

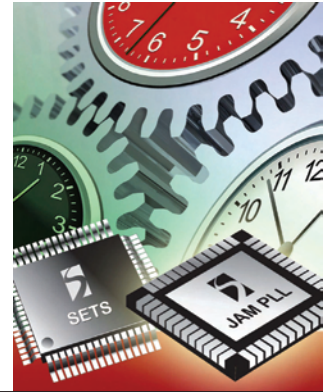
# Product Brief



SEMTECH ADVANCED COMMUNICATIONS

## SETS and JAM PLL

SONET/SDH Synchronization & Jitter Attenuation



**Semtech revolutionizes SONET/SDH network synchronization by providing next generation solutions for higher levels of system synchronization management and overall system performance.**

### Key Features:

- **SONET/SDH system synchronization by SETS**
- **Frequency translation and jitter attenuation by JAM PLL**
- **Superior MTIE/TDEV figures ensure low bit-error rates**
- **Support free-run, locked, and holdover modes**
- **System synchronization and line card applications**
- **ETSI/ITU/Telcordia/ANSI sync standards compliance**
- **Applications include DSLAMs, access concentrators, add/drop multiplexers, digital cross-connects, access switches and routers, 2/3G wireless base stations and AdvancedTCA systems.**
- **Ideal for new systems and retrofit to existing machines**

Semtech's Synchronous Equipment Timing Source (SETS) family of products are employed worldwide throughout the most advanced optical telecom networks. SETS eliminates expensive discrete multi-chip configurations with a single-chip solution.

Semtech's Jitter Attenuating, Multiplying Phase Locked Loop (JAM PLL) family of products cleans up the jitter for high speed optical line cards, and provides low jitter clocks compliant up to OC-12/STM-4 spec.

JAM PLL has an integrated VCO, thus reduces the component cost and real estate on the PCB. Together with SETS parts, they offer a complete line card sync solution.

# SONET/SDH Synchronization

## SETS LINE CARD FAMILY KEY FEATURES

PART NUMBER	FEATURES																													
	GENERAL FEATURES							INPUT CONFIGURATIONS				OUTPUT CONFIGURATIONS																		
	Automatic reference switching	SONET/SDH compliance	Hit-less source switching	Holdover	Software control mode	Frequency monitoring	Activity monitoring	Loss of lock indication	Revertive/non-revertive mode	Output phase adjustment	Phase measurement	155.52MHz	6.48, 25.52MHz	38.88MHz, 51.84MHz, 77.76MHz	1.544MHz or 2.048MHz (E1 or DS1)	19.44MHz	8kHz	2kHz, 4kHz	311.04MHz	155.52MHz	38.88MHz, 51.84MHz, 77.76MHz	25.52MHz	44.736MHz or 34.368MHz (E3 or DS3)	19.44MHz	N x E1 or N x DS1, N = 1 to 16	1.544MHz or 2.048MHz (E1 or DS1)	2kHz and 8kHz frame sync pulses	Programmable pulse width and polarity		
ACS8515Rev2.1*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8525*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8526*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8527*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

## SETS MASTER SYNCH CARD FAMILY KEY FEATURES

PART NUMBER	FEATURES																													
	GENERAL FEATURES							INPUT CONFIGURATIONS				OUTPUT CONFIGURATIONS																		
	Automatic reference switching	Hardware master/slave control mode	Stratum 3E compliance	Stratum 3E compliance	Hit-less source switching	PBO on currently locked reference	Holdover (with appropriate TCXO, OCXO)	8-bit microprocessor modes	Frequency monitoring	Activity monitoring	Loss of lock indication	Revertive/non-revertive mode	Output phase adjustment	Phase measurement	155.52MHz	6.48, 19.44, 25.52, 38.88, 51.84, 77.76MHz	1.544MHz or 2.048MHz (E1 or DS1)	N x 8kHz (N = 1 to 12499)	2.4, 8kHz	311.04MHz	155.52MHz	38.88MHz, 51.84MHz, 77.76MHz	6.48, 25.52MHz	44.736MHz or 34.368MHz (E3 or DS3)	19.44MHz	N x E1 or N x DS1, N = 1 to 16	1.544MHz or 2.048MHz (E1 or DS1)	2kHz and 8kHz frame sync pulses	Programmable pulse width and polarity	
ACS8510Rev2.1*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8520*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8522*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8530*	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

\*Pb-free version available for all products; RoHS and WEEE compliant

Visit our website to locate most current product specifications, datasheets and contact information for your local Semtech Field Applications Engineer.

