

SUPERVISORY UNIT (SV:X0315)
FUNCTIONAL DESCRIPTION

1. GENERAL

- 1.01 This section is a cover sheet for the NEC America, Inc., Supervisory Unit (SV:X0315) Functional Description. This section is reproduced with permission of NEC America, Inc., and is equivalent to NEC practice NECA 365-407-409, Issue 1.
- 1.02 Whenever this section is reissued the reason(s) for reissue will be listed in this paragraph.
- 1.03 This section provides a general description of the Supervisory Unit (SV:X0315-).
- 1.04 If corrections are required in the attached document, use Form-3973 as described in Section 000-010-015.
- 1.05 If equipment design and/or manufacturing problems should occur, refer to Section SW 010-522-906 for procedures on filing an Engineering complaint.

2. ORDER PROCEDURE

- 2.01 The Supervisory Unit (SV:X0315) may be ordered via the Southwestern Inventory Management System (SWIMS).
- 2.02 To order additional copies of this practice, use NECA 365-407-820SW as the section number.

3. REPAIR/RETURN

- 3.01 Malfunctioning units may be returned to NEC America, Inc., for repair.

Attachment: NEC America, Inc.
Supervisory Unit (SV:X0315)
Functional Description

PROPRIETARY

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SUPERVISORY UNIT (SV : X0315)
FUNCTIONAL DESCRIPTION

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◆SUPERVISORY UNIT (SV:X0315)◆
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1. GENERAL

1.01 This practice provides a general description of Supervisory unit (SV X0315-) and contains the following information.

- (1) Description
- (2) Functional operation
- (3) Controls and indicators
- (4) Strapping selection

1.02 Whenever this practice is reissued, the reason for reissue will be listed in this paragraph.

2. DESCRIPTION

2.01 This unit consists of three epoxy-glass printed wire boards (PWB); main assembly, sub-1 assembly and sub-2 assembly and associated circuit components. Printed circuit wiring is etched on both sides of the PWB. On the left side surface of the board (viewed from front), the components are located. Flat jumper cable with connectors are used for connection between these PWBs.

2.02 LEDs indicating the operational status are located on the front edge of this unit.

2.03 This unit is used only when the high speed connection is optical interface. This unit is mounted in the FD-2240A E8980A shelf with a back board connector J5. The unit inputs and outputs are terminated at the connector on the rear of the main PWB.

2.04 The unit designation, unit code, manufacturing date and serial number are printed on the right side surface of the main board connector.

2.05 The lower front edge of the main board is fitted with ejector to facilitate insertion and removal of the board from the shelf. A CLEI and bar code label is placed on the surface of the main board ejector.

3. FUNCTIONAL OPERATION

3.01 The SV unit latches 8-bit information in the latch circuit, by latch signal from the ALM unit. 8-bit information are sent from the ALM unit through XMT SV bus line 0-7. And the latched information are P/S converted (parallel to serial) and are sent to the 6M OPT INF unit. At the 6M OPT INF unit, signals from the SV unit are inserted in the data stream by Code Rule Violation (CRV) and are sent out to the optical line.

At the receive side, the information from the 6M OPT INF unit are S/P converted (serial to parallel). 8-bit information are then latched and read in the ALM unit by the STRB signal from the ALM unit. See Figure 3-1 for block diagram of this unit.

A. XMT Path

3.02 Data on the bus lines sent out from the ALM unit are latched 8 bit by 8 bit in the latch circuits 1-6 according to the XMT SV Strobe signals 0 - 5. (One SV unit is mounted in the shelf of this equipment and is capable to send out 24/system alarm information when in redundant configuration and 16/system alarm information when in non-redundant configuration.)

