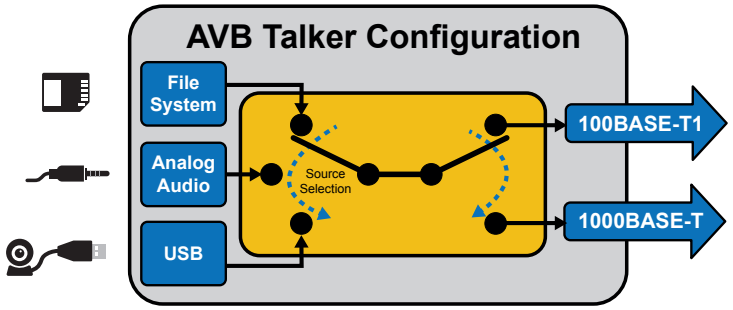
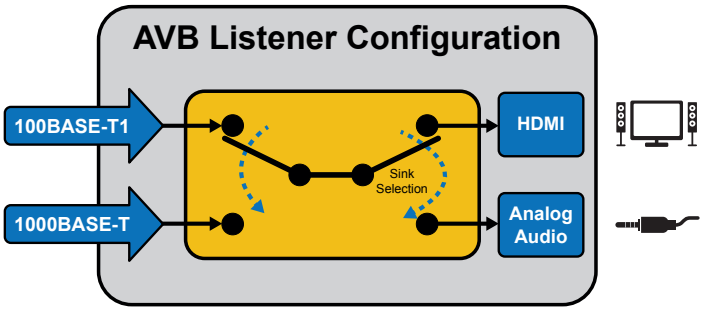
neoECU AVB/TSN

AVB/TSN Endpoint Simulator (Talker/Listener)

Intrepid's latest addition to the neoECU series integrates 100BASE-T1 and Gigabit Ethernet with a wide variety of multimedia interfaces to deliver a fully configurable AVB Endpoint with integral 7-port AVB/TSN switch.





Applications

- **Rapid Prototyping:** Quickly assemble prototype AVB systems to characterize performance and evaluate trade-offs well in advance of production prototypes.
- **Accelerate System Level Troubleshooting:** Use as a "known-good" sample to replace suspect ECUs to aid in the process of elimination.
- **Robustness Testing:** Observe your system under stress by quickly configuring additional endpoints to simulate high network utilization.

AVB/TSN Standards Compliance

- 802.1Qat Stream Reservation Protocol (SRP)
- 802.1Qav Forwarding and Queuing for Time-Sensitive Streams (FQTSS)
- 802.1AS generalized Precision Timing Protocol (gPTP)
- IEEE 1722 (AVTP)
- IEEE 1722.1 (AVDECC)

Scripting and Automation

With Intrepid's Vehicle Spy software, the neoECU AVB/TSN is ideal for vehicle or test bench integration, with a full-featured scripting engine controlling 2 CAN FD and 4 programmable GPIO channels.

Function Blocks enable users to easily set up automated tasks and simulate CAN nodes and ECUs without relying on a complicated, text-based computer language.

The C Code Interface guides you through building a project in Microsoft Visual C, giving you access to anything available through Visual C. Imagine being able to access security DLL files, external hardware, or the Win32API and interface that information with your networks. The possibilities are endless!

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neoECU AVB/TSN

Features

- Integral 7-Port AVB/TSN Switch
- Standalone script execution with CAN message RX/TX, expression evaluation, conditional logic and GPIO control
- 4x programmable GPIO channels (digital in/out, analog in)
- 8x dual purpose LEDs for network status and device configuration
- Programmable DW CAN termination circuits
- Battery-backed real time clock (RTC)
- Field-upgradeable flash firmware
- Rugged aluminum case with shock-absorbing end caps

Supported Stream Formats

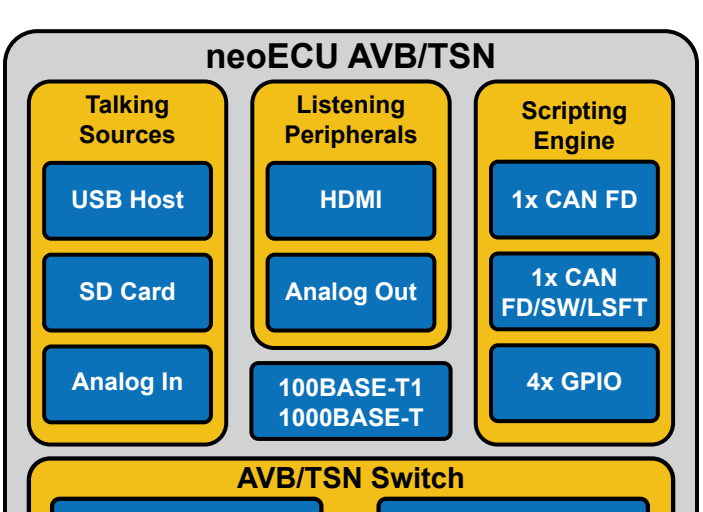
- Video:
  - IEC 61883-6 (h264, 1080p @ 30 fps)
  - Compressed Video Format (CVF)
- Audio:
  - IEC 61883-4
  - AVTP Audio Format (AAF)
- AVTP Control Format (ACF) in development
- Firmware upgradeable to support additional formats

26-Pin Connector Pinout

Pin	Description	Pin	Description
1	NC	14	HSCAN1_P
2	NC	15	NC
3	NC	16	HSCAN2_P
4	HSCAN1_N	17	NC
5	NC	18	LSFTCAN_P
6	HSCAN2_N	19	V BATT
7	NC	20	NC
8	LSFTCAN_N	21	NC
9	NC	22	EMISC_IO1
10	GND	23	EMISC_IO2
11	NC	24	EMISC_IO3
12	NC	25	EMISC_IO4
13	NC	26	SWCAN

Ordering Information

Part Number	Description
NEOECU-AVB-TSN	neoECU AVB/TSN device



Device Specifications

- Power supply: 4.5V - 40V operation
- Temperature range: -40°C to 85°C
- One-year limited warranty
- Fully-isolated USB with Microsoft-certified USB drivers
- Dimensions: 3.98 × 11.22 × 18.65 cm (1.56″ × 4.42″ × 7.34″)
- Weight: 595 g (1.31 lb)

Network Specifications

- Endpoint configurations (mutually exclusive):
  - 100BASE-T1 endpoint (2-wire)
  - 1000BASE-T endpoint (8-wire, limited to 480 Mb/s, consumes 1 switch port)
- Integral 7-Port AVB/TSN switch:
  - 5x 100BASE-T1 Ports
  - 2x 1000BASE-T PortCAN (2 channels):
  - 1x CAN FD
  - 1x CAN FD/SW/LSFT

Supported Interfaces

- 1x HDMI output
- 2x analog audio in (mini jack)
- 8x analog audio out (mini jack)
- USB device (PC interface)
- USB host (camera)
- SD card slot

Specifications subject to change; please contact Intrepid for the latest information. All trademarks are the property of their respective owners.

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