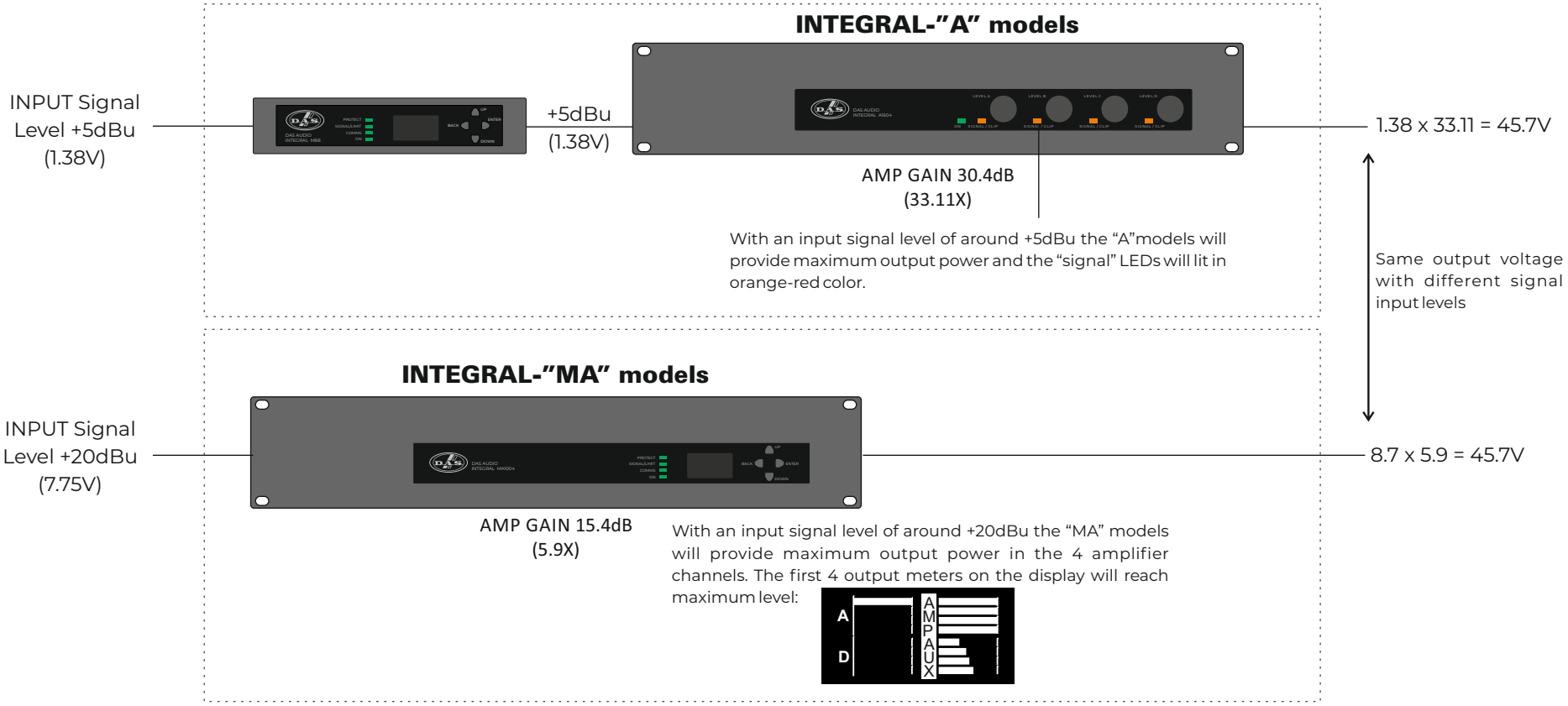
INTEGRAL SERIES

GAIN STRUCTURE & LIMITERS

SOUND WITH SOUL

INTEGRAL SERIES - GAIN STRUCTURE

The INTEGRAL-A amplifiers have an internal gain of 30.4dB meaning that an input signal level of around +5dBu (input sensitivity) will make the amplifier to deliver its output maximum power and the output channel signal LEDs will blink in orange-red.
The INTEGRAL-MA models, as they include their own DSP platform, are configured to accept higher input signal level as “DANTE” audio can be injected into the units. The consequence is that the MA units have different internal gain and input sensitivity; the max input level to reach the maximum output power in whatever the 4 amplifier channels. The internal amplifier gain is set to 15.4dB. Input sensitivity will be +20dBu, although the unit can accept signals up to +22dBu.
As a result of the previously explained, the Internal Gain of the “A” models differs 15dB from the one of the “MA” units. This will affect the way the limiter´s threshold is configured in the DSP channels of an MA unit. Depending on the “type” of output processing channels the limiter setting of an AMP channel are different from an AUX channel. This will be seen in the next pages of the present document. For now let´s take a look to a very simplified situation, comparing a block of an Integral-M88 + Integral-A amplifier vs and Integral-MA unit:

