Integration of Loop Products: V4100, D7252, D7163, V4200-28, V4200-9, V4300

This paper illustrates various ways the above Loop products can be applied to achieve STM1/OC3 to DTE connectivity. First, a brief review of the input-output ports for each product is given. However, coppers pairs in use for voice services for many years are not always suitable for digital services. This paper will discuss the issues of using old copper plant for digital services, which include:

Loop-V 4100 UMAP

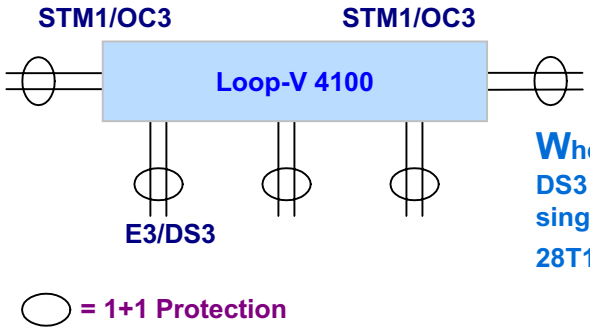
V4100 is a Universal Multi-service Access Platform access device, including DS0 cross-connect, with two pairs of high-speed ports and three pairs of feeder ports. This product can be used in either STM1/OC3 ring architecture or linear architecture.

Towards network:

- High-speed STM1/OC3 optical interface – 1+1 protection – 2 pairs max

Towards user:

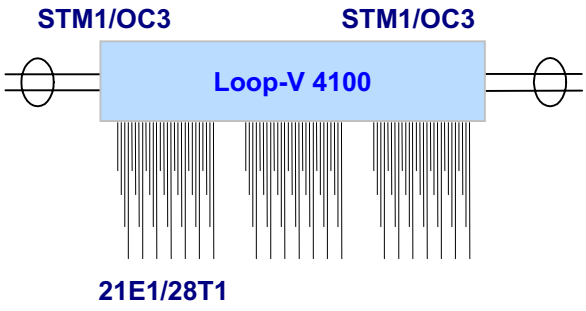
- Feeder E3/DS3 electrical or optical interface – 1+1 protection – 3 pairs max
- High density – 28T1, 21 E1 – 1+1 protection – 3 pairs plug-in cards max



Wherein each protected pair of E3/ DS3 can be replaced, each pair by a single, by an unprotected 21E1/ 28T1 plug-in cards.

OR

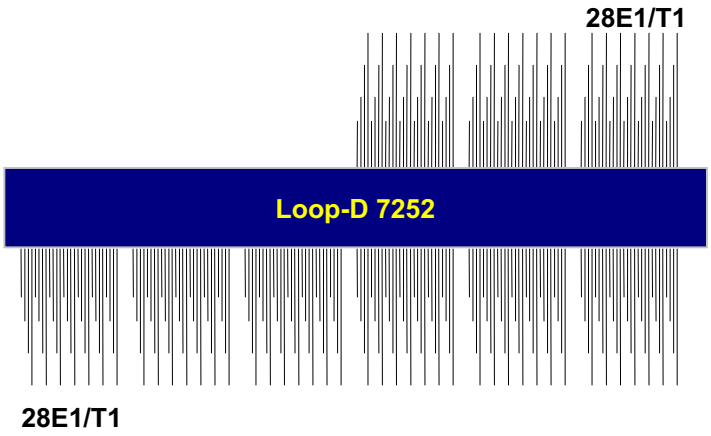
When all 3 pairs are replaced, an E1/T1 to STM1/ OC3 multiplex with built-in cross-connect results.



