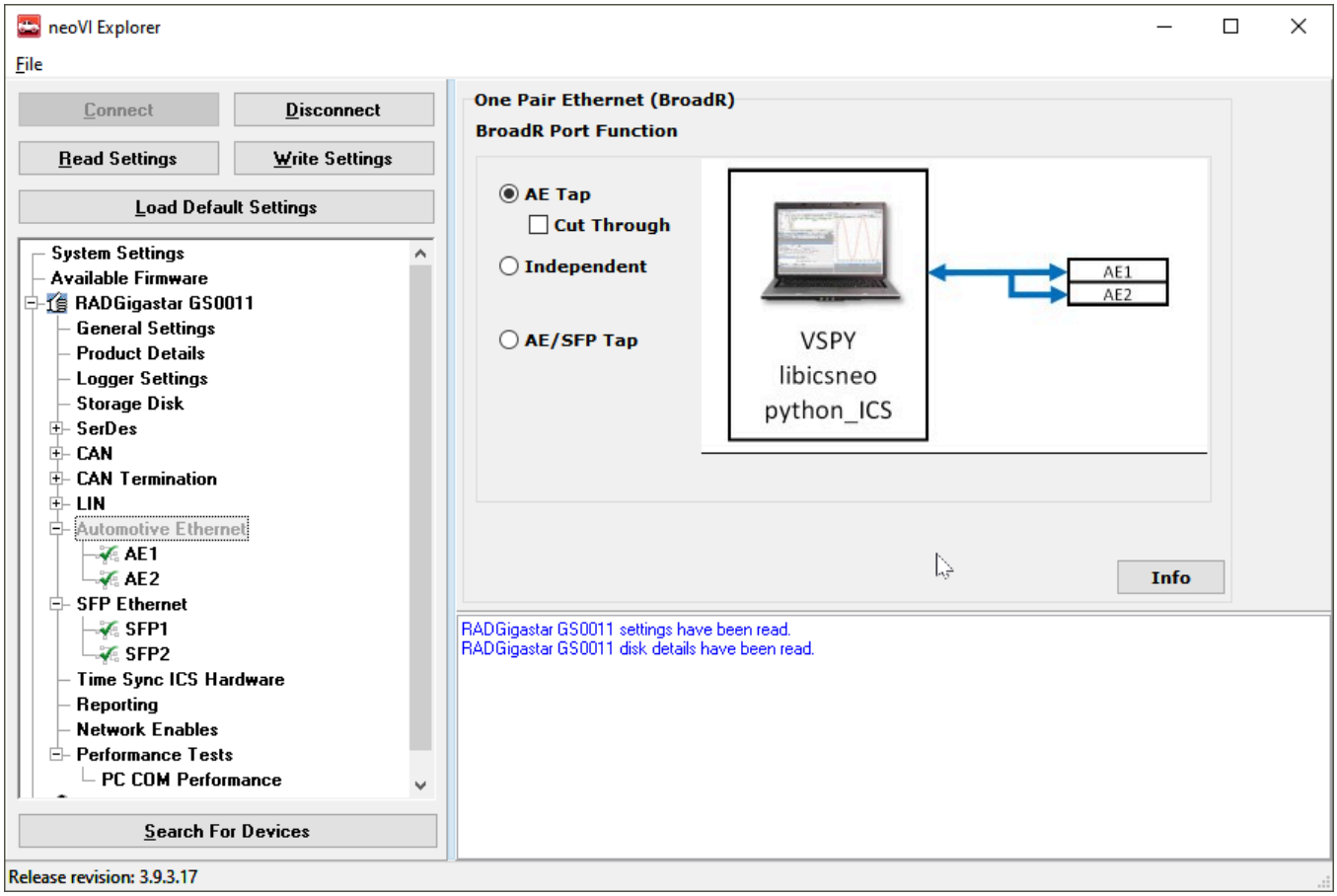
5.10. Ethernet Port Configurations

5.10.1. 1000BASE-T1 Active Tap

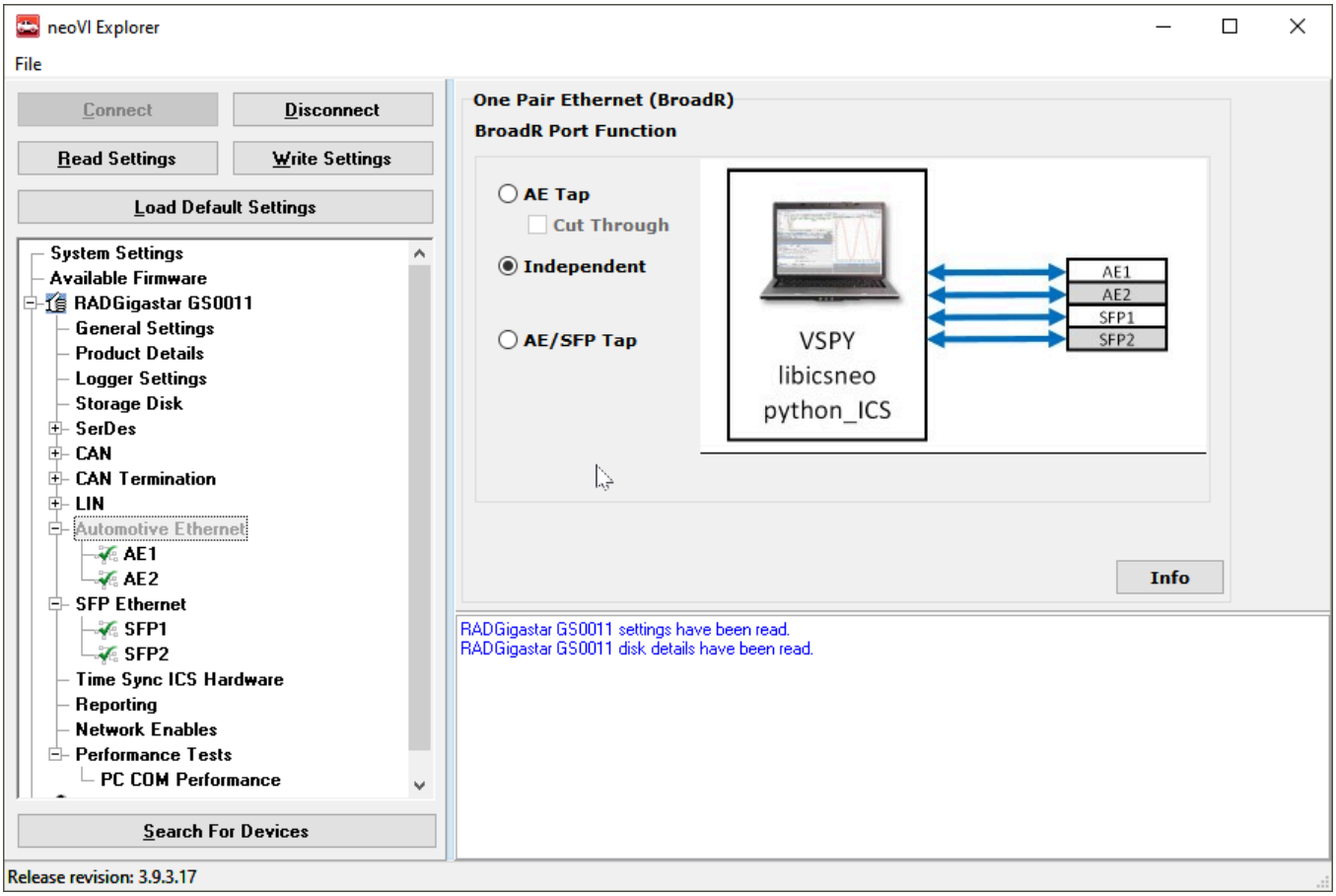
The primary use case for RAD-Gigastar is a 1000BASE-T1 Active Tap. As the diagram depicts below, the ports are connected internally such that any traffic that ingresses on AE1 will egress on AE2, and vice-versa. In addition, all ingressing traffic on both ports is mirrored to the host PC connection port for use with VSPY or Intrepid's open source APIs.

By default, the Active Tap works in a "Store & Forward" mode, where the entire frame must ingress on one port before starting to egress on another. This is normal operation for many Ethernet devices such as switches that need to check for frame errors before forwarding to the next destination. Enabling Cut-Through mode will allow the frame to start egressing almost immediately to make latency deterministic and on the order of 10s of nanoseconds.



5.10.2. Independent Ports

In this mode, all 4 ports can be used independently to transmit and receive messages using VSPY or Intrepid's open source APIs.



5.10.3. SFP/1000BASE-T1 Active Tap

This mode of operation is nearly identical to the 1000BASE-T1 Active Tap, but the tap pairs are AE1/SFP1 and AE2/SFP2.