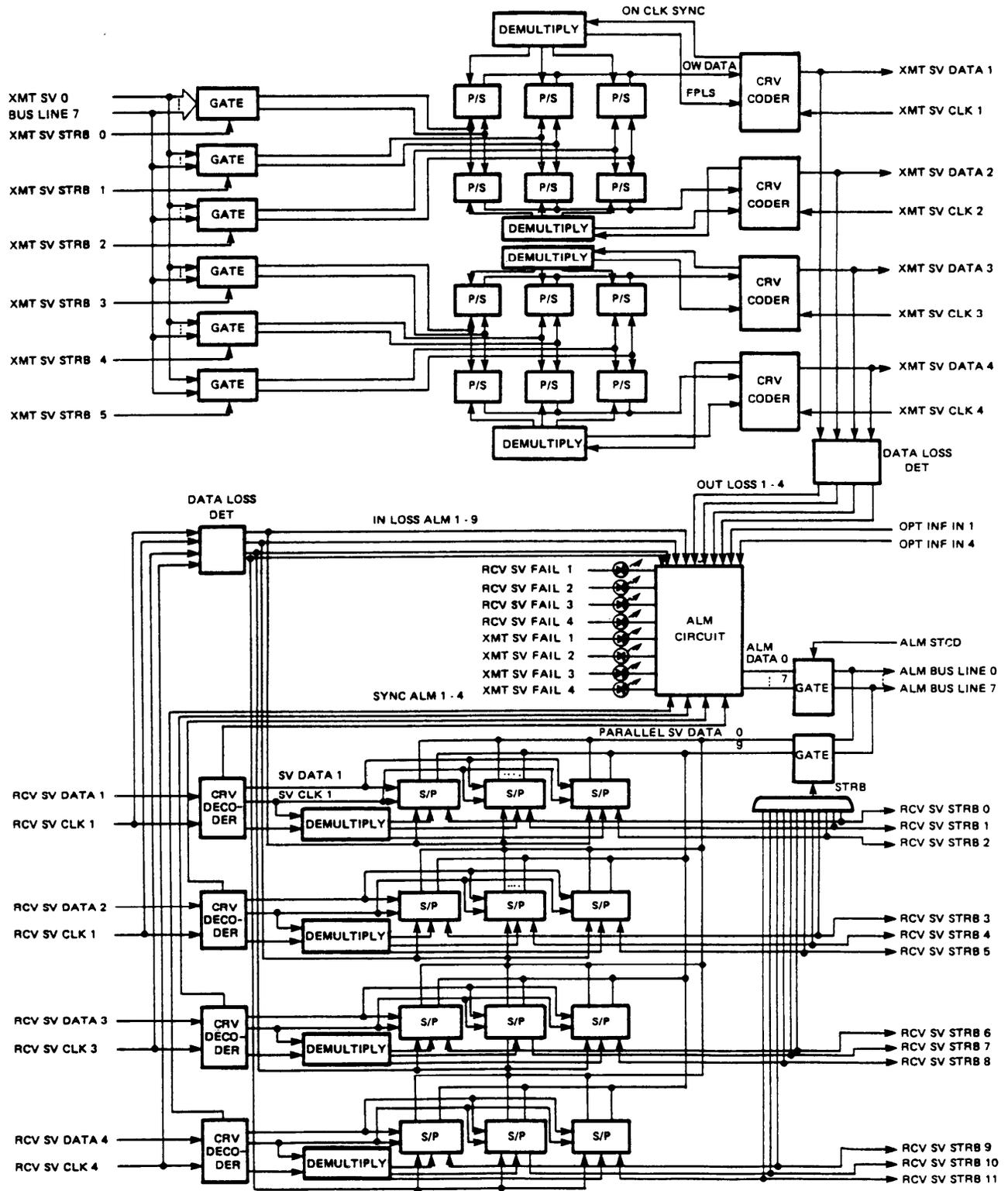


Figure 3-1 SV Unit Block Diagram

3.03 Outputs from the latch circuits 1 - 6 are fetched in P/S converter section and are converted into 8-bit serial data. These data are sent to the CRV coder by the STRB signal and select signal which are coming from demultiply circuits. As the data are output by two times from the P/S CONV section, the CRV coder fetches such data in a cycle of 48 bits.

3.04 The CRV coder structures the input data into a frame and sends it to the 6M OPT INF unit.

B. RCV Path

3.05 RCV SV data and RCV SV clock coming from the 6M OPT INF unit are fetched in the CRV decoder and SV serial data, clock and synchronizing pulse are taken out. Outputs from the CRV decoder are converted into 8-bit parallel data by the S/P CONV section and are sent out to the ALM bus lines under the control of RCV SV STRB signals 0 - 11 which are output from the ALM unit.

C. ALM Function

3.06 The ALM circuit monitors status within the unit and input and output signals. When ALM STRB signal is sent from the ALM unit, this circuit outputs the monitor information in 8-bit parallel data to the ALM bus lines. When an alarm condition occurs, the ALM function lights XMT 1 - 4 FAIL and RCV 1 - 4 FAIL LEDs and indicates alarm status according to the system.