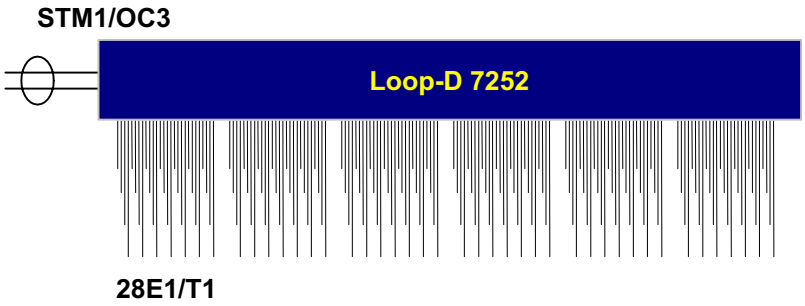
Loop-D 7252 252 Port Cross-Connect

D7252 is a 252 Port Cross-Connect device, with a pair of high-speed ports and nine feeder ports of 28E1/T1.

- High-speed STM1/OC3 optical interface – 1+1 protection
- High density – 28T1, 21 E1– 9 cards max



A single pair of protected STM1/OC3 cards can replace three of the 28E1/T1 cards.



NOTE **Although the D7252 provides no protection for the 28E1/T1 lines, a separate protection box is available that can provide 1 for 6 protection.**

Loop-D 7163 STM1 Mux

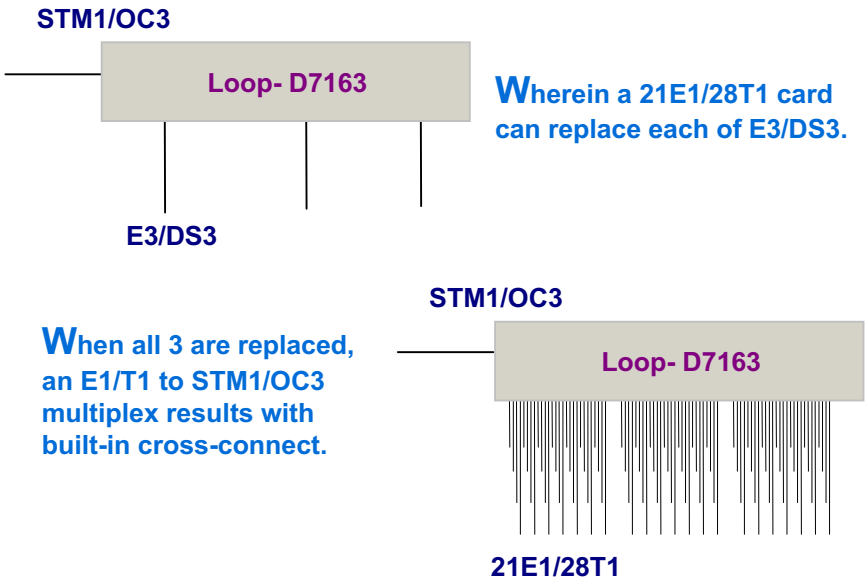
D7163 is a simple access to STM1/OC3, including DS0 cross-connect, with a high-speed port and three feeder ports of E3/DS3, 21E1 or 28T1. Without protection, it is like half of a V4100.

Towards network:

- High-speed STM1/OC3 optical interface

Towards user:

- E3/DS3 electrical or optical interface
- High density – 28T1, 21 E1– 9 cards max



Loop-V 4200-28 IMAP

V4200-28 is an Integrated Multi-service Access Platform access device, including DS0 cross-connect, with a pair of high-speed ports and 28 low-speed ports.

