HPx-180

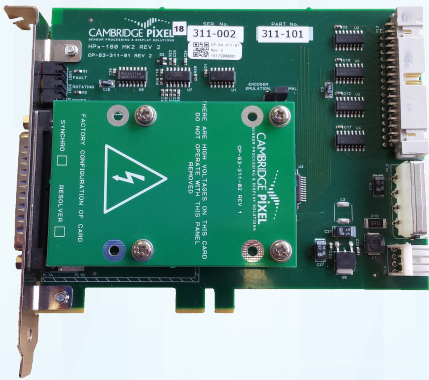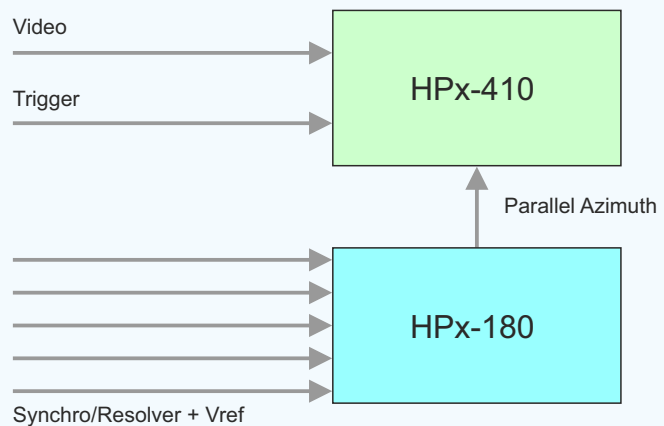## Synchro-Resolver Card

Features:

- PCI/PCIe form factor

- Power from standard PSU connector

- No connection to PCI power/data

- Supports both synchro (3-wire) and resolver (4-wire) input

- Data + strobe parallel azimuth output compatible with HPx-410, HPx-250

- 12-bit resolution (4096 values per rotation)

- Emulated ACP/ARP output for use with legacy systems

- Input frequency DC to 40kHz

- Rotation period 5 rpm to 120 rpm

- Reference voltage 115V (P/N 311-101), 26V (P/N 311-102)

- Synchro/resolver voltage 90V (P/N 311-101), 12V (P/N 311-102)

The HPx-180 Mk2 is a PCI/PCIe form-factor synchro/resolver converter. Designed to interface with most standard synchro and resolver units, the card provides digitisation of the input signals, comparing them with the supplied reference signal to generate a 12-bit resolution parallel azimuth output (data and strobe) as RS-422. This output is compatible with Cambridge Pixel's range of radar input cards including the HPx-400, HPx-410 and HPx-250. The card can also generate emulated ACP and ARP output signals for use with radar input cards that do not accept parallel azimuth (e.g. the HPx-346) or for legacy display systems that expect ACP/ARP radar antenna signals.

The HPx-180 Mk2 supports high voltage and low voltage reference and synchro/resolver inputs, making it suitable for use with a wide variety of installed systems. It is a PCI/PCIe form factor card, but the bus connector is for mechanical location only and does not take power or data from the PCI/PCIe bus. Power to the card is supplied using a standard PC power connector from the computer's power supply unit (either 4-pin Molex connector or 4-pin floppy drive auxiliary connector). All inputs to the card and the emulated ACP/ARP are available on the card's front panel via a D-type connector, while parallel azimuth is supported via an IDC socket. A ribbon cable between the HPx-180 and a radar input card such as the HPx-410 is used to provide parallel azimuth to the input card.

The HPx-180 Mk2 has front panel status indications including power, conversion error (input signals out of specification) and turning (LED turns on/off once per revolution).

DATA SHEET

Architecture

Form Factor:	PCI/PCIe (less than half length, full height)
Platform:	OS independent

Inputs

Synchro: or	3 wire + reference
Resolver: (configurable through hardware links on card)	4 wire + reference
Vref Reference Voltage:	115 V (Model 311-101) 26 V (Model 311-102)
Vref Input Frequency:	DC to 40 kHz
S1, S2, S3, S4 Signals:	90V (Model 311-101) 11.8V (Model 311-102)
Rotation Period:	5 rpm to 120 rpm

Outputs

Parallel Azimuth:	12-bit parallel azimuth + strobe. Azimuth data is valid on rising edge of strobe.
Signal Type:	RS422.
Emulated ACP / ARP:	RS422
Resolution:	12 bits. (4,096 values per rotation)

Connectors

Front Panel:	25W D Male on card.
Parallel Azimuth:	34W IDC pins on card. Compatible with HPx-200, HPx-200e, HPx-400e and HPx-410 cards. Interconnection cable is supplied with card.
Power:	4-pin peripheral connector ("4-pin Molex") 4-pin floppy drive connector

Status LEDs

Conversion Error:	Red
Power:	Green
Conversion Active (MSB azimuth):	Yellow

Environmental

Cooling:	Forced air cooling
Temperature:	0° to 55°C

Ordering Information

The following versions of the card are available (**note the voltage difference**):

311-101	115V Reference, 90 V signals (Synchro or Resolver inputs)
311-102	26V Reference, 11.8V signals (Synchro or Resolver inputs)

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