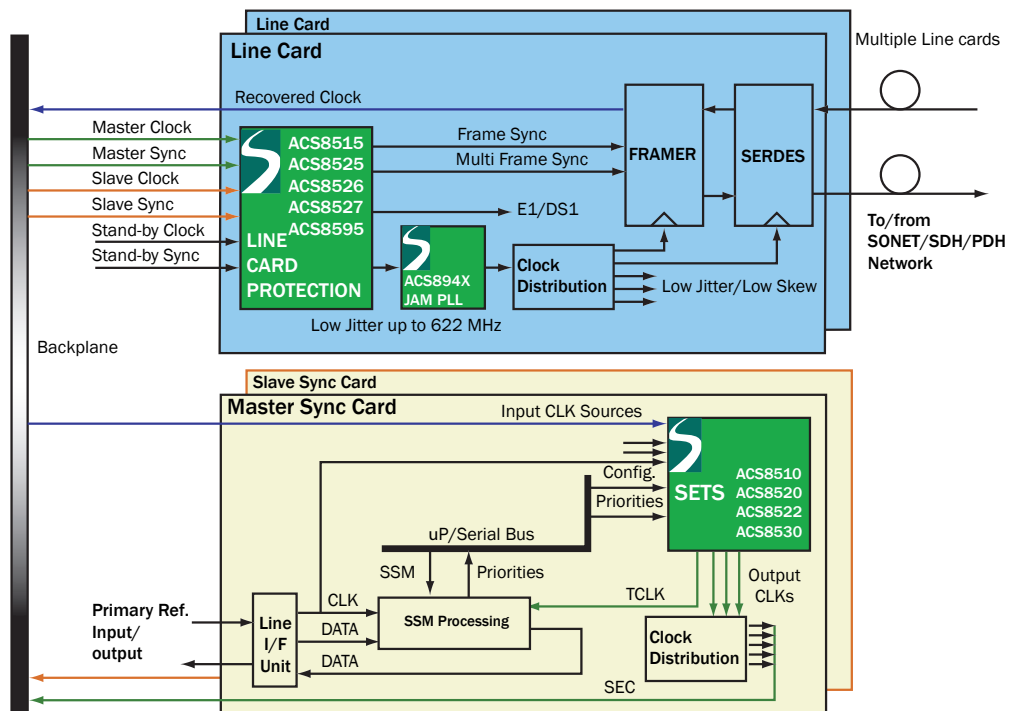
# Jitter Attenuation

## JAM PLL FAMILY KEY FEATURES

PART NUMBER	FEATURES																												
	GENERAL FEATURES				INPUT CONFIGURATIONS				OUTPUT CONFIGURATIONS																				
					SONET/SDH		ETHERNET		SONET/SDH <sup>+</sup>				ETHERNET <sup>++</sup>																
	Lead-free Package, RoHS and WEEE Compliant	OC-3/STM-1 and OC-12/STM-4 jitter compliance	Gigabit Ethernet jitter cleaning	Single input and single output	2 inputs and 4 outputs	Automatic/Manual Reference switching	LOS alarms for input and reference	LOS of lock indication	Sync input and output	Inputs and outputs frequency programmable	19.44MHz	38.88MHz	77.76MHz	155.52MHz	125MHz	156.25MHz	19.44MHz	38.88 MHz	77.76 MHz	155.52MHz	311.04MHz	622.08MHz	3.91MHz, 7.81MHz	15.63MHz	31.25MHz	62.50MHz	125MHz	19.53, MHz, 39.06MHz, 78.18MHz	156.25MHz, 312.5MHz, 625MHz
ACS8944T	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
ACS8946T	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

+ Requires SONET/SDH input frequency

++ Requires Ethernet input frequency



# Designing telecom network synchronization for the future

- Product synch solution widely adopted by major Tier 1 OEMs
- Participant in standard bodies defining TDM and Packet network synch solutions for the future
- Design expertise in system, hardware, software, and mixed signal IC design
- System architecture expertise ensures your design meets system standard compliance
- Semtech support assures customer design on-time and on-budget