Hrtf file format update

Fastconv

Floating point

BINAURAL_CONVBANDS => uint16_t

HRIR_latency_s => float
HRTF_LS_CHANNELS => uint16_t
ntaps => int16_t
leftHRIRReal => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
leftHRIRImag => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightHRIRReal => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightHRIRImag => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]

HRIR_HOA3_latency_s => float
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
leftHRIRReal_HOA3 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_HOA3 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_HOA3 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_HOA3 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

HRIR_HOA2_latency_s => float
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
leftHRIRReal_HOA2 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_HO2 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_HOA2 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_HOA2 => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

HRIR_FOA_latency_s => float
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
leftHRIRReal_FOA => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_FOA => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_FOA => float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_FOA=> float[BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

BRIR_latency_s => float
HRTF_LS_CHANNELS => uint16_t
ntaps => int16_t
leftBRIRReal => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
leftBRIRImag => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightBRIRReal => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightBRIRImag => float[BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]

CLDFB_NO_CHANNELS_MAX => uint16_t

fastConvReverberationTimes => float[CLDFB_NO_CHANNELS_MAX]
fastConvReverberationEneCorrection => float[CLDFB_NO_CHANNELS_MAX]

Fix point

BINAURAL_CONVBANDS => uint16_t

Factor_Q=> int16 for latency
HRIR_latency_s => int32
HRTF_LS_CHANNELS => uint16_t
ntaps => int16_t
Factor_Q=> int16 for filters
leftHRIRReal => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
leftHRIRImag => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightHRIRReal => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightHRIRImag => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]

Factor_Q=> int16 for latency
HRIR_HOA3_latency_s => int32
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
Factor_Q=> int16 for filters
leftHRIRReal_HOA3 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_HOA3 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_HOA3 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_HOA3 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

Factor_Q=> int16 for latency
HRIR_HOA2_latency_s => int32
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
Factor_Q=> int16 for filters
leftHRIRReal_HOA2 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_HO2 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_HOA2 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_HOA2 => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

Factor_Q=> int16 for latency
HRIR_FOA_latency_s => int32
HRTF_SH_CHANNELS => uint16_t
ntaps => int16_t
Factor_Q=> int16 for filters
leftHRIRReal_FOA => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
leftHRIRImag_FOA => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRReal_FOA => int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]
rightHRIRImag_FOA=> int32 [BINAURAL_CONVBANDS][HRTF_SH_CHANNELS][num_taps]

Factor_Q=> int16 for latency
BRIR_latency_s => int32
HRTF_LS_CHANNELS => uint16_t
ntaps => int16_t
Factor_Q=> int16 for filters
leftBRIRReal => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
leftBRIRImag => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightBRIRReal => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]
rightBRIRImag => int32 [BINAURAL_CONVBANDS][HRTF_LS_CHANNELS][num_taps]

CLDFB_NO_CHANNELS_MAX => uint16_t

Factor_Q=> int16 for reveerb time
fastConvReverberationTimes => int16 [CLDFB_NO_CHANNELS_MAX]
Factor_Q=> int16 for energy compensation
fastConvReverberationEneCorrection => int16 [CLDFB_NO_CHANNELS_MAX]

ParamBin

Floating point	Fix point

HRTF_SH_CHANNELS => uint16_t
HRTF_NUM_BINS => uint16_t
 	
hrtfShCoeffsRe => float[BINAURAL_CHANNELS][HRTF_SH_CHANNELS][HRTF_NUM_BINS];
hrtfShCoeffsIm => float[BINAURAL_CHANNELS][HRTF_SH_CHANNELS][HRTF_NUM_BINS];
 	
CLDFB_NO_CHANNELS_MAX => uint16_t
 	
parametricReverberationTimes => float[CLDFB_NO_CHANNELS_MAX];
parametricReverberationEneCorrections => float[CLDFB_NO_CHANNELS_MAX];
parametricEarlyPartEneCorrection => float[CLDFB_NO_CHANNELS_MAX];
	HRTF_SH_CHANNELS => uint16_t
	HRTF_NUM_BINS => uint16_t
	
