

GRACE DESIGN

m802 Owners Manual Addendum: ADC-Dante

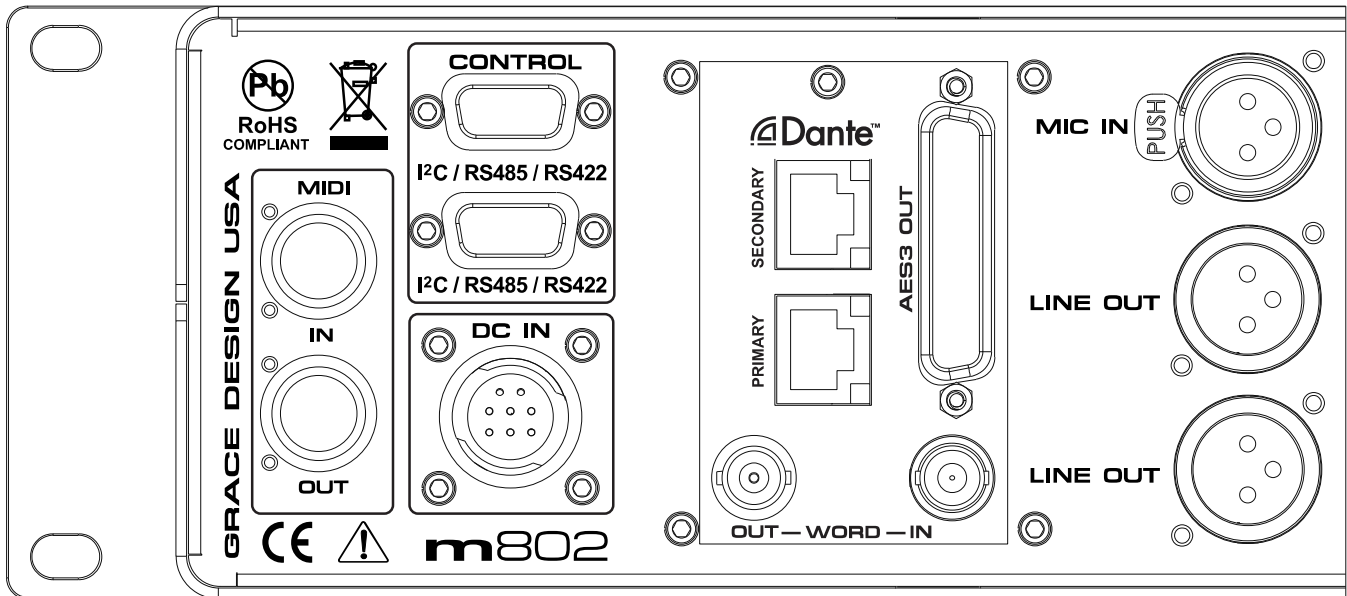
Congratulations! Your new m802 preamplifier includes the new ADC-Dante Analog to Digital converter system. The Dante option provides the m802 with two gigabit ethernet ports for streaming 8 channels of audio at sample rates up to 192kHz to other Dante enabled devices.

While most of the ADC configuration and setup is the same as the ADAT and AES3id ADC modules there are some clock architecture concepts that are unique to the Dante enabled ADC module.

We strongly recommend reading through the Dante Controller software user guide to become familiar with Dante networking basics. The pdf can be downloaded <http://dev.audinate.com/GA/dante-controller/userguide/pdf/latest/>. The html version is <http://dev.audinate.com/GA/dante-controller/userguide/webhelp/>

Connections

On the rear panel of the m802 the ADC with Dante features two gigabit Ethernet ports. One labeled PRIMARY and one labeled SECONDARY. This allows the m802 to operate in full redundant mode if required. When operating on a single, non-redundant network then the PRIMARY port should be used. Refer to the Dante Controller user guide for more information on redundancy.



m802 Rear Panel With Dante Option

Setup

The m802 setup menu now contains a new entry for turning the Dante interface on or off.

```
AdcFs: 44.1kHz   AdcClk: Dante   Dante: On
```

When Dante is set to “ON”, the AdcClk will default to “Dante”. This is the most common and the recommended mode of operation for the m802. In this mode the m802 ADC will lock to the Dante network clock using its two stage phase lock loop system. The m802 will retrieve the sample rate last used when Dante was ON.

