Lab Brick Attenuator API V2.00

New API Functions

The Lab Brick Attenuator API Version 2.00 includes new functions for overall management of the DLL, and to support the new features of the Lab Brick Attenuators. The new features require an attenuator that supports the features, attempting to use the new functions on an old attenuator will return an API error.

VNX_ATTEN_API int fnLDA_GetDLLVersion()

This function returns the version of the DLL, encoded as Major.Minor version in the lower 16 bits. `LDA_DLLVERSION` `0x00000200`   `// Version 2.0`

VNX_ATTEN_API int fnLDA_GetFeatures(DEVID deviceID);

This function returns a bit vector with bits set to indicate the available features. See VNX_LDA_api.h for definitions. Legacy devices have a zero value for the feature vector.

Attenuation Ramps:

VNX_ATTEN_API LVSTATUS fnLDA_SetAttenuationStepTwo(DEVID deviceID, int attenuationstep2)

This function sets the step size for the second phase of an attenuation ramp.

VNX_ATTEN_API LVSTATUS fnLDA_SetDwellTimeTwo(DEVID deviceID, int dwelltime2);

This function sets the dwell time for each step on the second phase of an attenuation ramp.

VNX_ATTEN_API LVSTATUS fnLDA_SetHoldTime(DEVID deviceID, int holdtime)

This function sets the time delay between the first and second phases of a ramp.

VNX_ATTEN_API LVSTATUS fnLDA_SetRampBidirectional(DEVID deviceID, bool bidir_enable)

This function selects bidirectional ramps. For a bidirectional ramp the attenuation changes from the start to end value in the first phase, and then back to the start value in the second phase.

Profiles

VNX_ATTEN_API LVSTATUS fnLDA_SetProfileElement(DEVID deviceID, int index, int attenuation)

This function sets the value of a profile element. The index runs from zero to the maximum profile length minus 1. PROFILE_MAX is currently 100. The attenuation value is encoded in .25db steps.

VNX_ATTEN_API LVSTATUS fnLDA_SetProfileCount(DEVID deviceID, int profilecount)

This function sets the number of elements in the profile that will be used. It must be greater than zero and less than PROFILE_MAX, the maximum profile length.

VNX_ATTEN_API LVSTATUS fnLDA_SetProfileIdleTime(DEVID deviceID, int idletime)

This function sets the idle time after a profile is played before the profile is played again in repeating profile mode.

VNX_ATTEN_API LVSTATUS fnLDA_SetProfileDwellTime(DEVID deviceID, int dwelltime)

This function sets the time duration of each element in the profile during playback. The dwelltime is specified in milliseconds.

VNX_ATTEN_API LVSTATUS fnLDA_StartProfile(DEVID deviceID, int mode)

This function starts the playback of a profile. A mode value of 1 plays the profile once, a mode value of 2 plays the profile repeatedly.

Corresponding GET functions are provided to read the values set by these functions, see the .h file for their prototypes.