

# RTCU Programming Tool

User's Guide

Ver. 8.20

## Introduction

This manual contains the user documentation allowing easy installation and use of the RTCU Programming Tool application and firmware programming utility.

The RTCU Programming Tool program is an easy to use application and firmware programming utility for the complete RTCU product family. The connection to the RTCU device can be made with direct cable or through the RTCU Communication Hub (RCH) allowing easy application and firmware maintenance of RTCU products already in use.

Starting from version 8.00 there is full support for projects build for NX32L.

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## Installation

Download the installation file from [www.logicio.com](http://www.logicio.com). Run "RTCUProg 8.20.msi" and let the installation wizard guide you through the complete installation process.

## RTCU Programming Tool

Locate the Logic IO folder in your start->programs menu and run the RTCU Programming Tool.

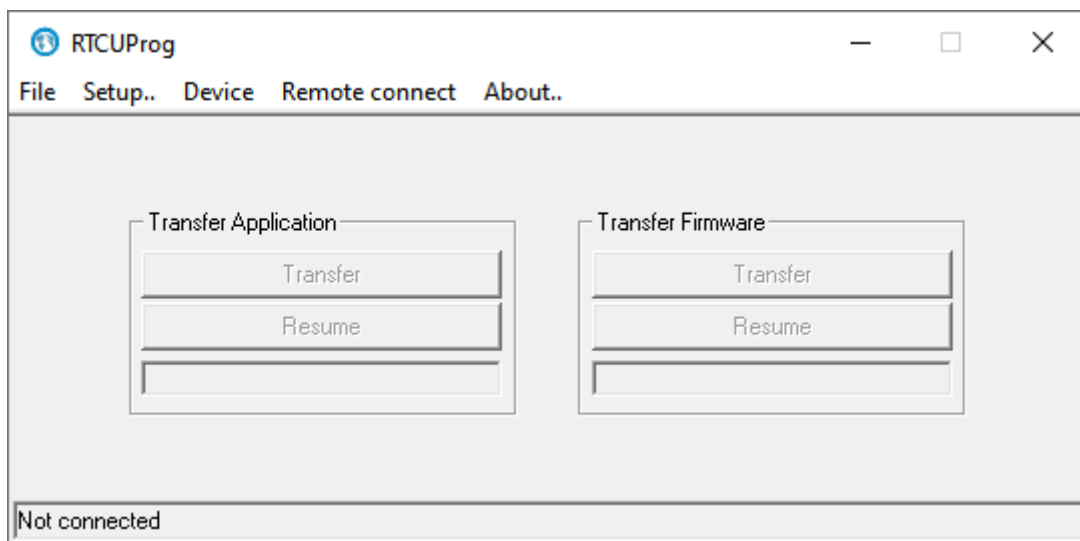


Figure 1, The RTCU Programming Tool

## Setup

The setup menu is located in the menu bar. Use this menu to setup the direct cable connection. Default settings are USB for direct cable.

Connection to the RTCU device can be password protected. Type the password in the "Password for RTCU authentication" field. For further information about RTCU password consult the RTCU-IDE online help.

It is also possible to Enable or Disable automatically reception of Debug messages from the device.

## Connection

The connection to the RTCU device can be made with direct cable connection or remote connection through the RTCU Communication Hub.

### *Direct cable*

Connect the service port on the RTCU device to the serial or USB port defined in the setup menu. Apply power to the RTCU device and wait for the connection to be established.

### *RCH remote connection*

Choose "Remote connect..." from the menu, a connection dialog appears. Setup the IP address, Port setting and keyword according to your RCH settings. The address can be typed as a dotted IP address (for example 80.62.53.110) or as a text address (for example rtcu.dk). The port setting is default 5001. And the default keyword is AABBCDD.

Then type the nodeid for the RTCU device (the serial number) or choose one from the drop down list. Click the connect button to establish the connection.

## RTCU device information

The connected RTCU device information is displayed in the bottom of the RTCU Programming Tool (figure 2). The available information is connection type, Device serial number, Firmware version, application name and version, and the RTCU device type.

