FW PDM MIC Processing Pipeline Host PC (Windows) **MCU FW** known and calibrated system "perfect sine" Windows ambient noise 60Hz hum **PCM PDM** motion sine generator sine generator **Network ETH UDP VBAN** RX **Streamer** replay recordings amplitude socket "sounddevice" decimation 64 Python 16bit signed **PDM MIC** PDM2PCM **PDM Filter** PCM fix: 48KHz KS device **USB** sample rate **USR USB AUDIO USB** MME **Audio DirectSound USB Microphone** USB UART **VCP FW Control USB-C Terminal PWR** 2: can create distortion, ringing, "side tones", clipping 3: can create bit errors, AGC! 1 : can create "side tones" "evaluate filter characteristics" tjaekel 2024