

BENEFITS

- The first SyncE compliant timing solution that meets the most stringent 10G or 40G Ethernet jitter requirements
- Reduces design complexity
- Integrated jitter attenuators reduce overall system cost
- Reduces external passive component count
- IDT device drivers simplify and optimize device configuration
- Extensive compliance to timing synchronization standards:
 - Synchronous Ethernet
 - SONET/SDH
 - PDH Synchronization

FEATURES

- Less than 300 fs RMS (10 KHz – 20 MHz) phase jitter
- Hitless reference switching produces a stable output frequency when the primary input clock has failed
- Programmable loop bandwidth
- Locks to a wide range of clocks
- Locks to 1PPS clock (82V3910 only) and 1PPS sync pulse
- Supports ITU-T G.8261/G.8262 SyncE compliant equipment
- Supports clock generation for IEEE-1588 applications
- Generates interface clocks for 10GBASE-R, 10GBASE-W and 40GBASE-R
- Generates SONET/SDH interface clocks (OC-192/STM-64)

TARGET MARKETS

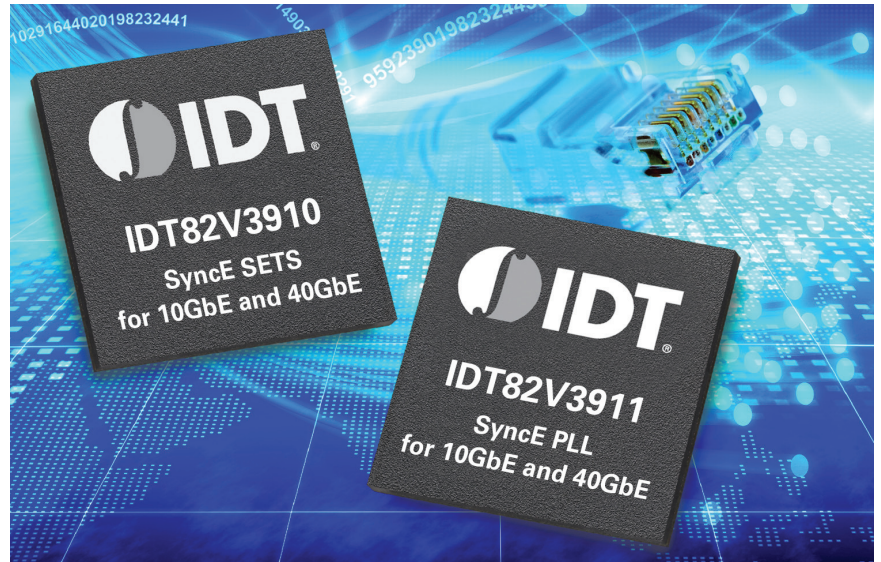
- Communications
- Networking

TARGET APPLICATIONS

- Timing of 10 G and 40 G SyncE Ports
- Central office timing source
- Carrier and access IP switches
- Carrier and access routers
- Broadband and multi-service access and transport equipment

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Single-chip SyncE Devices Can Time ANY 10G or 40G Ethernet PHY



The 82V3910 and 82V3911 Synchronous Ethernet (SyncE) devices are the industry's first single-chip timing solution that can be used with ANY Ethernet PHY on the market. The devices meet the most stringent 10G or 40G Ethernet jitter performance requirements. Traditional board designs would need at least two chips in order to meet G.8262 requirements and perform both frequency translation and jitter attenuation. The IDT 82V3910 and IDT 82V3911 chips integrate both analog and digital phase locked loops (PLLs) to generate two independent high performance clocks that address the stringent low-jitter requirements found in 10G and 40G Ethernet applications. In addition, passive components are integrated to reduce the number of external components on the board required for power supply noise rejection and filters for the analog PLLs. By having all this integrated into a single chip, these devices reduce design complexity as well as reduce overall BOM cost for systems.

Ultimate solution in performance and versatility

The IDT 82V3910 is a Synchronous Ethernet timing source (SETS) that complies with all SyncE standards. This device is ideal for use on controller cards in multi-card Carrier Ethernet systems and is uniquely suited for single board systems where the SETS will directly time a 10G or 40G PHY. The IDT 82V3911 supports and preserves G.8262 (SyncE) compliance of the reference coming from the SETS. Its function is to provide frequency translation and jitter attenuation on line cards for systems that already have SETS devices and provide a rate conversion path back to the SETS. Both devices offer the best jitter performance on the market and can be used with any Ethernet PHY.

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