If the Dante network is operating at a standard audio sample rate the s-Lock PLL will lock and “s-Lock” will appear in the clock status window at the lower right corner of the m802 display. The use of pull-up or pull-down sample rates on the Dante network may result in lock only by the first stage PLL. In this case the clock status window will read “Locked”.

When Dante is ON changes to the ADC sample rate in the m802 Setup Menu will be transmitted to the Dante interface and will show up in Dante Controller. If the sample rate for the m802 is changed from Dante Controller the m802 ADC will change to the new sample rate automatically.

When Dante is OFF sample rate changes on the m802 will not be sent to the Dante interface and sample rate changes made on the m802 from Dante Controller will not sent to the m802 ADC. As well, the m802 output “flows” will be disabled and the m802 will disappear from the list of available devices in Dante Controller.

Clocking

When the Dante setting is switched to ON the clock source (AdcClk) will automatically switch to Dante. This puts the m802 in *Dante Clock Mode 1* (see below for clock mode descriptions). The PLLs in the m802 will then lock to the Dante network clock and audio will flow to the Dante network. When powered-off the m802 will save the current configuration to non volatile memory. When powered back on the m802 will restore the previous configuration and there will be an approximately 10 second delay while the Dante module is initialized.

When the Dante menu option is switched OFF the AdcClk will automatically switch to Internal.

Clock Modes

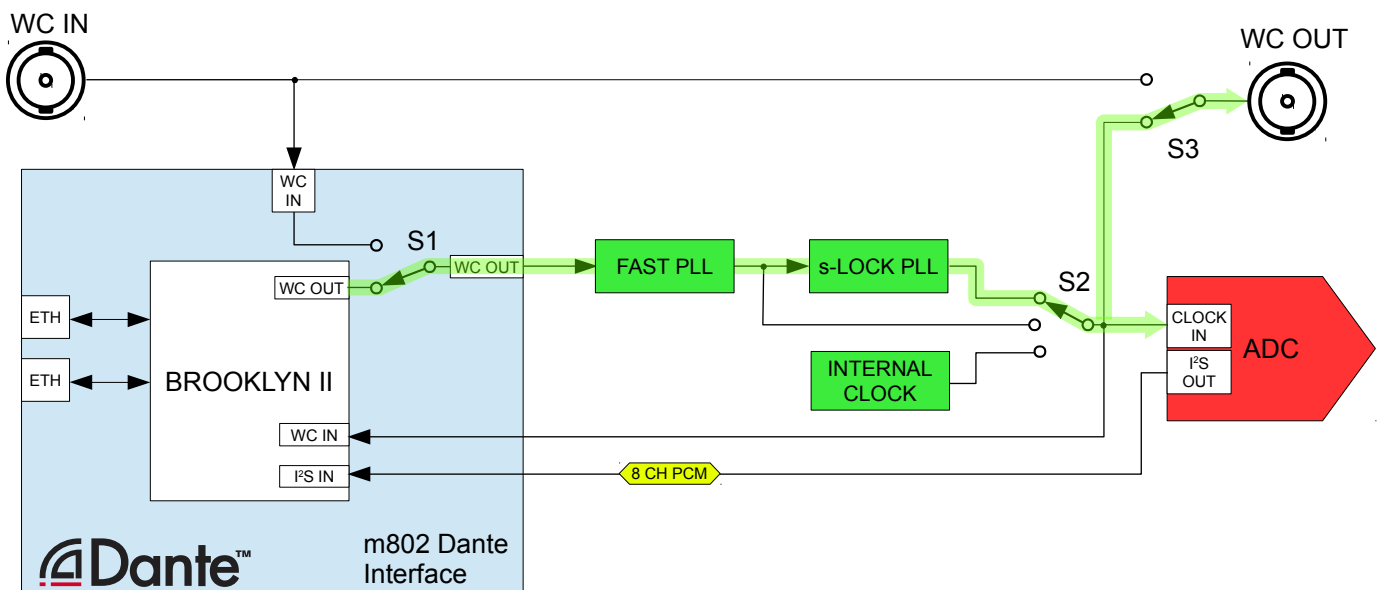
There are a total of 4 clocking modes for the m802 with Dante. Below is a description of each.

Mode 1

Brooklyn II card is Dante clock slave.
ADC is clocked from Brooklyn II

Note:

This is the most common and recommended configuration.



