

AMIX Configuration

Avia™ DSP Help Guide

Crestron Electronics, Inc.

Automixers (AMIX) are used in conference rooms, boardrooms, and many other locations where multiple microphones are used at the same time. Because there is the possibility of many meeting participants talking concurrently, AMIX are used to improve the intelligibility of conversations and presentations by controlling the number of open mics allowed and their levels. Avia DSPs support AMIX use on all analog input channels and auxiliary channels.

AMIX Overview

The AMIX is a gating type. It is positioned as the last object in an input or aux channel strip and shares the gate and ducker object position. As a gating AMIX, many of its parameters are similar in nature and function with the Gate object including Threshold, Bypass, Attenuation, Attack, and Release controls. Additional AMIX controls include NOM Gain, Hold, Last Mic, and NOM Limit. Last Mic and NOM limit are part of the global controls that are accessed in the right half of the object control window and these controls affect all AMIX objects in the unit.

Controls and Parameters

Threshold: Sets the level at which the gate will open. Audio with level above the threshold is gated open. Audio with level below the threshold is gated closed (based on the NOM Limit and other settings).

Bypass: Determines whether the AMIX object will affect the channel's audio. When Bypass is set to ON, this object will have no effect on the signal.

Attenuation: This is the amount of audio level reduction when the incoming signal is below the threshold.

Attack: Controls how quickly (in milliseconds) the



AMIX gates open. Smaller values mean faster gate opening. Larger values mean slower gate opening.

Release: Controls how quickly (in milliseconds) the AMIX gates close after the hold time has passed. Smaller values result in a faster decay back to the gate closed state. Larger values result in a slower decay down to the gate closed state.

NOM Gain: When selected, the AMIX channel is added to the NOM Gain group. When part of this group, the AMIX will attenuate the channel's audio by 3 dB for every doubling of the number of mics in the group.

Hold: This value (in seconds) is the amount of time that the AMIX will wait prior to releasing a closed gate after the channel's audio level has dropped below the selected threshold.

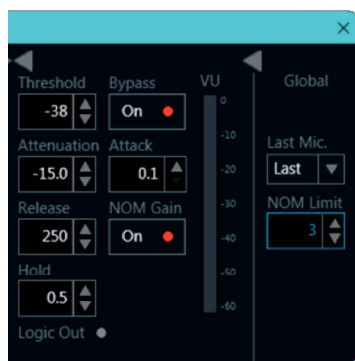
When the audio level to the AMIX is below the threshold, the gate will close and audio will be reduced by the amount specified in the attenuation parameter. When the audio level to the AMIX rises above the threshold, the gate will open and the audio will not be reduced by the attenuation parameter.

The attack parameter controls how quickly the gate transitions from the closed state to the open state. The use of a small value is advised to ensure that the beginning speech syllables are not clipped or cut off during the open transition. The hold parameter is the time that the gate is held open before the release initiates and begins closing the gate. This parameter is useful in preventing the gate from closing before the talker is finished, which can otherwise occur during brief pauses or catching a breath in-between words.

The release parameter controls “Gate Rate” transitions from the open state to the closed state after the hold time has passed. This parameter is usually set to provide a clean closing of the gate once speech is finished. The NOM gain control determines whether the AMIX channel is joined to the NOM gain group. When part of this grouping, the individual strip AMIX will attenuate the signal level by 3dB for each doubling of the number of microphones added to the group. Example: going from 2 microphones to 4 in the NOM gain group results in all microphones being attenuated by an additional 3dB.



Controls and parameters common with the Gate object



Controls and parameters unique to the AMIX object are highlighted. This includes global parameters that affect all AMIX objects in the DSP

AMIX Global Controls

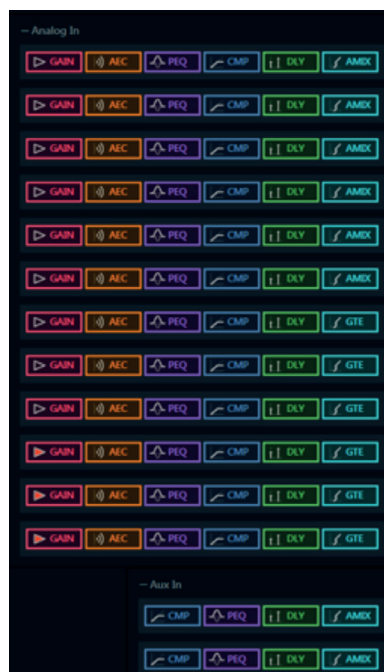
Last Mic: Setting a specific channel number holds that channel open even after the selected channel's audio level falls below the threshold. Setting to “Last” holds the mic open until another mic becomes the last to speak.

NOM Limit: The number of open mics allowed at any given time. By setting the value to a number less than the total number of mics in the system, the number of people that can speak at any given time is limited.

The AMIX object has two controls that impact the

behavior on analog input and aux channel strips. The two controls govern the last mic behavior and the NOM (Number Of open Mics) limit. The last mic control changes whether a specific mic channel, the last mic open, or no mics, hold an open gate after audio levels drop below the threshold. When a specific mic channel (for example Ch 1 or Aux 2) is selected as the last mic, that channel will remain gated open even when the signal level falls below the threshold and the gate would normally close. This setting is commonly used for microphones assigned to VIPs such as the chairman or other priority presenters. This ensures that when they pause and then continue to speak, their mic will be open.

When the last mic is set to last, the last channel to remain passing audio above the threshold will remain open until another microphone claims the position. This setting is commonly used in conjunction with the NOM limit control to exert greater control over the number of microphones that can be open and active at any time. When last mic is set to none, no microphone will be held open after all speech has ended and gates close on the AMIX channels. The NOM limit control sets how many mics can be active and gated open at any given time.



The global AMIX controls in any single object will apply to all analog and aux channel strip AMIX objects in the same DSP

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