Abstracts

Clock Recovery Circuits Up to 20 Gbit/s for Optical Transmission Systems

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Various clock recovery circuits (CRCs) for optical transmission systems were developed in the last years for bit rates from 5 to 20 Gbit/s. In all cases as a first solution passive CRCs were applied for new systems with higher bit rates. Later on they were replaced by monolithic integrated circuits with phase locked loops (PLLs), if realizable. At present passive CRCs are still used at 10 and 20 Gbit/s while PLLs based on integrated circuits are available for 5 and 10 Gbit/s. The first developed monolithic integrated circuit was a phase/frequency detector working up to 8 Gbit/s, the second one is a complete data regenerator including the VCO and applicable for more than 10 Gbit/s.

❑ Return to main document.