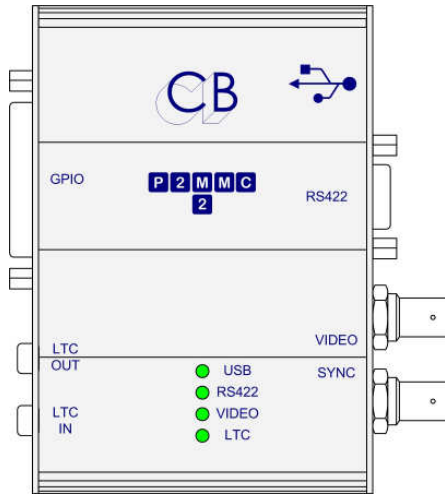




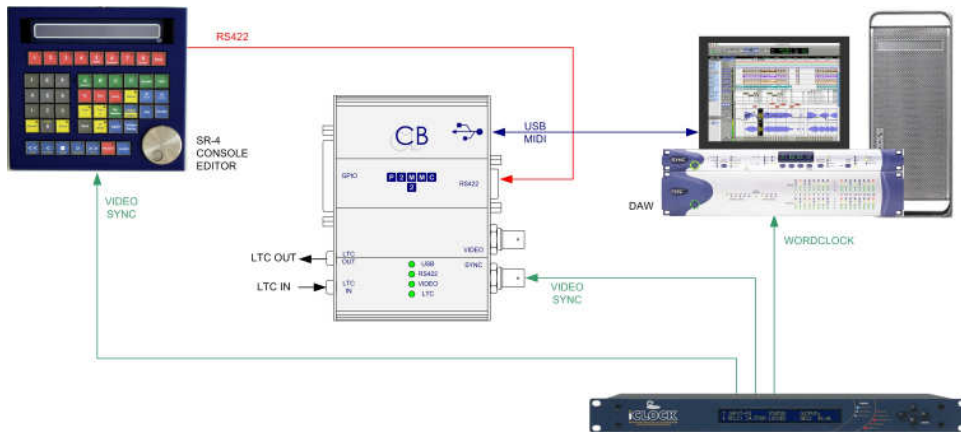
# P2MMC-2



- USB Midi: Plug and Play
- Six different operational modes
- Windows GUI Provided for Machine Control and Setup
- Multiple Midi channels for simultaneous control from GUI and DAW
- Track arming of DAW from RS422 Controller
- Track arming of RS422 Machine from DAW or GUI
- RS422 Port configured as Input (Emulation) or Output (Control)
- Virtual Machine: Locked to Video Syncs
- LTC Timecode Input: LTC -> MTC, LTC -> RS422
- LTC Timecode Output: MTC -> LTC, RS422 -> LTC
- GPIO: 8 Inputs, 8 Outputs
- Video Sync Input: Bi-Level (SD) or Tri-Level (HD)

Based on our P2MMC but using USB Midi. the P2MMC-2 may be used in a number of different configurations allowing DAW's with Midi In/Out to be resolved to Video Syncs and be controlled by or control RS422 devices.

## External Control of DAW



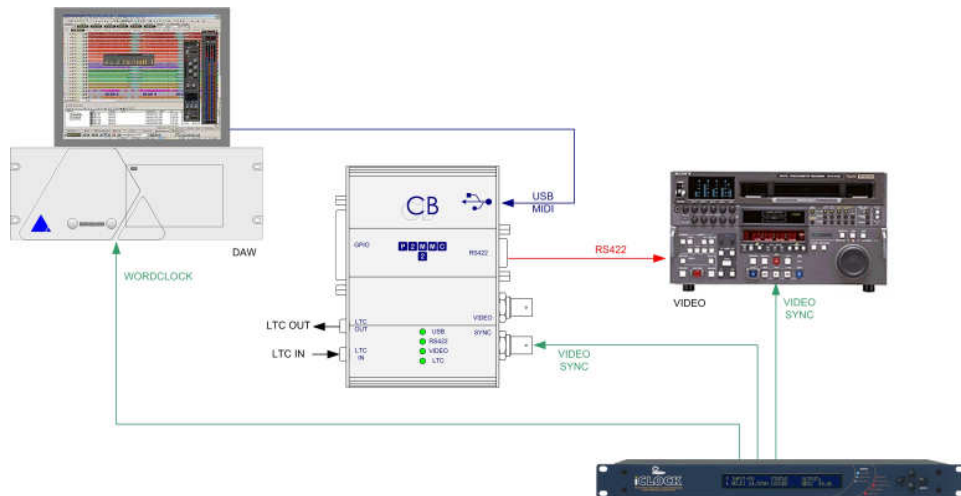
## RS422 as Input

**Virtual Machine 1:**  
 DAW follows VM  
 VM controlled by DAW  
 VM controlled by RS422  
 DAW Track Arming from RS422

**P2 -> MMC:**  
 DAW motion and Track Arming controlled by RS422

**LTC -> MTC1:**  
 DAW follows LTC Input,  
 DAW Track Arming from RS422

## Control of Video Machine from DAW



## RS422 as Output

**Virtual Machine 2:**  
 DAW follows VM  
 VM controlled by DAW,  
 Device follows LTC O/P  
 RS422 Track Arming from DAW

**MMC -> P2**  
 DAW control of RS422 Device

**LTC -> MTC2**  
 DAW follows LTC  
 DAW control of RS422 Machine

The P2MMC-2 is ideal to connect MIDI systems (Protools LE, Nuendo, Sequoia, Ardour, Logic Pro, Cubase, Cakewalk) with timecode and video locked RS422 devices. The P2MMC-2 may also be used as a USB timecode interface providing GP Outputs against timecode or logging events against timecode. CB is developing an EDL Recorder using the P2MMC-2 to record live edit decisions to increase efficiency in post production.

## Four Indicator LEDs

### USB

- Off USB not recognised
- Flash USB Connected, no MIDI communications received for 4 seconds
- On USB Connected, MIDI communications received within the last 4 seconds

### RS422

- Off No communications received on RS422 Port for one second
- On Communications received within the last second

### Video

- Off No Video Syncs
- Flash Video Syncs, Time Code Generator Not Locked to frame edge
- On Video Syncs, Time Code Generator Locked to frame edge

### LTC

- Off No Timecode Input
- Flash Stationary or discontinuous Timecode
- On Incrementing/Decrementing Timecode for more than one second

## RS422 Port

User selectable to a an Output (Device Control) or Input (Device Emulation) the tx-Rx connections are User defined as Input, Output or Follow Mode.

## USB Port

The USB Port uses MIDI Class drivers that are pre-installed in Windows, MAC and Linux operating systems. Providing more than one MIDI port enables the interface to communicate with both the application and the CB GUI.

## GUI

Communication via the USB port the GUI provides three main functions

- Machine control and track arming on any device connected to the RS422 port.
- User defined settings: Mode, Timecode Standard, GPIO....
- Software Update: Updates may be downloaded from our web site and installed

## LTC Timecode Output

When Video syncs are connected the timecode standard switches automatically with the frame rate of the Video. When NTSC syncs are detected the selection of Drop or Non-Drop Timecode is determined by a user setting. When no video syncs are connected the timecode standard is user definable using the provided GUI. The timecode output reflects the position of the current controlled device.

## GPIO

Eight Open Collector Outputs may be controlled by Midi Note On / Note Off Commands or triggered by internally controlled timecode values.

Eight protected CMOS inputs generate Midi Note On / Note Off events. CB Electronics will be releasing different application software to use these events.

### CB Electronics

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