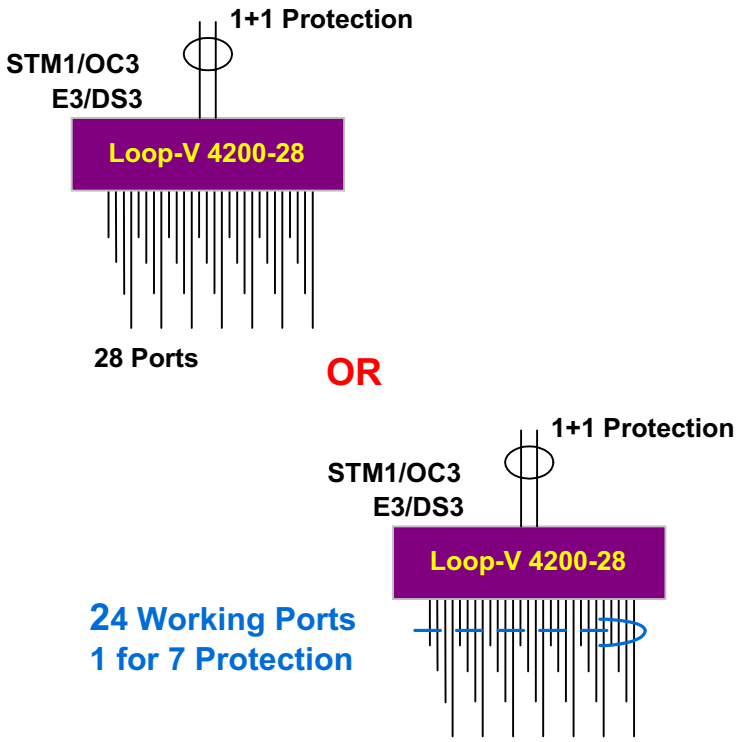
Towards network:

- High-speed STM1/OC3 optical interface – 1+1 protection
- High-speed E3/DS3 electrical or optical interface – 1+1 protection
- Low speed lines – T1, E1
- ATM/Frame Relay – T1, E1
- DDS – OCUDP
- DSL – MDSL

Towards user:

- Low speed lines – T1, E1
- DTE – V.35, EIA530, X.21, RS232
- Router – 10/100 BaseT
- Voice – Quad FXS, Quad FXO, Dual PLAR, Quad E&M

NOTE **Although the V4200-28 can provide direct access from DTE to STM1/OC3, only a third of the STM1/OC3 capacity can be thus accessed.**



Loop-V 4200-9 MuxMaster/ IAD

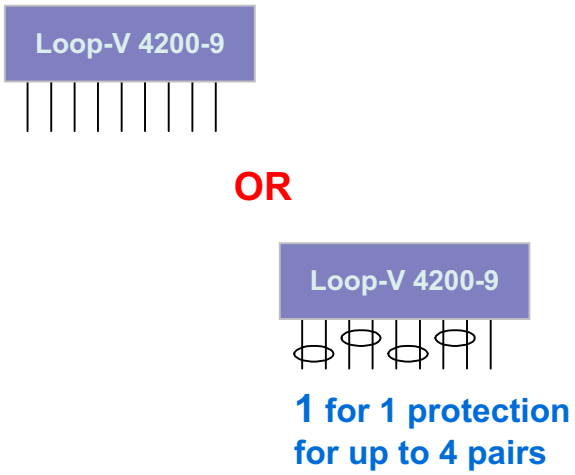
V4200-9 is an Integrated Access Device, including DS0 cross-connect, with 9 low-speed ports. Each of the ports can be

Towards network:

- Low speed lines – T1, E1
- ATM/Frame Relay – T1, E1
- DDS – OCUDP
- DSL – MDSL

Towards user:

- Low speed lines – T1, E1
- DTE – V.35, EIA530, X.21, RS232
- Router – 10/100 BaseT
- Voice – Quad FXS, Quad FXO, Dual PLAR, Quad E&M



Loop-V 4300 MINI DACS

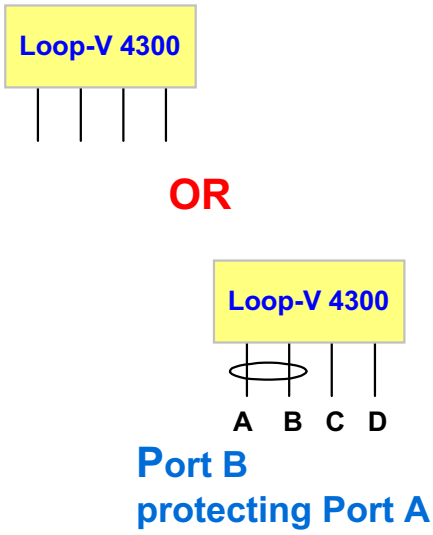
V4300 is a low-end DS0 cross-connect with 4 low-speed ports. Each of the ports can be