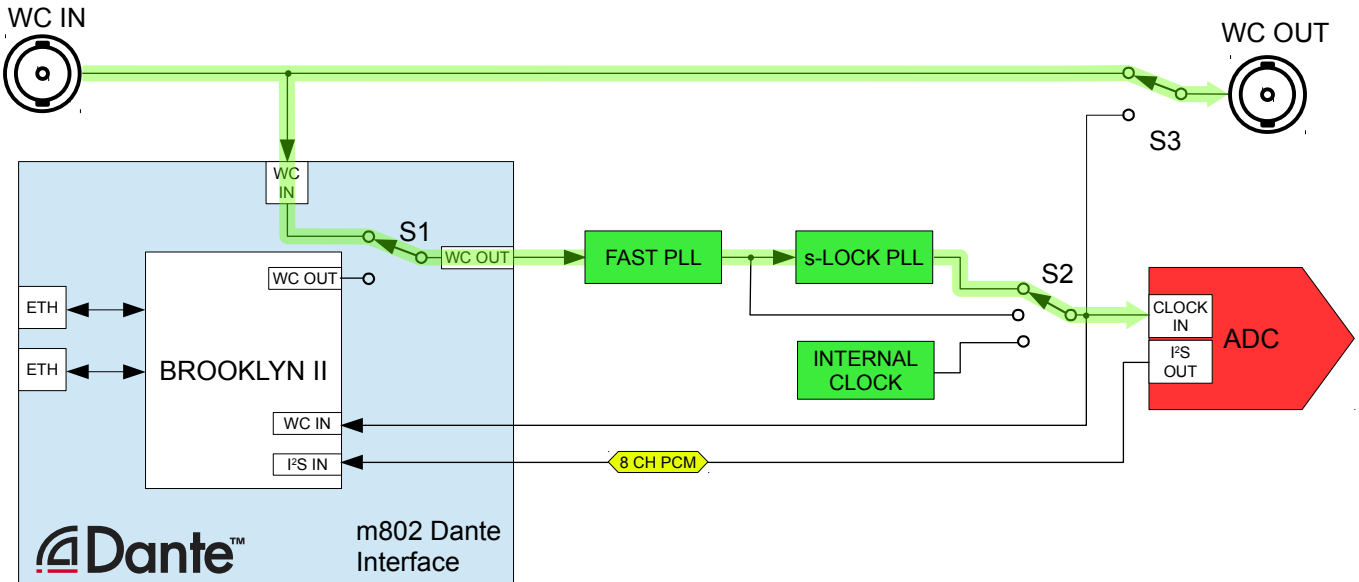
Dante Clock Mode 1

Mode 2

Brooklyn II card is Dante clock slave.
ADC PLLs lock to External Word Clock

Note:

In this mode the external WC IN must be synchronous with the Dante Network Clock. If the external WC is not synchronous with the Dante clock then the Brooklyn II might mute the audio. If the two clocks are close in frequency but not synchronous, corrupt audio data will be transmitted - (ticking, or dropped samples).