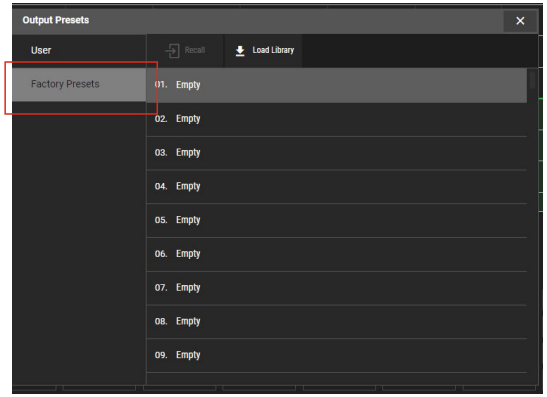


INTEGRAL SERIES - IMPORTING FactoryPresets library

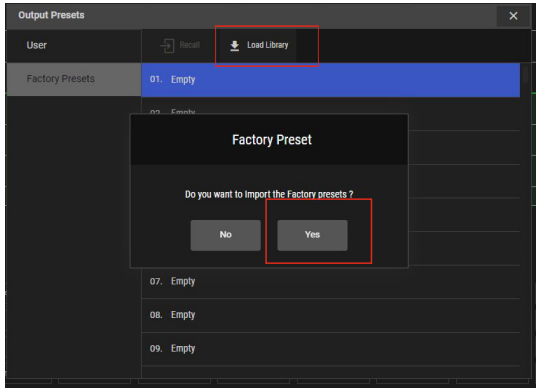
For all Integral units with processing capabilites (M88, M26X, MA1004, MA1604) DAS Audio provides a bank of output presets, named FactoryPresets_xx.lib. This bank of output presets includes system presets depending on the speaker model. The library would be stored by default in the “Factory Presets” folder. The user´s can update the unit by importing the newest version of the library if needed. To import the FactoryPresets_xx.lib file, follow these steps:

1.- Go to any of the Output Channel windows and click on the upper´s right corner button “Output Presets”:

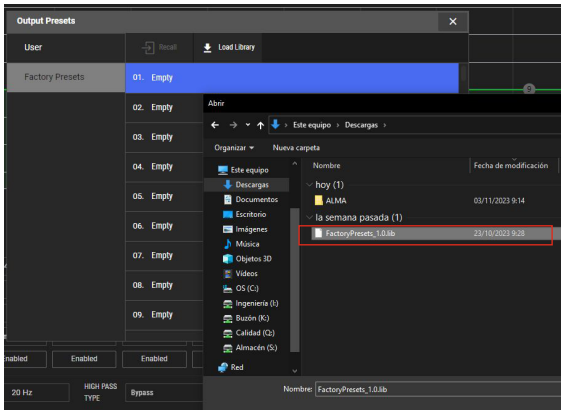
2.- Select the option Factory Presets

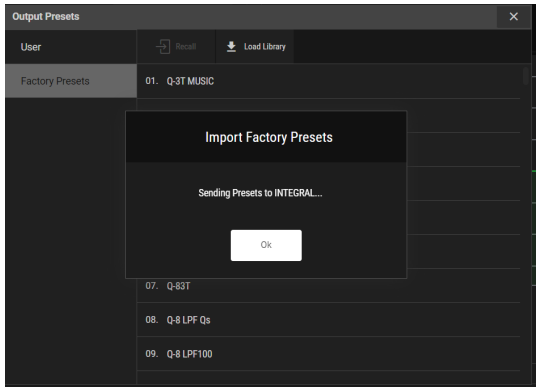


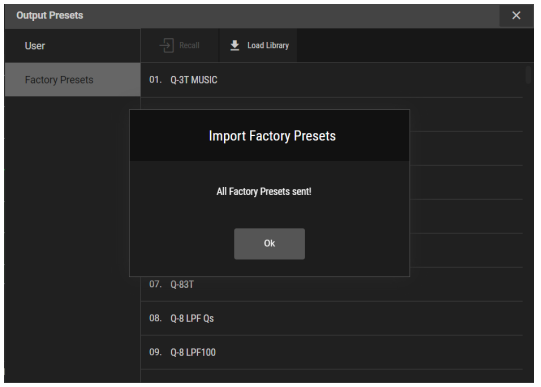
3.- Click on “Load Library” and confirm (YES):



4.- Select the file to be uploaded:







INTEGRAL SERIES - Limiter settings

As mentioned previously, there is a 15dB difference regarding the input sensitivity when comparing processing units and amplifiers.
All the presets included in the FactoryPresets_xx.lib file have been created with a processing unit (M88 / M26X) and an Amplifier (A402/A404/A1002 etc).
This means, in terms of limiter´s threshold, that there would be a 15dB difference when dealing with an amplifier channel of an MA unit or dealing with an AUX or pure processing channel of an M88 / M26X unit. This difference, will be adapted automatically when a customer uploads an output channel preset in an MA amplifier channel.
Let´s see an example. Let´s check the limiter´s threshold in the same factory preset when applied to an MA Amplifier channel vs a processing channel:

Artec-306 factory preset recalled in AUX channels 7 and 8 of an Integral-MA1004 unit:

Limiter settings in these AUX (processing) channels:

Artec-306 factory preset recalled in AMP channels 3 and 4 of an Integral-MA1004 unit:

Limiter settings in these AMP channels:

As can be seen above there is a 15dB difference automatically set by the MA unit when importing the preset.
Note that 0 dB limiter´s thershold in an MA Amplifier channel will mean Full power in the channel. -3dB will mean half of the power. -6dB a quarter of the power.