Towards network:

- Low speed lines – T1, E1

Towards user:

- Low speed lines – T1, E1
- DTE – V.35

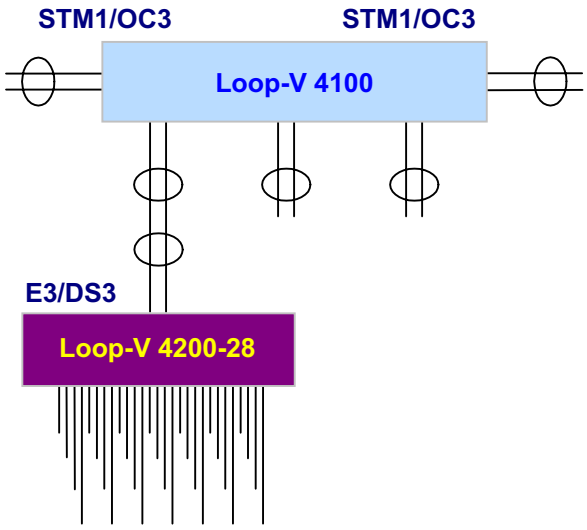


Possible Interconnections

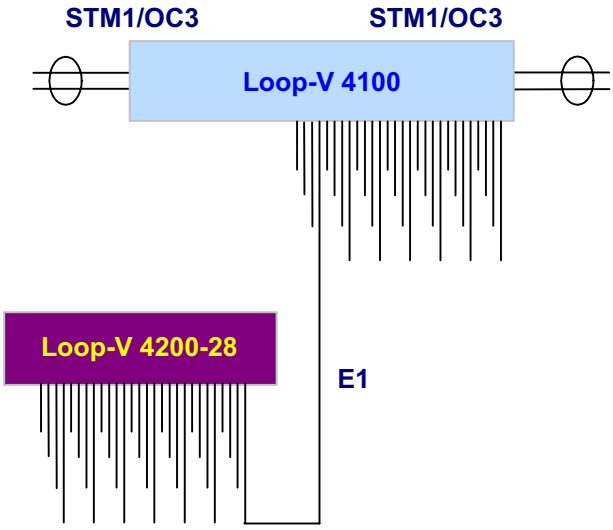
Using the above devices, singly or in combination, a variety of interconnect scenario results. In this section, only the combinations will be illustrated.

V4100 DS0 Access and Cross-Connect

The combination of V4100 and V4200-28 results in full DS0 cross-connect with direct DTE access.

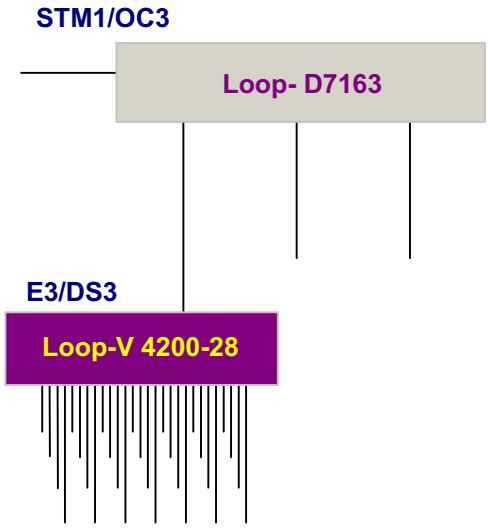


Depending on the number of E1s and single DTE ports desired, the intermediate format can be E1/T1.



D7163 DS0 Access and Cross-Connect

Similarly, using the D7163, two methods are available for DS0 access. Using the E3/DS3 as intermediate format, the following is possible.



Using E1/T1 as intermediate format, any of the DS0 access devices can be used.