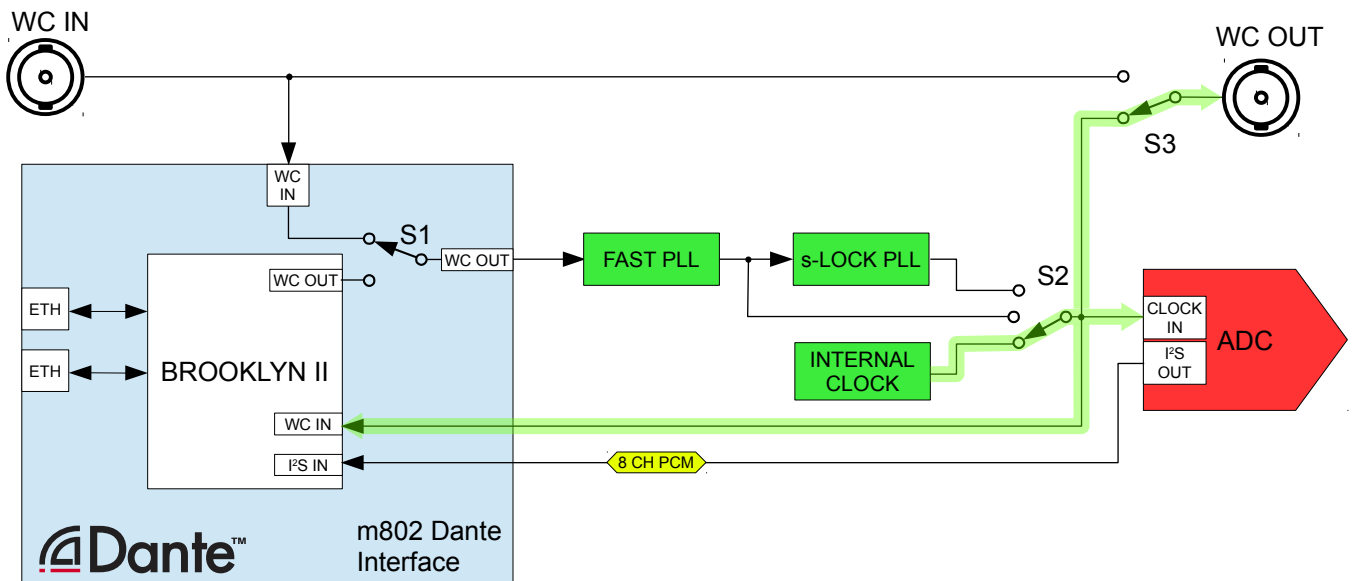
Dante Clock Mode 2

Mode 3

Brooklyn II is Dante clock master.
m802 is System Master using Internal Clock.

Note:

Check boxes "Preferred Master" and "Enable Sync To External" for this m802 in the Dante Controller Clock Status Window.



Dante Clock Mode 3

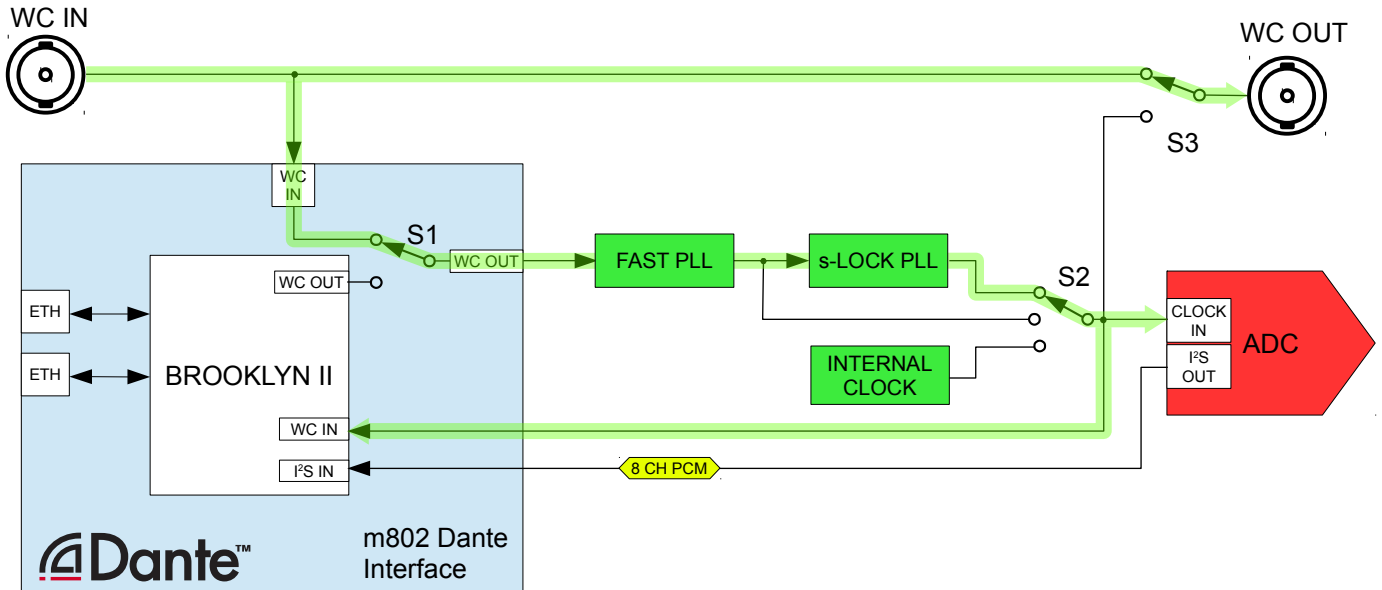
Mode 4

Brooklyn II is Dante Clock Master.

External WC IN clocks Brooklyn II and ADC.

Note:

Check boxes "Preferred Master" and "Enable Sync To External" in Dante Controller.



Dante Clock Mode 4

Rev.	Description	Date	Initials
A	Initial release	09/01/15	MBG