



Streaming E1/T1 TDM Data over TCP/IP

The convergence of Internet and Telephony networks has resulted in the requirement to provide conversion between protocols, transport streams and physical layer hardware .

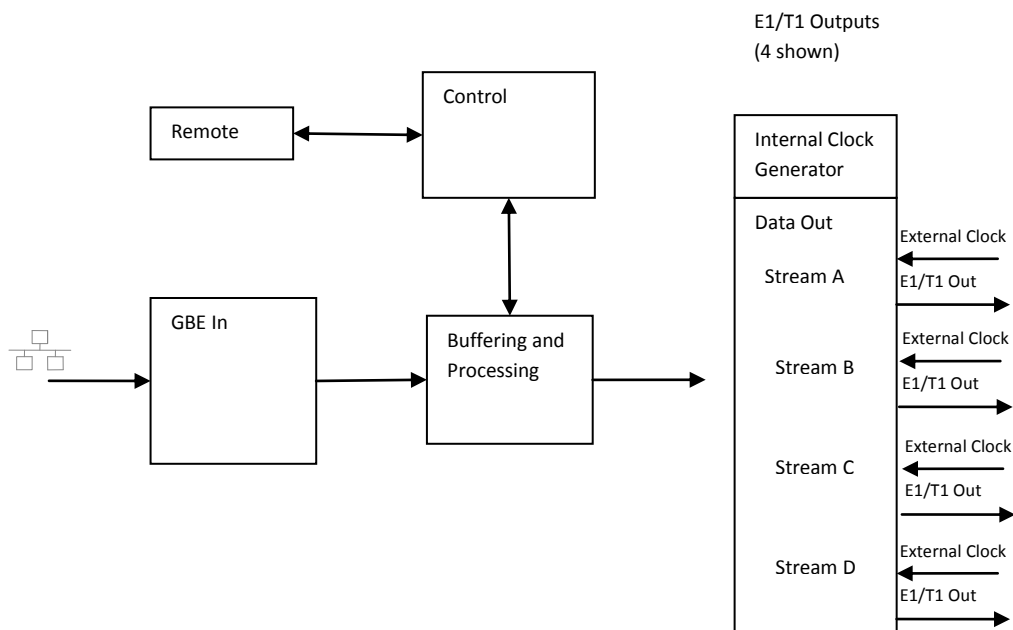
The CARP Data Capture Gateway family of products enables the seamless transition between systems to be performed in a manner that provides maximum flexibility and maintains data integrity.

Recently added to the CARP range is a Data Streamer product. This allows the conversion of stream or file-based data from a TCP/IP network to real-time TDM streams.

CARP Streamer can handle up to 8 simultaneous TCP/IP streams creating 8 individual E1/T1 streams from 'live' data or files. This makes CARP Streamer ideal for generating test patterns or replicating unusual operational conditions, or monitoring/intercepting data carried over IP networks.

Each stream has a specific IP port number connected to the host application. Once connected the application just sends data to CARP Streamer over that socket. Each E1 stream is mapped to a selectable port and paced using either an internal clock generator or by synchronising with an existing E1/T1 network stream.

An internal latency buffer allows the data from the network to be 'smoothed' to allow for network delays and congestion. The level and throughput latency of this buffer is under user control and can be varied to cope with expected network activity – high latency for busy networks low latency for dedicated networks.





Data Integrity

Data is streamed from the output as continuous SDH data conforming to ITU G.703 specifications. In order to cope with network congestion, normally the latency buffer will smooth the flow of data so that it is contiguous. However, when the input data stream is interrupted for a significant period, data may not be available at the output. Under these circumstances, CARP Streamer maintains the previous framing structure, while setting AIS to indicate loss of data. On resumption of the input stream, data is continued at the output where it would have been if there had been no data loss and AIS is de-asserted. This is the default condition and maintains data synchronism between streams and ensures downstream equipment is not disrupted. In the case where it is necessary to retrieve all data from the input stream, this behaviour can be overridden, and in this case data will recommence continuously, thus there will be a permanent delay in the data content relative to real-time.

Data Stream Synchronicity.

Where TCP/IP streams represent two associated E1/T1 streams (an up/down link) it is possible that network delays on individual streams will cause a differential delay on output (skew). Absolute synchronicity in the case of network errors cannot be guaranteed.

Control Features

The user has a comprehensive set of control and status functions, accessed through a separate 10/100 ethernet port allowing remote operation from anywhere. These include : selection of internal or external stream clock control (per stream), network address and port mapping to stream, buffer latency control (per stream), unit and stream reset, unit identity, signal status, GBE status, buffer overrun status, data valid status.

Interface Specification

Contact SomerdData for a full Interface Specification including the Control/Status command set and physical parameters. For a short Data Sheet, visit www.somerdData.com.

