



Overview

The TCO module is an optional extension for the Fireface 800 option slot.

The little module provides the Fireface with a Word Clock input and offers a synchronization to LTC and video. Thanks to SteadyClock(TM), the TCO not only extracts absolute positions from these signals, but also a very clean low-jitter word clock. Thus a sample accurate timecode synchronization to audio or video sources is assured.

Features

LTC can be derived and generated in all common formats, i.e. 24, 25, 30, and 29.97 frames; drop-frame or non-dropframe. Commonly used Pull-Up- and Pull-Down Formats (+/- 0.1% und +/- 4%) can be utilised, and PAL and NTSC video formats will be automatically detected and processed.

The received Time Code can be sent to the audio or video application as ASIO Positioning Protocol (APP) or MTC. An application can send APP or MTC to the TCO, which will generate LTC on hardware level with lowest jitter (no software/driver routine). Several fly-wheel functions facilitate chase operation (adjustable drop-out length, Continuous- or Jam-Sync).

Under Windows XP the HDSP provides the SMPTE position as APP (ASIO Positioning Protocol) and as MTC Sync. Under Mac OS X the TCO-FF provides the SMPTE position as MTC Sync.

The TCO has a combined switchable Word Clock/Video input (BNC) as well as an LTC input (BNC). The Word Clock / Video input on the card can comfortably be terminated (relay-controlled) with a 75 Ohm terminator from the settings dialog.

The TCO also features an additional LTC output (BNC) with two level settings (configurable via jumper).

Connectivity

- 1 x Wordclock/Video Sync Input
- 1 x LTC I/O

Settings

All settings can be accessed conveniently from an additional page in the settings dialog of the Fireface 800.

The clear and easy dialog site appears automatically after a TCO is installed. On the main page the new sync-option TCO can be selected.

The dialog provides all important options: Sync-Source (LTC, Video or Word Clock), termination for BNC input (75 Ohm), Frame Rate of the incoming SMPTE signals and WCK Conversion.

Furthermore the TCO dialog shows Pull-Up- and Pull-Down-factors and state information (Input State) about the incoming signal. E.g. an incoming word clock signal is analyzed and displayed to be in the Single Speed, Double Speed or Quad Speed range.

Tech Specs

LTC In

BNC unbalanced

Level range: -25 dBu up to +12 dBu

Video In (Word Clock In)

BNC unbalanced switchable termination 75 Ohm

Format: PAL and NTSC

LTC Out

BNC

Output level: +4 dBu, via Jumper -7 dBu

Outputs impedance: 220 Ohm

Power supply via ribbon cable, 5 V DC, 100 mA

Standard bracket, dimensions PCB (WxD): 98 x 75 mm

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