

irConvert – Infrared Compression Tool

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This document gives instructions on how and when to use the irConvert tool with the Global Cache driver for RTI's XP processors.

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Note:

Integration Designer (and the underlying firmware in the XP devices) has a hard limit on the length of any string parameter used with a driver of 128 characters.

Please report any bugs found to bugs@mydevice.com.au. Include driver version number, irConvert version number and steps to reproduce the issue where possible.

Document Version

Date	Author	Version	Comments
February 2, 2012	Matt Crump	1.0.0.10	Initial public release.

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Purpose:

irConvert is designed to take an RTI HEX formatted infrared code and compress it to less than 128 characters so it may be used with the Global Cache driver. I have spent a fair amount of time looking at different options for compression and weighing up speed vs compression ratio. I am by no means an expert on these algorithms, but in the end a combination of data packing and a dictionary based lookup table seemed to offer the best results.

Please note that whilst this method will work with most IR strings, it cannot handle everything. In this case, irConvert will indicate the compressed string is still too long and you will need to find a cleaner code. Because of this, please convert any codes you need to use in a job before purchasing a license to make sure it suits your needs.

Installation:

irConvert does not require an installer as such. You can run it from anywhere. However, it does require the presence of the Microsoft .NET Framework 4 Client Profile. It can be downloaded here:

<http://www.microsoft.com/download/en/details.aspx?id=24872>

Instructions:

RTI Hex Format

We will now step through the process of converting an RTI code into something that can be used with the GC driver. For arguments sake, let's use RTI's own Relay Module as our target device.

Opening up the RTI Infrared Library Manager, I browse to the codeset RTI -> Relay Module -> RCM-12 ID0. I wish to convert the "All Relays On" command, which is pasted below:

```
0000 0067 0000 0045 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010
0010 0010 0010 0010 0010 0010 0010 0010 0020 0010 0010 0010 0010 0010 0010 0010
0010 0020 0020 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0020
0020 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0020 0020 0010
0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0020 0020 0010 0010 0010
0010 0020 0010 0010 0010 0010 0010 0010 0010 0020 0010 0010 0010 0010 0010 0010 0020
0010 0010 0010 0010 0010 0010 0020 0010 0010 0010 0010 0010 0010 0020 0010 0010 0010
0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010
0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0010 0321
```

Looking at this HEX string, it is 709 characters long – clearly too big to use as a normal driver parameter.

Open the irConvert.exe and paste the HEX string into the "input data" field.

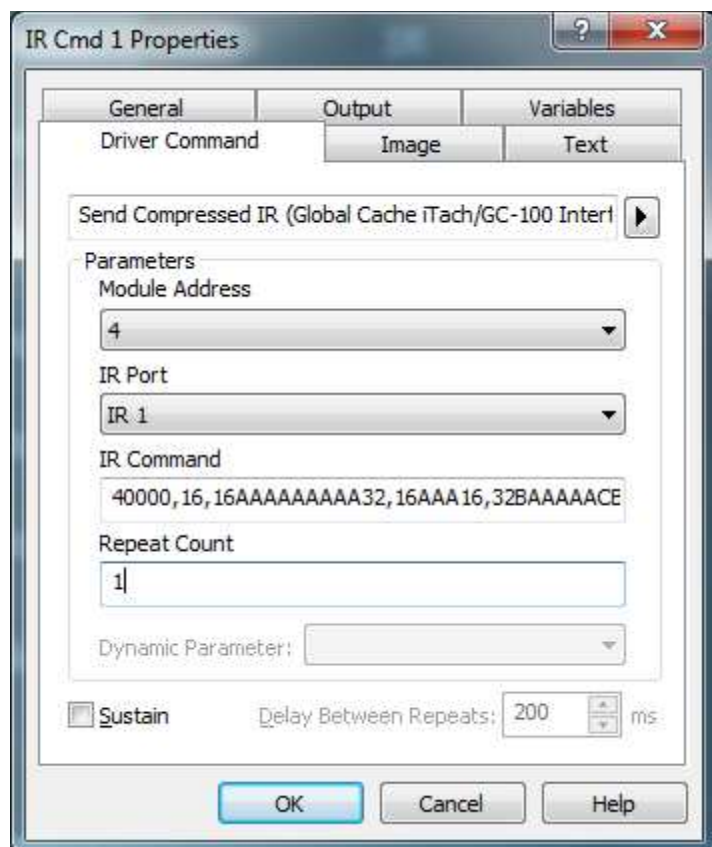
The tool will compress the IR code using one of 2 algorithms.



The compressed string is displayed in the “Output Data” field, along with its length.

The output string is automatically placed in the clipboard, ready for inserting into the GC driver.

Switch back to Integration Designer and add a “Send Compressed IR” command.



In the above example, I'm sending the IR pulse to module address 4, IR port 1 (I'm using a GC-100). I've also set the repeat count to 1.

Click OK and you're done. Repeat as many times as necessary and test!

Global Cache Format

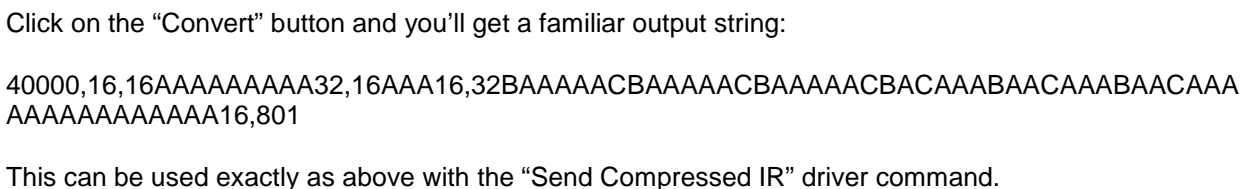
Similarly, you can convert a GC formatted IR string into a string the driver will understand.

Again, using the same “All Relays On” code, I’ve used GC’s iConvert tool which produced the following string:

[illegible]

Again this string is longer than 128 characters and is unusable in its current format.

Paste the string as-is into the irConvert tool, making sure to select the “Global Cache format” radio button.



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