

# USB AUDIO POWER

## USBPAL Application Note Multi link USB Audio

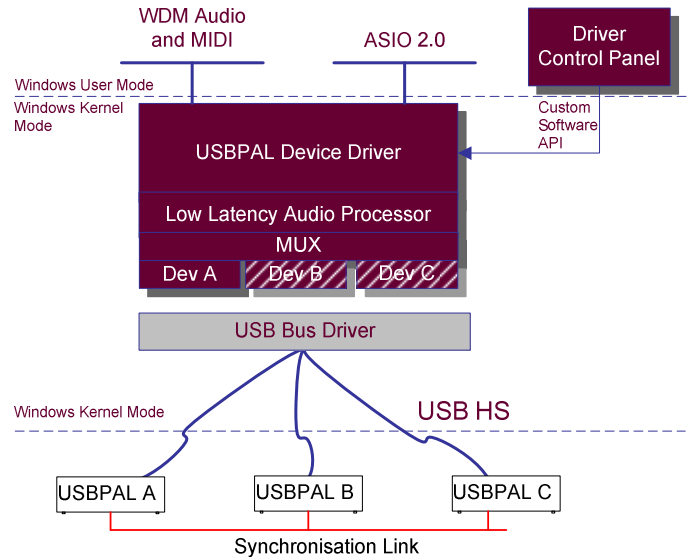
### USBMLINK

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**USBMLINK** is the only USB solution for your multi-channel and multi-device USB audio connectivity. This application note describes the necessary steps to prepare your product for multi-device connectivity.

USBMLINK bundles multiple USB devices into one fully synchronous high channel count ASIO interface. The achievable channel count is limited only by the USB link bandwidth and USB host controller and processing capabilities of the PC.

- Max of 3 USBPAL devices (2 recommended)
- Max 197Mbps throughput per direction
- Max 108 audio channels at 96KHz (48 I2S + 6 S/PDIF). Recommendation 2 devices and a total 36 Input and 36 output audio channels. The aggregated bandwidth is thus 236Mbps, which most good host controllers and drivers are capable of.

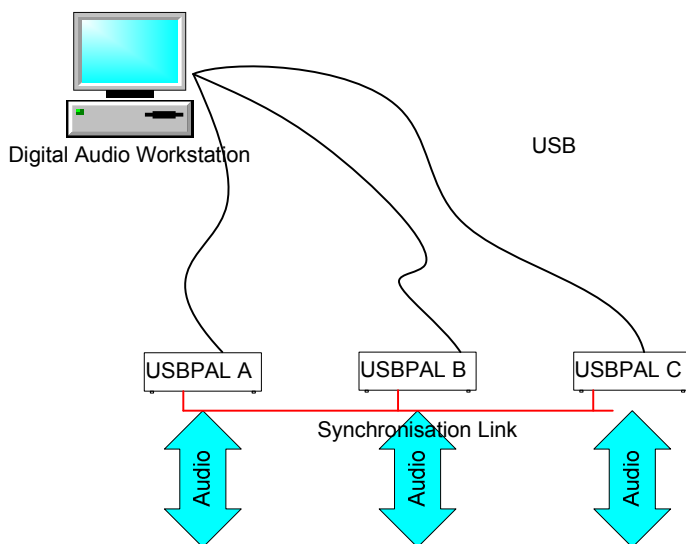
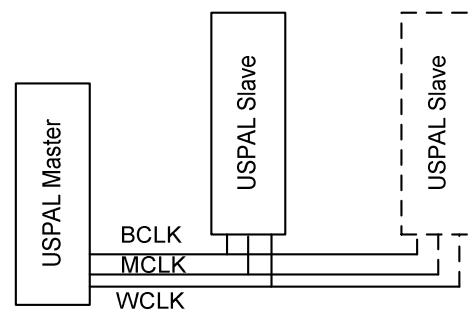


With **USBMLINK** multiple USBPAL devices are viewed as a single ASIO or WDM device. The samples are fully synchronous.

### CLOCK SYNCHRONIZATION

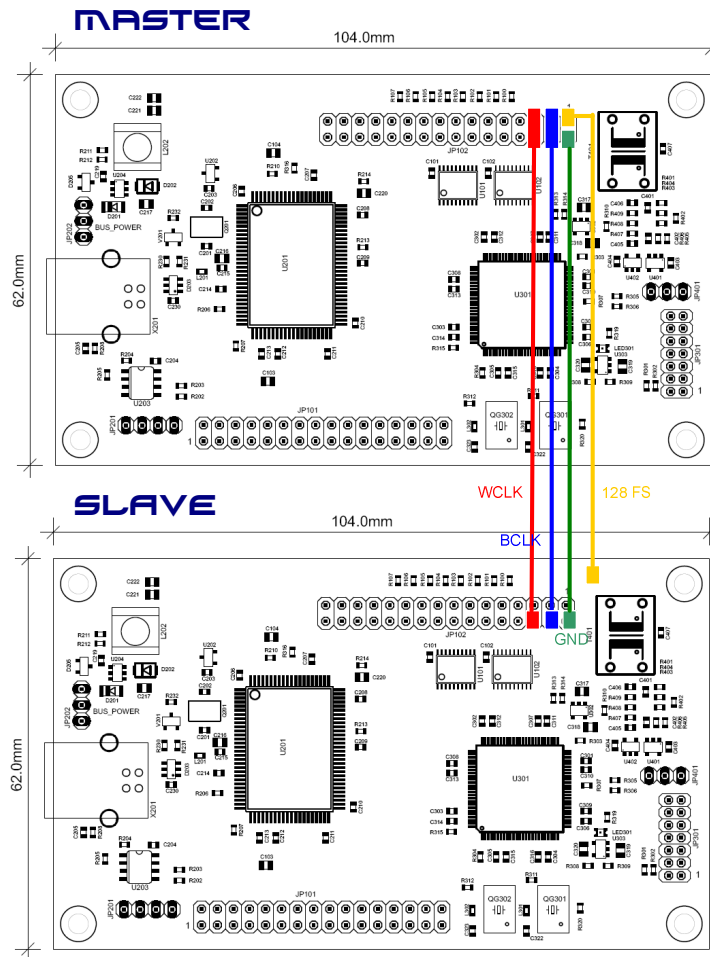
For clock synchronization one device has to become the clock master of the system. This device outputs BCLK and WCLK, which are used by the slave devices as the reference clock.

Bit clock BCLK (64xFS) and WCLK (FS) have from the master device need to be connected to the slave devices.



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**USBMLINK** clock distribution using the USBPAL reference board example. For larger distance the use of STP cable and a receiver / transmitter (Ti SN75HVD10D) is recommended.