

- ▶ USB Audio Hifi-Module
- ▶ DAC and S/PDIF Output
- ▶ Digital Input
- ▶ Control Interface
- ▶ ASIO compatible (DSD and DSD over PCM)
- ▶ USB HID Consumer Control

Overview

The FC301 USB-HEAR Module is a microcontroller-based USB audio receiver solution for HiFi DAC and amplifier applications. It is implemented as a system on module (SoM) which enables easy and rapid integration. The FC301 USB-HEAR Module implements a USB audio class 2.0 compliant PCM and DSD playback interface compatible with Windows, macOS and Linux hosts. For Windows, a bit-perfect, high-res audio driver is available. For proper integration with a DAC, the module supports an external master clock input. The receiver can be also controlled and monitored through an I2C register interface and a set of control and status lines.

Key Features

USB Audio

- ▶ USB audio class 2.0 compliant isochronous streaming, two audio channels (stereo)
- ▶ Asynchronous clocking model, USB playback stream is synchronized to master oscillator
- ▶ 32-bit PCM sample format up to 768 kHz sampling rate
- ▶ Native DSD up to DSD1024, compatible with Windows driver and Linux
- ▶ DSD over PCM (DoP) up to DSD256

DAC Output

- ▶ I2S compliant digital interface for connecting a digital-to-analog converter
- ▶ 32-bit PCM format up to 768 kHz sampling rate
- ▶ DSD format up to DSD1024

SPDIF Output

- ▶ 24-bit PCM format up to 192 kHz sampling rate

Digital Input

- ▶ I2S compliant digital interface for connecting external digital sources such as a streaming client or tuner
- ▶ 32-bit PCM format up to 192 kHz sampling rate

Control Interface

- ▶ Control and status register set accessible via I2C
- ▶ Interrupt status line for notifications on status register changes
- ▶ Status lines for master clock selection, PCM/DSD format selection and DAC mute

ASIO compatible

- ▶ ASIO driver included

Additional Features

USB HID Consumer Control

- ▶ Multimedia key events can be sent to the host to control a player application
For example: Volume Up, Volume Down, Play, Pause, Fast Forward, Fast Backward etc.

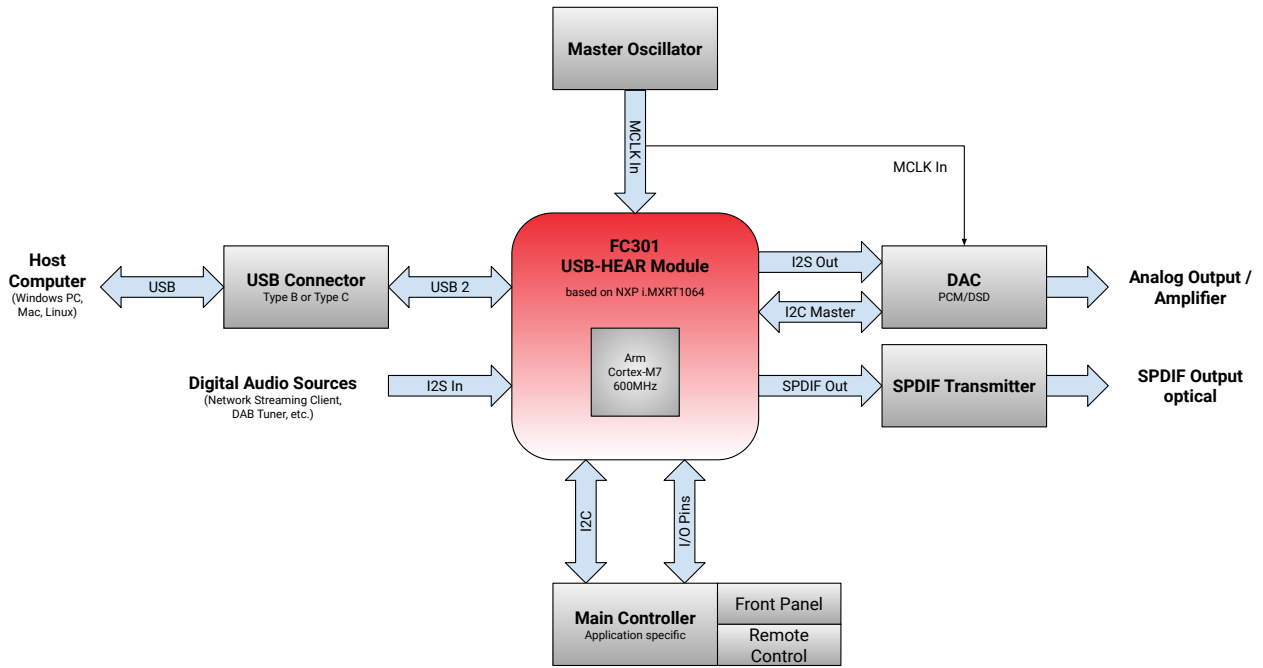
External Master Clock Input

- ▶ Option for external clock source

Firmware Update

- ▶ Firmware update via USB supported on Windows, macOS, and Linux
- ▶ Firmware update via I2C from main controller

Typical Application



Technical Data

Dimensions:	30 x 30 x 2.8 mm
Temperature range:	0°C to +85°C

Ordering Information

Order Number:	FC301
Product Name:	USB-HEAR - USB High-end Audio Receiver
Deliverables:	USB-HEAR Module, Software Package**
Customized Firmware/Software or full custom Design-In:	Please contact us at info@fibrecode.com

** Module includes USB-Audio Firmware and Software. Free updates for 1 year after shipping date

