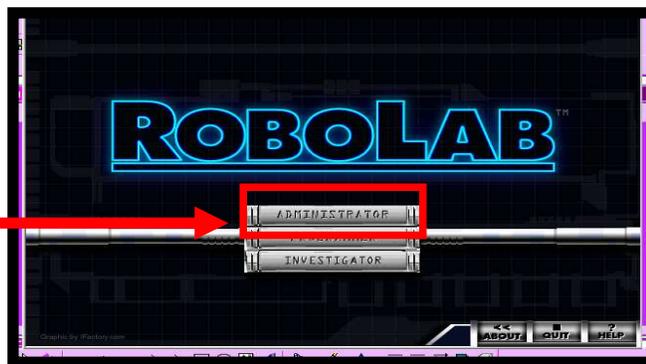**HOW DO I ESTABLISH COMMUNICATION WITH A NXT BRICK THAT IS WORKING?**

Click the ROBOLAB icon on your desktop to start the RoboLab software.
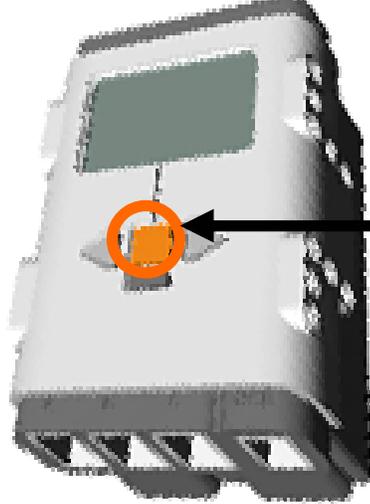 The main menu appears:

CLICK ADMINISTRATOR

CLICK ADMINISTRATOR

If the ROBOLAB ADMINISTRATOR button is missing / frozen **click** F5 **on your keyboard. F5 toggles the hide/unhide function**

The USB lead is connected to your computer

TURN THE BRICK ON.
Plug in the USB cord to the computer & the NXT brick . Turn **the NXT brick on using the orange button**

Tell the computer where the cable is plugged in:

SELECT COM PORT
Click on this <u>button</u> to tell the computer where you have plugged in the tower

NXT
✓

ROBOLAB™   LEGO educational division

Auto   SELECT COM PORT

DOWNLOAD FIRMWARE

TEST RCX COMMUNICATION

HIDE ADMINISTRATOR BUTTON

Web Help

Administrator   Robolab Settings   RCX Settings   << BACK   ? HELP

Select NXT from the COM PORT selections , do not use AUTODETECT. Scroll using

the ^ v buttons to locate NXT . **Click the** ✔

The NXT brick uses a USB lead plugged into a computer USB port and then directly into the NXT brick. The lead is removed after downloading
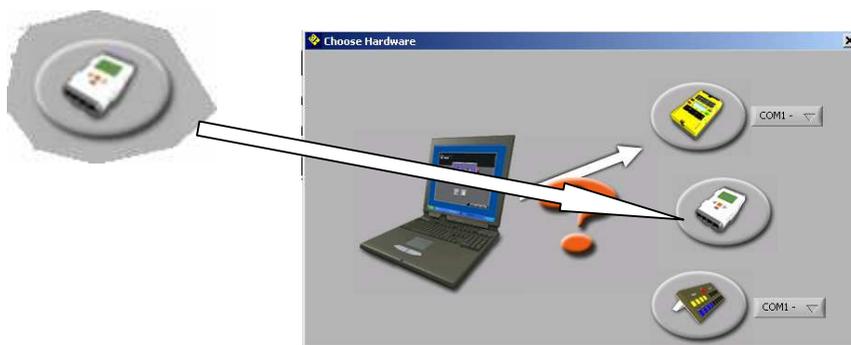
NXT
SELECT COM PORT

FIRMWARE DOWNLOAD USING THE NXT BRICK WITH ROBOLAB 2.9

The RoboLab 2.9 programming environment is not the NXT's default firmware therefore ALL NXT bricks using 2.9 software will need to have their firmware changed to RoboLab 2.9 Firmware regardless of if the NXT brick is functioning or not.

Start establishing communication with a NXT brick that is turning on correctly and download the 2.9 firmware into this NXT brick first.

At this stage often the RoboLab software will sometimes automatically detect that your NXT brick doesn't have firmware and it will show a message asking if you wish to download the firmware – Click Yes, download.

A pop up screen will ask you to click on the type of brick you are using - NXT

FIRMWARE DOWNLOAD

If the program does not automatically detect that your brick needs 2.9 firmware you will need to Click '**DOWNLOAD FIRMWARE**'. Follow the on-screen instructions. This may take about 40 seconds for the NXT brick.

SELECT DOWNLOAD
FIRMWARE
Click on the button

When the download is successful, the NXT beeps and on the computer screen, a dialog box appears confirming that the **COMMUNICATION WAS SUCCESSFUL.**

Click 'OK ✓ ' to close the dialog box.

Now we will swap over the working NXT brick with the one that appears to not be functioning (make sure you have pressed the re set button and replaced the rechargeable battery with 6 X AA Alkaline batteries) Repeat the process for the FIRMWARE download into the non functioning NXT brick. If this process does not fix the brick please contact Modern Teaching Aids to have your NXT brick and battery replaced.