27-4. Remote Node Cabinet Components

The Ovation Remote Node cabinet, located remotely from the Controller cabinet (refer to Figure 27-5) contains the following:

- Power Supply - DIN Rail Mounted. Generates +24V to power the electronics in the Remote Node Cabinet, as well as +24V auxiliary power. Two are required for redundancy.
- Remote Node Controller (RNC) Module - Provides a point of attachment for remote I/O media used to transfer messages between the remote node and the MAU. There are only two Remote Node Controller Modules per remote node (one primary, one backup), regardless of the number of cabinets at the node. The module translates messages from the remote I/O bus into local I/O bus cycles that can be directed to as many as eight branches of local I/O modules (refer to Figure 27-6).

  The following components comprise the Remote Node Controller Module:

  — Remote Node Electronics Module (1C31203) - Houses the Remote Node Logic Board (LND) and the Remote Node Field Board (FND). The electronics module prepares messages received from the remote I/O Controller for the local I/O modules at the remote node. When an I/O module responds to the message, the module prepares the response to be sent back to the Controller over the fiber-optic media. The LND provides +5V power for the module.

  — Remote Node Personality Module (1C31204G01 for 850 nm optics/ 1C31204G03 for 1300 nm optics) - Houses the Remote Node Personality Board (PAU) which provides connectors for the media used to transmit and receive remote messages between the Controller and remote node. Group 1 modules provide fiber-optic connections; (future plans are that group 2 modules provide an AUI port used to connect to third party transceivers). Power supply monitoring circuitry of the +24V redundant supplies is located on this module and is reported back to the electronics module to flag failure of the primary or backup supply.

  — Remote Node Controller Base (1C31205) - This unique base holds a maximum of two Remote Node Modules and interfaces directly to two I/O branches. It provides a rotary switch for node addressing and a D-connector for interfacing to as many as six additional I/O branches using a local I/O communications cable. The RNC base unit is connected to the Remote Node Transition Panel described below.

Emerson Process Management Proprietary Class 2C

- Remote Node Transition Panel (TND - 4D33924) - Interconnects the RNC base, Remote Power Supply Module (if used), and the branches of local I/O in a single Remote Node cabinet. The Remote Node Transition Panel (TND) also provides connectors for DIN Rail Mounted +24V Supplies or auxiliary supplies to be wired into the remote node (refer to Figure 27-7).

- Remote Node Electronics Module (1C31203G01) - Houses the Remote Node Logic Board (LND) and the Remote Node Field Board (FND). The electronics module prepares messages received from the remote I/O Controller for the local I/O modules at the remote node. When an I/O module responds to the message, the module prepares the response to be sent back to the Controller over the fiber-optic media. The LND provides +5V power for the module.

- Remote Node Controller Base (1C31205G01) - This unique base holds a maximum of two Remote Node Modules and interfaces directly to two I/O branches. It provides a rotary switch for node addressing and a D-connector for interfacing to as many as six additional I/O branches using a local I/O communications cable. The RNC base unit is connected to the Remote Node Transition Panel described below.

- Power Distribution Module (PDM - 5A26304) - Provides connectors for cables used to distribute +24V to the Redundant RNC, and +24V and auxiliary power to the branches of I/O (refer to Figure 27-9).

- Standard I/O Modules and Base - Standard Ovation I/O modules which interface to remote field devices when placed in the Remote Node cabinet (refer to Figure 27-10).

- Relay Output Module and Base - Relay Output I/O modules which interface to remote field devices when placed in the Remote Node cabinet (refer to Figure 27-11).

- I/O Transition Panel (ROP - 4D33922) - Connects to two branches of I/O, providing a point to bring in +24V redundant power, auxiliary power, and the local I/O communications bus (refer to Figure 27-12).

  Connections are provided on the I/O Transition Panel to daisy-chain the local I/O communications bus from one ROP to the next (up to eight I/O branches **maximum** may be daisy-chained together as described in Section 27-8.4).

- Relay Base Transition Panels
  (Top - RRP 3A99252; Bottom - RRB 3A99253) - Used with Relay Output modules for a single I/O branch of up to eight relay bases.

Emerson Process Management Proprietary Class 2C

Supplies +24V redundant power, auxiliary power, and local communications bus to the branch. Mounted at the top/bottom of the extended cabinet (refer to Figure 27-13). Only one I/O branch is used and branches 2 through 8 are passed on.

- I/O Branch Terminator Board A or B (1B30023) - Connects to the A/B-side of a standard I/O base at the end of a branch to terminate the I/O bus. Refer to Figure 27-5 to identify the A/B-side of an I/O base.