

DAC3 HGC & L Software Release Notes - Main Board

Production History:

- First DAC3 HGC ship date is 11/01/16
- First production software release is Version 1.0
- Second production release is Version 1.1
- Third production release is Version 1.2
- Fourth production release is Version 2.0
- Fifth production release is Version 2.1
- Sixth production release is Version 2.2

Release Dates:

- Version 1.0 was released 10/27/16
- Version 1.1 was released 11/18/16
- Version 1.2 was released 12/29/16
- Version 2.0 was released 09/17/18
- Version 2.1 was released 05/10/19
- Version 2.2 was released 11/02/21, First ship date 11/03/21

SPI Flash Configuration:

SPI PROM type is M25P16 or W25Q80BV. These are 16 Mbit flash devices.

VERSION 2.2 (Production Release):

Summary:

- Version 2.2 improves the power management and provides a very slight reduction in standby power consumption. The improvement is so small that we do not recommend upgrading from 2.0 or 2.1 in order to “save power”.
- In some cases, Version 2.2 can reduce the slight acoustic noise produced by the on-board DC/DC converters. This noise is inaudible in most applications, but in rare cases, some users have been able to hear some noise while the unit was off and in an extremely quiet room. This version can provide a solution for these rare cases.

Technical Details:

- Changed DC/DC power supply sync circuit so that the supplies are synchronized when power is on. Versions 2.0 and 2.1 had the supplies running in burst mode at all times. This change does not impact the audio performance in any way. However, this change reduces or eliminates the acoustic noise produced by the DC/DC converters while the unit is turned on. Burst mode

produces some low-level acoustic noise but does not change the performance at the XLR or RCA outputs. By default, the DC/DC supplies are still in burst mode when unit is “off, so there will be no improvement in acoustic noise output (compared to prior versions) when the power is off unless the new “low acoustic noise mode” is enabled.

- Added “low acoustic noise mode” which keeps the DC/DC converters in synchronous mode when the unit is turned off. The mode is enabled by placing a small-size jumper between pins 15 and 16 of header P6. When this mode is enabled, standby power is increased to 1.1 Watt. When this mode is disabled (default) the standby power is only 0.28 W. The jumper can be stored between pins 19 and 20 of P6 when this mode is disabled (default). Starting with 2.2, units are shipping from the factory with a jumper
- Reduced standby power consumption from 0.50 W to 0.28 W. All versions prior to 2.2 required 0.50 W in standby. Version 2.2 disables all unused external logic lines when unit is off, to save power.
- Changed display when “Aux SPDIF Mode” is selected for testing. D3 and D4 are both illuminated when this factory test mode is enabled. Version 2.0 and 2.1 supported this test mode but only D4 was illuminated. This revision eliminates the ambiguity between selection of input D4 and the Aux test port.

Version Identification:

Version 2.1 - A2 and D4 flash on power-up and power-down.

VERSION 2.1 (Production Release):

- Added IR HEX code for direct selection of input A2. This code can be added to programmable IR remote controls. **Most users will not need this feature and will not need to upgrade from version 2.0. No other changes relative to version 2.0.**

Version Identification:

Version 2.1 - A2 and HT flash on power-up and power-down.

VERSION 2.0 (Production Release):

Performance improvements:

- Volume control response improved at low levels, especially when knob is rotated slowly.
- Added backup EEPROM storage location to prevent data loss if AC power is lost while EEPROM is being written. Provides complete protection against data loss. This is an important change when AC power is switched to turn the system on or off.

New features:

Preamp COMPATIBILITY MODE (unity gain, no mute, no dim):

- Provides improved compatibility with HPA4 product family as well as with other preamplifiers and line amplifiers.
- Simultaneously hold the **DIM/MUTE** and **INPUT-UP** keys for 3 seconds to activate or deactivate this feature.
- The **HT** light will be illuminated on all inputs when **COMPATIBILITY MODE** is enabled.
- The **DIM/MUTE** key is disabled in **COMPATIBILITY MODE**.
- The **IR DIM** and **IR MUTE** keys are disabled in **COMPATIBILITY MODE**.
- The **IR VOLUME-UP** and **IR VOLUME-DOWN** keys are disabled in **COMPATIBILITY MODE**.

AUTO-ON Feature (modified to disable mute if COMPATIBILITY MODE is on):

- If **COMPATIBILITY MODE** is off, the **POWER** and **IR OFF** buttons will mute the audio but will not turn the unit off. If **COMPATIBILITY MODE** is on, the **POWER** and **IR OFF** buttons will have no function.

We recommend upgrading all versions to 2.0.

Version Identification:

Version 1.2 - A1 and D4 flash on power-up and power-down.

VERSION 1.2 (Production Release):

Minor bug fix - New volume control mapping at low volume levels to correct audio bleed through.

On some units, audio would bleed through when the volume control was fully CCW. This problem only occurred when a digital input was selected and only occurred on a few units. None of these units were shipped. The volume control LUT was modified to reach full off before reaching full CCW. No other changes.

We do not recommend upgrading from 1.1 to 1.2 unless audio bleed through is occurring. All new products will ship with Version 1.2.

Version Identification:

Version 1.2 - A1 and D4 flash on power-up and power-down.

VERSION 1.1 (Production Release):

Bug fix. On rare occasions version 1.1 would recall maximum volume when powering up after an AC power failure. This problem only occurred when the volume control was turned all the way down before power was lost.

The unit now defaults to zero volume until all registers are initialized.

Version Identification:

Version 1.1 - A1 and HT flash on power-up and power-down.

VERSION 1.0 (Production Release):

Version 1.0 is based upon DAC2 Version 2.2

Configured for ES9028PRO instead of the ES9018 used in the DAC2

5 ms lock time

THD compensation

Maximum output level is +27.5 dBu

Version Identification:

Version 1.0 - A1 flashes on power-up and power-down.