**PCL PCIe L**

PCI card with LTC reader

**PCL PCIe LV**

PCI analog video card with VITC and LTC reader

**PCL PCIe D**

PCI digital video card with DVITC, ATC, UMID, Metadata and LTC reader

**PCL PCIe HD**

PCI HD video card with DVITC, ATC, UMID, Metadata and LTC reader

**PCL PCIe 3G**

PCI 3G video card with DVITC, ATC, UMID, Metadata and LTC reader

**PCL PCIe TS**

PCI card with LTC reader and Windows software for real time synchronization

AV PCL Time Code reader cards for the PCIe express bus are an important computer hardware solution for software development in fields such as subtitling, computer controlled editing, interactive-video, technical scientific analysis, and other applications that are based on picture accurate video processing.

Driver compatibility between analog, digital and HD video cards enables you to design a software which is interoperable with any Alpermann+Velte PCI or PCIe card. Each card has its own processor system with a register set for data transfer. Thus the critical time routines are completely decoupled from the PC's CPU, which enables extensive error checking.

An automatic frame rate detection (24, 25, 30, 30 DF) is supported as well as the parallel operation of two or more PCL PCIe-Cards. Drivers and exemplary programs for Windows XP/Vista/7/8/2003/2008 32- and 64 bit and Linux are included. DLL functions for reading Time Code and configuration are given. C/C++, Visual Basic and Delphi are also supported.

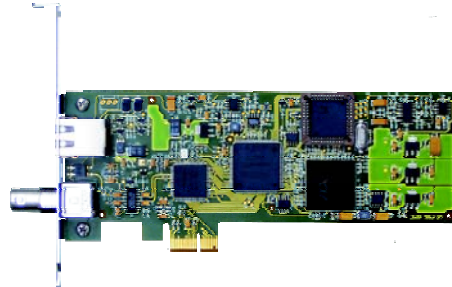
Video-Untertitelung, Computer-orientiertes Editing, Interaktiv-Video, Computer-Animationen und viele wissenschaftlich-technische Videoauswertungen benötigen eine framegenaue Videobildererkennung. Die PCL PCIe- Timecode-Reader-Karten für PCIe express-Bus sind wichtige Hardware-komponenten für die Entwicklung solcher Anwendungen.

Die Treiber aller analog-, SDI-und HDSDI-Videokarten sind in der Basis identisch, so dass eine Anpassung an einen anderen Videostandard mit geringem Aufwand machbar ist. Jede PCL PCIe-Karte verfügt über ein eigenes Prozessorsystem mit einem Registersatz zum Datentransfer. Die zeitkritischen Timecode-Routinen sind damit vollständig von der PC-CPU entkoppelt, wodurch umfangreiche Error-Checks möglich sind.

Die Framerate-Erkennung (24, 25, 30, 30 DF) erfolgt automatisch; der parallele Betrieb mit mehreren PCL PCIe-Karten ist möglich. Treiber und Beispielprogramme für Windows XP/Vista/7/8/2003/2008, 32-/64 bit und Linux werden mitgeliefert. Es stehen DLL-Funktionen zum Lesen der Timecode-Werte und zur Konfiguration zur Verfügung. Unterstützt werden C/C++, Visual Basic und Delphi.



PCL PCIe rear panel



PCL PCIe card

Working with ATC, UMID and Metadata formats offers new opportunities regarding the application area of PCL PCIeD and PCL PCIe HD cards. This data is carried in the Ancillary Data portion of the digital video.

The „Monochrome Transfer“ method of MPEG transfer is available for use with this hardware. PCL PCIe HD also offers an integrated logic analyzer for the digital video signal.

PCL PCIe TS was designed for the synchronization of a Windows XP/Vista/7/8/2003/2008, 32-/64 bit system clock with a realtime locked LTC Time Code signal. The included Windows program "TimeSys" controls the realtime process.

PCL PCIe D für SDI und PCL PCIe HD für HD-SDI haben mit den Formaten ATC, UMID und Metadaten zusätzliche Möglichkeiten. Diese Daten werden als „Ancillary Data“ transportiert.

Für MPEG-Transfer ist das „Monochrome Transfer“-Verfahren verfügbar. PCL PCIe HD-Karten bieten darüber hinaus einen integrierten Logicanalyzer für das digitale Videosignal.

PCL PCIe TS dient zur Synchronisation der Systemuhr von Windows XP/Vista/7/8/2003/2008, 32-/64 bit Rechnern auf ein echtzeit-verkoppeltes LTC-Signal. Das Windows-Programm "TimeSys" wird für diesen Zweck mitgeliefert.

## PCL PCIe specifications

### **LTC reader**

#### **Reading range forward and backward**

1 to 2500 fps

#### **Connector (balanced or unbalanced)**

RJ45 (0.1 to 5Vpp)

#### **Video SD (D, HD)**

SMPTE 259M-1997 (270 Mb/s)

525/59, 97 or 625/50 component (SDI)

Equalization: 100m Belden 8281 or equivalent

#### **Video HD**

SMPTE 292M-1998 (1.485 Gb/s HD)

SMPTE 260M-1999 (1125/60 HD)

SMPTE 295M-1997 (1080/50 HD)

SMPTE 274M-1998 (1080/all frame rates HD)

SMPTE 296M-1997 (720/all frame rates HD)

Equalization: 100m Belden 1694A or equivalent

#### **VITC reader (LV)**

#### **Reading range**

Still frame to search-speed

#### **Connector**

1 x BNC (FBAS 0.7 to 2Vpp)

#### **Termination**

Switchable

#### **Level adjustment**

Automatic

#### **Video**

NTSC, PAL, SECAM

#### **DVITC reader (D, HD)**

#### **Standards**

SMPTE 266M-1994 (DVITC)

#### **Connector**

1 x BNC, 75 Ω (8/10 Bit)

#### **ATC reader (D, HD)**

#### **Ancillary Time Code**

SMPTE 291M - 1998 (ANC Data)

RP 188-1999 (ATC)

RP 196-1997 (HANC TC)

#### **Connector**

1 x BNC, 75 Ω (8/10 Bit)

## Others

### **Dimensions**

168 x 69 x 22 mm

Standard profile

Option: low profile

### **Operating voltage**

3.3 V/12V from PCIe connector

### **Interface**

PCI Express 1x

### **Base address**

Automatic

### **I/O address**

384 in 2 Blocks

### **Memory address**

384 in 2 Blocks

### **Data transfer**

32-Byte register set

### **Product ordering ID**

#### **PCL PCIe L**

PCIe card with LTC reader

#### **PCL PCIe LV**

PCIe card with VITC and LTC reader

#### **PCL PCIe D**

PCIe card with DVITC and LTC reader

#### **PCL PCIe HD**

PCIe card with ATC, DVITC and LTC reader

#### **PCL PCIe 3G**

PCIe 3G video card with DVITC, ATC, UMID, Metadata and LTC reader

#### **PCIe TS**

PCIe LTC reader card and software for real time synchronisation

#### **Option:**

Low profile bracket

We reserve the right to modify specifications without notice.

## Legend:

**LTC:** Linear Time Code (SMPTE 12M-1999)

**VITC:** Vertical Interval Time Code (SMPTE 12M-1999)

**DVITC:** Vertical Interval Time Code (SMPTE 266M-1994)

**ATC:** Ancillary Time Code (SMPTE 291M-1998)