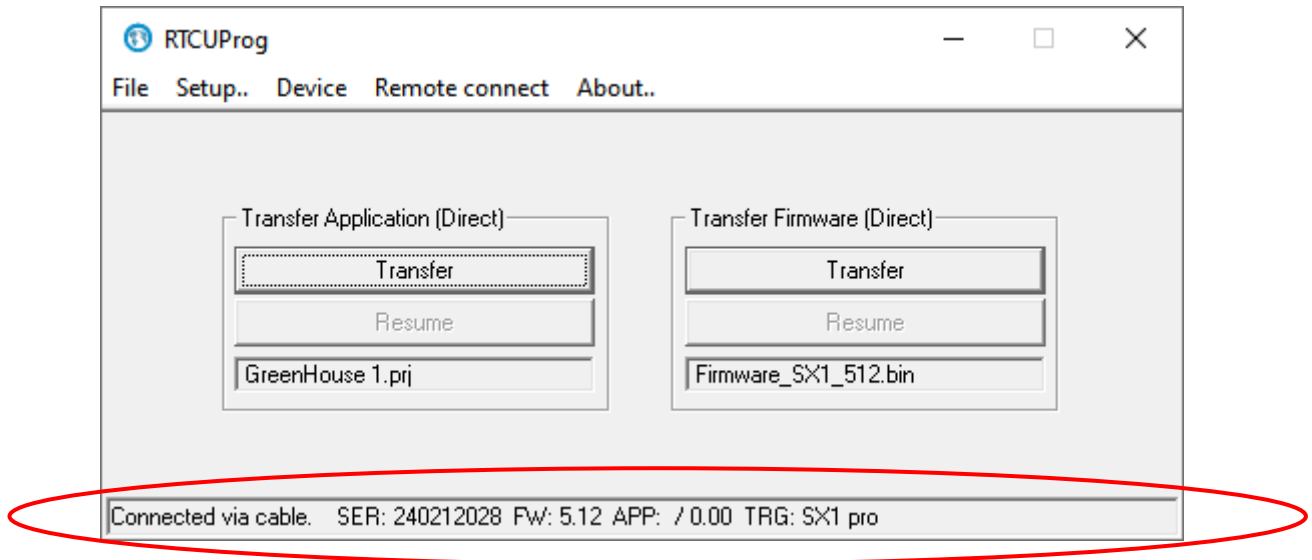


Figure 2, The RTCU Programming Tool device information

## Application and firmware update

The application and firmware update can be done by direct update or as a background update. Choose the file menu and select the application or firmware submenu and click select file. Use the open file dialog to browse for the RTCU-IDE project file or firmware file. Setup the type of update (direct or background) under the file menu -> application or firmware submenu. See the description of the two types of update methods below.

### *Direct update*

Direct update will halt the execution of the RTCU device, and start overwriting the old application or firmware with the new file. When the transfer is complete the device will reset and run the new application or firmware.

### *Background update*

Background update will as the name refers to transfer the application or firmware while the RTCU device continues to operate and hereby maximizing the "up-time". When a background update is initiated the application or firmware will be transferred to the flash memory in the RTCU device. If the connection is terminated or the RTCU device is powered off, a resume feature is supported whenever the connection is reestablished. When the transfer is complete the device must be reset. The reset can be activated by the RTCU Programming Tool (see the utilities described below), or it can be controlled by the VPL application, so the reset is carried out at a suitable time. When a transfer is complete and the device has been reset, the new

application or firmware will be installed. This will delay the start of the VPL application with approximately 5-20 seconds.

## Device utilities

A set of device utilities is available from the Device menu once a connection to a RTCU device is established.

Adjust clock	Set the Real Time Clock in the RTCU device
Set password	Change the password needed to access the RTCU device
Set PIN code	Change the PIN code used to activate the GSM module
Software upgrade	Upgrade the RTCU device <sup>1</sup>
Request unit options	Request options for the RTCU device from server at Logic IO. <sup>2</sup>
Options	Enable certain options in the RTCU device.
Network settings	Set the parameters needed for the RTCU device to use the Network interfaces.
RCH settings	Set the parameters needed for the RTCU device to use a RTCU Communication Hub
Filesystem	Manage the file system in the RTCU device.
Halt execution	Stops the VPL application running in the RTCU device
Reset unit	Restarts the VPL application running in the RTCU device.
SMS messages	Send or receive SMS messages to or from the RTCU device
Debug messages	Monitor debug messages send from the RTCU device

<sup>1</sup> Unlike the other utilities, Software upgrade can be selected when a device is connected but logon failed. In this situation however only an upgrade key to clear the password will be accepted.

<sup>2</sup> Like the 'Software upgrade', only the 'clear password' option can be requested when logon has failed.