

# UDS-119

VSCC30x

Unit Data Sheet

PART NUMBER/ MNEMONIC	NAME	STATUS
3AL 00262 AA/ VSCC301	84VT/12STS Software Programmable Cross-Connect Plug-in Unit	MD. Replaced by 3AL 00262 AB
3AL 00262 AB/ VSCC302	84VT/12STS Software Programmable Cross-Connect Plug-in Unit	Active

## FEATURES AND APPLICATION NOTES

- The VSCC30x is capable of providing the following:
  - Connection of low speed interfaces to high speed (OC3 or OC12 or OC48) interfaces.
  - Connection of high speed interfaces to high speed interfaces.
  - VT grooming on three selected STS1 low speed interfaces and three selected STS1s in each line group.
  - Cross-connection between low speed interfaces.
  - Cross-connection at VT1.5, STS1, and STS3C rates.
  - Ring configuration functionality.
- Software controlled (provisioned by NEP).
- The VSCC301 is functionally identical to the VSCC302. The VSCC302 incorporates some manufacturing improvements which are software-dependent (requires 05.00 or later system software).
- Online diagnostics of functionality during normal operation; supports external processor requests for internal diagnostics and equipment status reporting.
- Controls the A/B switchover function for the VSCC30x units.
- Supports remote inventory function.
- Front mounted LED indicators: green indicates active (traffic carrying) equipment state, and red indicates a failed equipment status.

## DESCRIPTION

The VSCC30x plug-in unit provides a variable (i.e., software provisionable) cross-connect capability for the 1603 SM when operating in OC3 or OC12 or OC48 rates. The VSCC30x can be used to replace permanently provisioned, fixed path cross-connect (VSCC20x) plug-in units or the OC3 variable cross-connect (VSCC101) plug-in units. If OC3 or OC12 or OC48 path

switched ring configurations are required, the 1603 SM must be equipped with the VSCC30x or VSCC501 plug-in unit.

Figure 1 is a functional block diagram of this unit. The primary circuitry consists of a microprocessor control circuitry, program and local memory circuitry, peripheral interfaces, and the VT cross-connect matrix circuitry. The VSCC30x communicates directly with the system NEP through a dedicated link. The software controlled provisioning is downloaded from the NEP and the provisioning data is stored on the centralized database circuitry of the COA.

**Figure 1. VSCC30x, 3AL 00262 Ax, Functional Block Diagram**

There are 36 possible STS1 interfaces supported by the VSCC30x plug-in unit: 12 from the Line Group #1 interface, 12 from the Line Group #2 interface, and 12 from the drop groups. Each of these interfaces has redundant sides, A and B (for a total of 72 possible interfaces). The VSCC30x plug-in unit can provide either the cross-connect of Virtual Tributaries (VTs) or the cross-connect of the STS1 signals between the high speed (OC3 or OC12 or OC48) interfaces and the low speed drop groups.

**NOTE:** *The VSCC30x can support one line group being equipped with OC3 HIF units and the other line group being equipped with OC12 HIF units. Such a configuration is used for OC12 Tapered Route or Mixed Rate Rings (refer to 1603 SM General System Description section for more details).*

The VSCC30x plug-in unit provides two Light Emitting Diode (LED) devices to indicate status conditions. A green LED indicates the unit is currently active (carrying traffic) and a red LED indicates a failed state. The VSCC30x plug-in unit provides online diagnostics of its functionality during normal operation, and a remote processor can request internal diagnostics and status reporting.

Figure 2 shows the signal routing (across backplane interconnections) made from one STS1 source (A and B sides) to one STS1 destination. For the VSCCA to be active, the A facility interfaces must select the A inputs. The NEP software handles the selection and coordinates the selection of the active cross-connect plug-in unit.

**Figure 2. Example of VSCC30x Signal Routing Interconnections**

Figure 3 shows the VSCC301 plug-in unit.

**Figure 3. VSCC301 Plug-in Unit**