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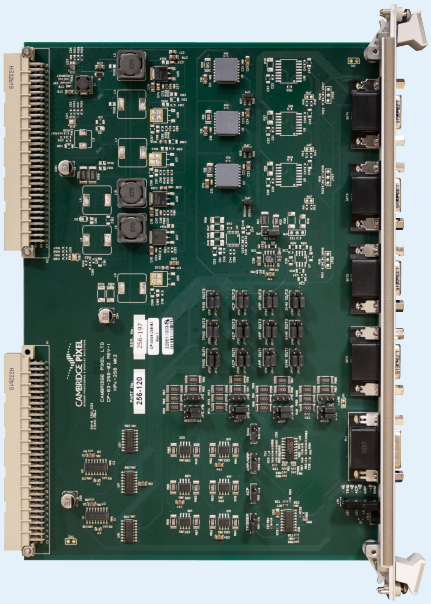
HPx-256

VME Radar & TV Video Signal Splitter Card



Features:

- 6U VME form factor signal splitter card
- Operates either as a radar signal splitter card or as a TV video signal splitter card
- “Radar In” connector accepts a single set of radar input signals, comprising:
  - Video (50Ω, 75Ω or high impedance termination)
  - Trigger/sync, ACP, ARP, SHM (all signals either single-ended or differential RS-422)
- “TV In” connector accepts a single analogue TV video signal:
  - Composite SMPTE 170M (NTSC) or CCIR (PAL) format
  - 1V peak-to-peak, 75Ω termination
- Input signals are split to three sets of output signals
- On-card signal regeneration and video gain adjustment capabilities

The HPx-256 is Cambridge Pixel’s 6U VME form factor radar and TV video signal splitter card. It is designed to interface to a single set of radar input signals, or to a single analogue TV video input signal and supports a variety of input/output signal types. Depending upon which of its two input connectors is used, it can either operate as a radar signal splitter card or as a TV video signal splitter card. Input signals to the card are conditioned, regenerated and split to three configurable outputs. Typical applications for the card include distribution of analogue radar or TV video signals to multiple display consoles or to paralleled radar processing systems on-board ships or at land-based trials test sites.

The HPx-256 card has a 6U VME form factor and is powered via the +5V, +12V and -12V pins on the VME P1 connector. The card uses none of the address or data lines on either the VME P1 or P2 connectors. Signal I/O is exclusively via front panel connectors, although there are versions of the HP-256 card that support signal I/O exclusively via the VME P2 connector (please consult Cambridge Pixel for further details of these, as well as other customised versions of the card).

Radar Signal Splitter

When the HPx-256 is used as a radar signal splitter card, radar signals are connected to the “Radar In” connector and the card splits these inputs to three sets of outputs. A single set of radar signals comprises up to five connections: video, trigger/sync, ACP, ARP and SHM. Jumper links allow input video signal termination of 50Ω, 75Ω or high impedance to be selected. Each of the output video signals has a fixed impedance of 75Ω and a configurable gain of “1.0” or “0.6”, which is independently selectable via jumper links.

The trigger/sync, ACP, ARP and SHM signals are received, thresholded and regenerated by the card. Per-signal jumper links select support for either single-ended (0 to 15V, 3V threshold) or differential (RS-422) input signals. Where single-ended input signals are selected, jumper links are also provided to independently select termination of 50Ω, 75Ω or high impedance.

The output signal pulse width is the same as the input signal pulse width. The output signals can be independently configured as single-ended, with 75Ω impedance (0 to 12V unterminated) or differential (RS-422) via jumper links.

TV Video Signal Splitter

When the HPx-256 is used as a TV video signal splitter card, a TV video signal is connected to the “TV In” connector and the card splits this input to three outputs. The card supports composite SMPTE 170M (NTSC) or CCIR (PAL) video with 1V peak-to-peak signalling. The input TV video signal is 75Ω terminated. The three TV video signal outputs have a source impedance of 75Ω.

HPx-256 VME Radar & TV Video Signal Splitter Card Specification

CP-16-256-01, Issue 1.0

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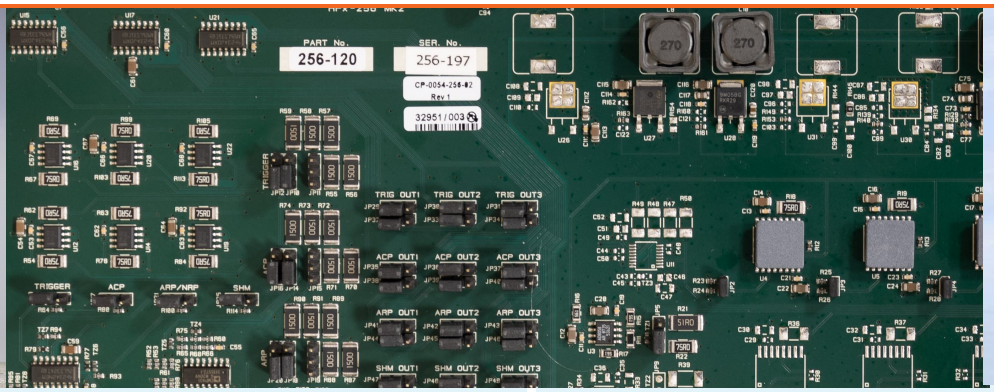

Architecture

Form factor:	6U VME (single width slot)
Platform:	N/A – operating system independent

Inputs

Channels:	One set of radar signals (video, trigger/sync, ACP, ARP and SHM) or one TV video signal
Radar video signal:	0 to 5V terminated into 50Ω, 75Ω or high impedance (jumper link selectable)
Trigger/sync, ACP, ARP & SHM signals:	Signal type: single-ended or differential (jumper link selectable) Single-ended signals: 0 to 15V (3V threshold) terminated into 50Ω, 75Ω or high impedance (jumper link selectable) Differential signals: RS-422
TV video signal:	Composite SMPTE 170M (NTSC) or CCIR (PAL) format, with 1V amplitude peak-to-peak and 75Ω termination

Outputs

Channels:	Three sets of radar signals (video, trigger/sync, ACP, ARP and SHM) or three TV video signals
Radar video signals:	Three copies of radar video input with a gain of 1.0 or 0.6 (jumper link selectable) and 75Ω output impedance
Trigger/sync, ACP, ARP & SHM signals:	Signal type: single-ended or differential (jumper link selectable) Single-ended signals: 0 to 12V (unterminated) with 75Ω output impedance Differential signals: RS-422 Pulse width: same as the input signal pulse width
TV video signals:	Three copies of TV video input with 75Ω output impedance

Connectors - Front Panel

“Radar In” connector:	5-way HD D-sub male plug (DE-15)
“TV Input” connector:	15-way HD D-sub female socket (DE-15)
“Radar/TV Out1” connector:	15-way HD D-sub female socket (DE-15)
“Radar/TV Out2” connector:	15-way HD D-sub female socket (DE-15)
“Radar/TV Out3” connector:	15-way HD D-sub female socket (DE-15)

Connectors - Backplane

P1 (VME 3-row):	Used for power only (+5V, +12V & -12V)
P2 (VME 3-row):	Not used (P/N 256-120) or used for signal I/O (please consult Cambridge Pixel for details)

Status LEDs

Power status (PWR):	Red
Trigger/sync status (TRIG):	Yellow
ACP status (ACP):	Green
ARP status ARP):	Green
SHM status (SHM):	Green

Environmental

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

Ordering Information

256-120 VME Radar and TV Video Signal Splitter Card (front panel I/O version)

For more information, please contact:

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