4. INDICATORS

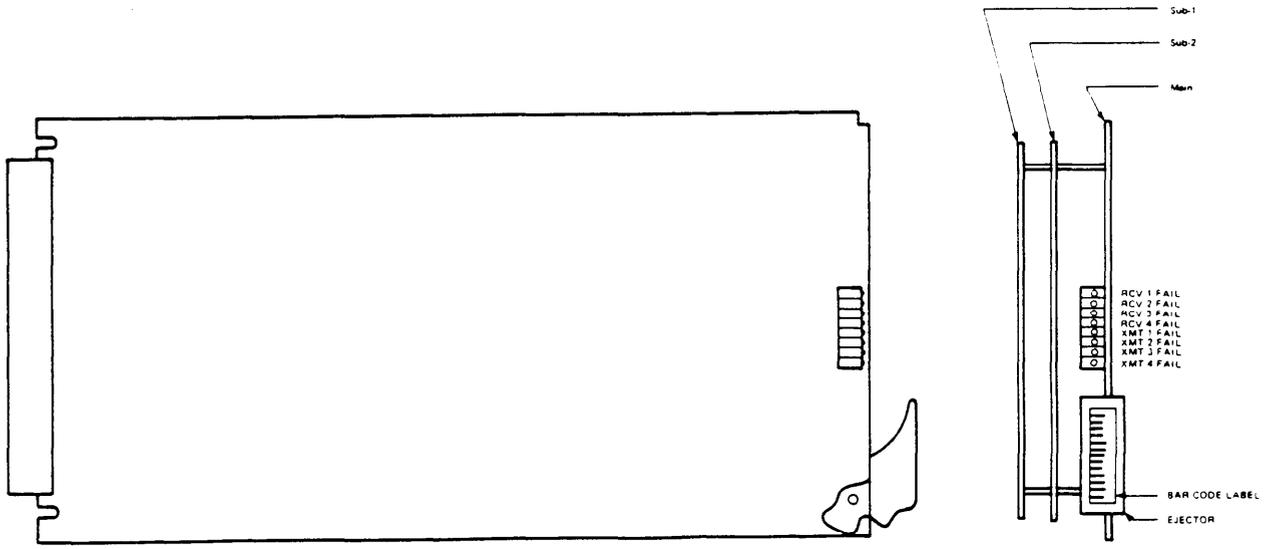
4.01 Table 4-1 and Figure 4-1 show LED indicators on the SV unit. Physical location of these indicators is shown in Figure 4-1.

Table 4-1
SV Unit Indicators

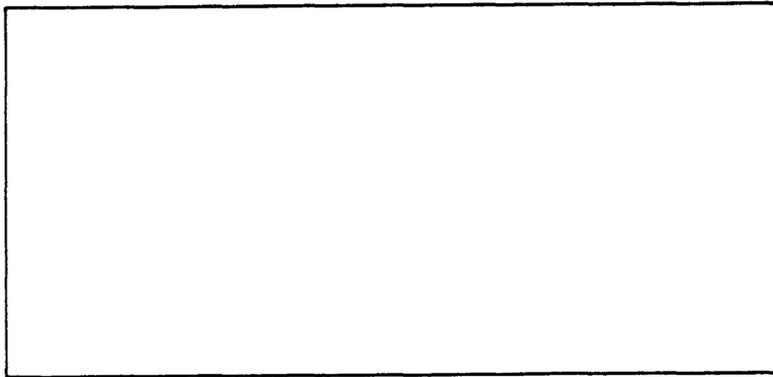
| Feature | Type | Indicator | Function |
|---------|---------|------------|---|
| Alarm | Red LED | RCV 1 FAIL | ALM LED of the system lights when an alarm information exists in the system while monitoring RCV SV data. |
| | | RCV 2 FAIL | |
| | | RCV 3 FAIL | |
| | | RCV 4 FAIL | |
| | | XMT 1 FAIL | ALM LED of the system lights when an alarm information exists in the system while monitoring XMT SV data. |
| | | XMT 2 FAIL | |
| | | XMT 3 FAIL | |
| | | XMT 4 FAIL | |

5. STRAPPING SELECTION

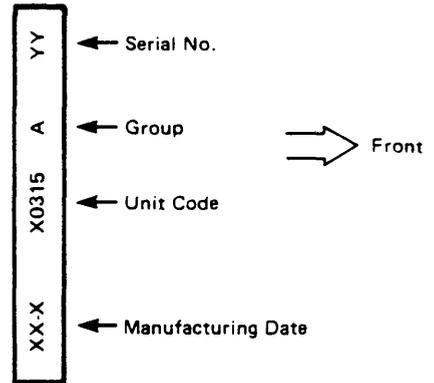
5.01 There is no strapping location on this unit.



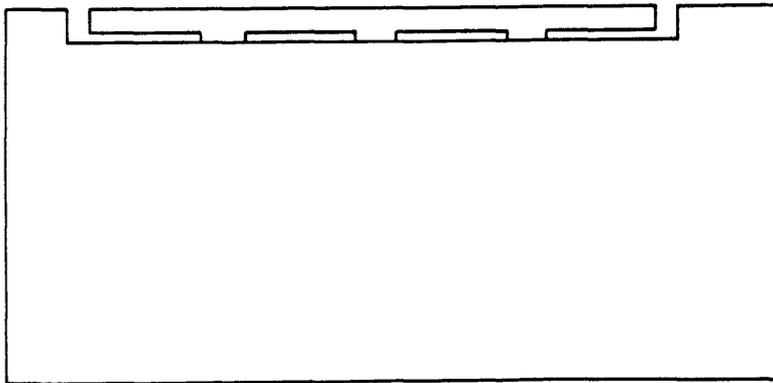
MAIN ASSEMBLY BOARD



SUB-1 ASSEMBLY BOARD



NOTE: Printed on the right side surface of the main board connector.



SUB-2 ASSEMBLY BOARD

Figure 4-1 SV Unit Indicators