

## E3 UDT base configuration short-form data

### General

The programmable hardware block performs AAL1 circuit emulation inter-working functions for unstructured data transfer (UDT). This is one of the sub-system components available using the Phystream communications processing architecture, which is scalable, configurable and fully customizable for a range of data access applications.

Numbers of channels can be scaled up to higher density applications or scaled down for cost effective lower bandwidth designs. The function is configurable to enable maximum flexibility in protocol operation and customizable to specification for any interfacing requirement.

### Features

- 3 x E3
- Single external 32-bit memory device
- Flexible memory allocation for CDV buffering. Maximum CDV buffer size is limited by external memory capacity only
- Utopia Level 1 interface
- TDM interface to customer specification
- Generic 32-bit processor interface
- Flexible channel identification (e.g. VPI/VCI, routing tag, etc.)
- Fast sequence number processing
- Low latency access for statistics
- Compliant with ITU I.363.1, ATMF af-phy-0017.000 Utopia Level 1 v2.01, af-vtoa-0078.000 v2.0 CES Interoperability Specification
- Flexible clocking strategies
  - Single global clock
  - Individual interface clocks

### Minimum Requirements

FPGA – XC2V1000-4  
32 bit wide, 64Mbit SDRAM  
System clock frequency: 25MHz (min)

(Device supporting 3xE3 UDT channels)

## Options

- AAL0 (null AAL) mode on a per tributary basis
- Asynchronous timing support (SRTS and/or adaptive)
- Adaptive and Robust sequence number processing algorithms
- UTOPIA Level 2 interface af-phy-0039.000
- System and line loop-back on a connection basis
- PRBS test generation/detection
- Forward compatibility with Phystream IWF portfolio

## Applications

UDT is the type of circuit emulation service (CES) most suitable for carrying indeterminate data formats over an ATM infrastructure. This is applicable to private line trunking over ATM, where protocol independent operation is essential, and digital cross-connect functions.

The Phystream UDT package is designed to accommodate these applications with unprecedented efficiency allowing state-of-the-art density of channelization when used in conjunction with available 3<sup>rd</sup> party framing devices, as shown:

