# ADQ Initialisation – class ADQInit

The m\_adqCtrlUnit member was initialised with CreateADQControlUnit(), one for each digitiser present in the system.

I believe this is incorrect because your documentation says “**Note** Only call this function once for stable behaviour”. On Windows (though not on Linux), the software failed after the second digitiser initialised – the application exhibited strange behaviour, and slowed to a crawl.

I believe correct behaviour is to implement a singleton – one adqCtrlUnit for all devices. I have done so with a reference count.

This should really use std::shared\_ptr, but I was unable to use this correctly with the void type of m\_adqCtrlUnit.

# What should be BUFFERSIZE\_ADQ8?

There are existing definitions for BUFFERSIZE\_ADQ14 and BUFFERSIZE\_ADQ7, but no rationale is given for the values selected. I see from the hardware manuals for these devices that:

ADQ14 has 2GB RAM and has the PC buffer size is set to 512k

ADQ7 has 4GB RAM and has the PC buffer size is set to 256k

But the ADQ8 has only 1GB RAM. Somewhat arbitrarily, the buffer size has been set at 512k.

# Uninitialized data values in adqaichannelgroup.cpp and adqaichannel.cpp

The VS debugger sets uninitialized data to garbage byte value 0XCD, in order to make it obvious there’s a problem. Member variables of this classes were not initialised, resulting in out-of-range values assigned.

# Confusion between mV and V as units

Within ADQAIChannel::commitChanges, there are range checks on m\_inputRange. These checks were confused about the units used, which are mV. This resulted in unintended values being assigned. I changed the code to use mV units in a consistent way.

# File name error

The adqdevice.substitions file refers to file db/ADQAIGroupChannel.template. The file name is db/ADQAIChannelGroup.template.

# CSS usage issues

Adqdevicemain.opi referred to Macros/Channel\_macro.js.

In order to load the file correctly, CSS 4.5.9 needed the path of this file reference to be ../Macros/Channel\_macro.js

Of course, the availability of 8 channels per ADQ device required changes to the OPI file, larger selection and bigger list boxes.