	Factor_Q => int16 for filters
	hrtfShCoeffsRe => int16 [BINAURAL_CHANNELS][HRTF_SH_CHANNELS][HRTF_NUM_BINS];
	hrtfShCoeffsIm => int16 [BINAURAL_CHANNELS][HRTF_SH_CHANNELS][HRTF_NUM_BINS];
	
	CLDFB_NO_CHANNELS_MAX => uint16_t
	
	Factor_Q => int16 for reverberation times
	parametricReverberationTimes => int16 [CLDFB_NO_CHANNELS_MAX];
	Factor_Q => int16 for reverb energy corrections
	parametricReverberationEneCorrections => int16 [CLDFB_NO_CHANNELS_MAX];
	Factor_Q => int16 for earlt part correction
	parametricEarlyPartEneCorrection => int16 [CLDFB_NO_CHANNELS_MAX];

Reverberation

Floating point	Fix point
Hrir_left_avg_power => float[LR_IAC_LENGTH_NR_FC]; Hrir_right_avg_power => float[LR_IAC_LENGTH_NR_FC]; Hrir_coherence=> float[LR_IAC_LENGTH_NR_FC];	Factor_Q => int16 for filters Hrir_left_avg_power => int16 [LR_IAC_LENGTH_NR_FC]; Hrir_right_avg_power => int16 [LR_IAC_LENGTH_NR_FC]; Hrir_coherence=> int16 [LR_IAC_LENGTH_NR_FC];

Crend

Floating point	Fix point
latency_s => float max_num_ir => uint16_t BINAURAL_CHANNELS => uint16_t (BINAURAL_CHANNELS) max_num_iterations => int16_t num_iterations => uint16_t[max_num_ir][2] pIndex_frequency_max => uint16_t[max_num_ir][2][max_num_iterations] max_num_iterations_diffuse => int16_t num_iterations_diffuse => uint16_t[2] pIndex_frequency_max_diffuse => uint16_t[2][max_num_iterations_diffuse] (Pointer) index_frequency_max_diffuse => uint16_t inv_diffuse_weight => float[2][max_num_ir] max_total_num_fsamp_per_iteration => uint16_t coeff_re => float[max_num_ir][2][max_total_num_fsamp_per_iteration] (Pointer) coeff_im => float[max_num_ir][2][max_total_num_fsamp_per_iteration] (Pointer) max_total_num_fsamp_per_iteration_diff => uint16_t coeff_diffuse_re => float[2][max_total_num_fsamp_per_iteration] (Pointer) coeff_diffuse_im => float[2][max_total_num_fsamp_per_iteration] (Pointer)	Factor_Q => int16 for latency latency_s => Word32 max_num_ir => uint16_t BINAURAL_CHANNELS => uint16_t (BINAURAL_CHANNELS) max_num_iterations => int16_t num_iterations => uint16_t[max_num_ir][2] pIndex_frequency_max => uint16_t[max_num_ir][2][max_num_iterations] (Pointer) max_num_iterations_diffuse => int16_t num_iterations_diffuse => uint16_t[2] pIndex_frequency_max_diffuse => uint16_t[2][max_num_iterations_diffuse] (Pointer) index_frequency_max_diffuse => uint16_t Factor_Q => int16 for inv_diffuse_weight inv_diffuse_weight => int16 [2][max_num_ir] max_total_num_fsamp_per_iteration => uint32_t Factor_Q => int16 for filters coeff_re => int32 [max_num_ir][2][max_total_num_fsamp_per_iteration] coeff_im => int32 [max_num_ir][2][max_total_num_fsamp_per_iteration] (Pointer) max_total_num_fsamp_per_iteration_diff => uint32_t coeff_diffuse_re => int32 [2][max_total_num_fsamp_per_iteration] (Pointer) coeff_diffuse_im => int32 [2][max_total_num_fsamp_per_iteration] (Pointer)