MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GENERAL ELECTRIC

IS200TVIBH2BBB

VIBRATION INPUT TERMINAL BOARD

Used with the applicable Mark VI TVIB H2B configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Mark VI TVIB H2B applicable documentation; full suffix and installed execution require matching

VVIB Vibration Monitor Board

VVIB Vibration Monitor

Functional Description

The Vibration Monitor (VVIB) board processes vibration probe signals from the TVIB or DVIB terminal board. Up to 14 probes connect directly to the terminal board. Two TVIB can be cabled to the VVIB processor board. VVIB digitizes the various vibration signals, and sends them over the VME bus to the controller. The Mark* VI system uses Bently Nevada* probes for shaft vibration monitoring. The following vibration probes are compatible:

- Proximity
- Velocity
- Acceleration
- Seismic
- Phase

Note If desired, a Bently Nevada 3500 monitoring system can be connected to the terminal board.

Vibration probes are normally used for four protective functions in turbine applications as follows:

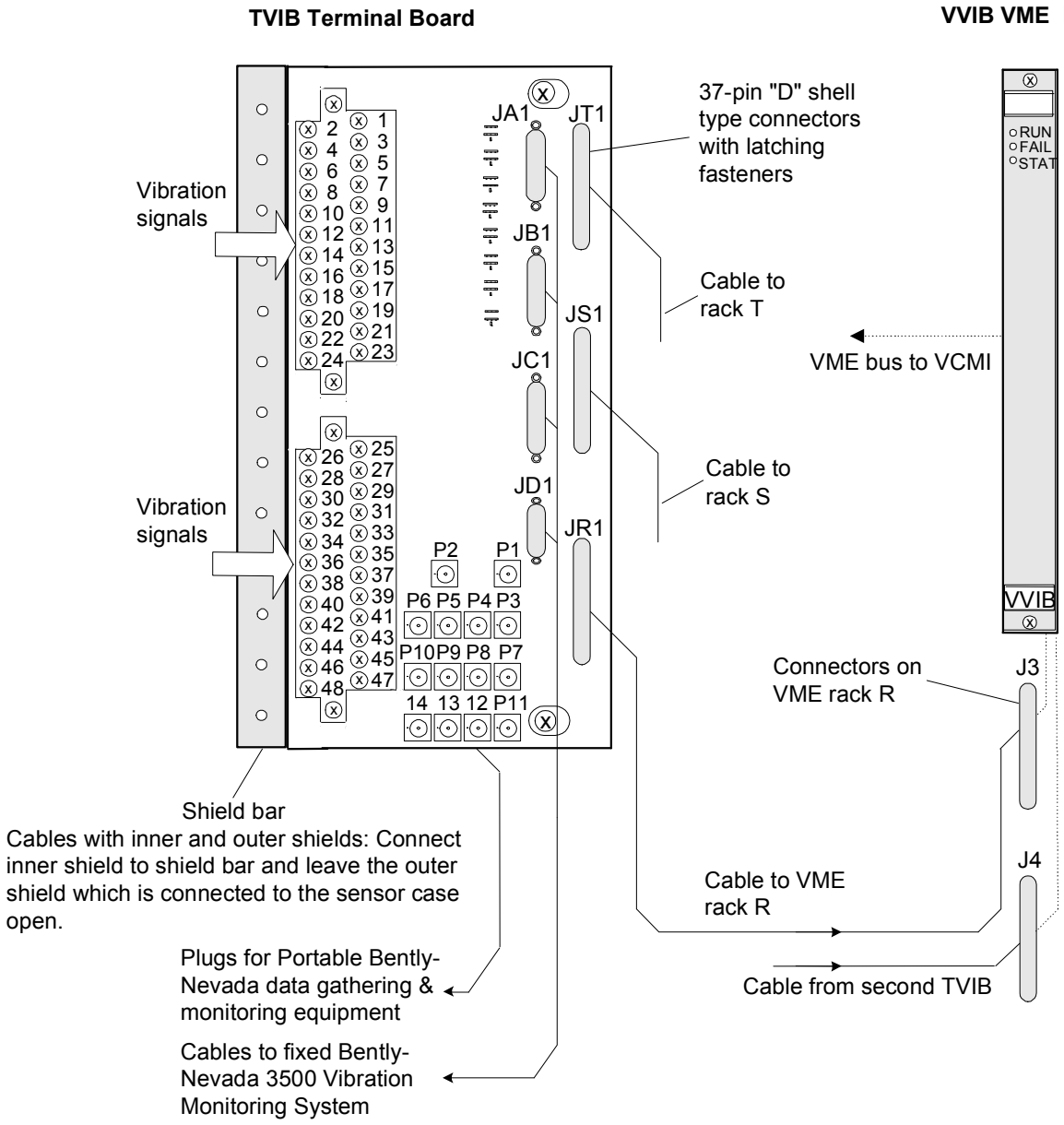
Vibration: Proximity probes monitor the peak-to-peak radial displacement of the shaft (the shaft motion in the journal bearing) in two radial directions. This system uses non-contacting probes and Proximitors®, and detects alarms, trips, and faults.

Rotor Axial Position: A probe is mounted in a bracket assembly off the thrust bearing casing to observe the motion of the thrust collar on the turbine rotor. This system uses non-contacting probes and Proximitors, and detects thrust bearing wear alarms, trips, and faults.

Differential Expansion: This application uses non-contacting probe(s) and Proximitor(s) and detects alarms, trips, and faults for excessive expansion differential between the rotor and the turbine casing.

Rotor Eccentricity: A probe is mounted adjacent to the shaft to continuously sense the surface and update the turbine control. The calculation of eccentricity is made once per revolution while the turbine is on turning gear. Alarm and fault indications are provided.

There are two types of TVIB terminal boards, H1A and H2A. The H2A type board has BNC connectors allowing portable vibration data gathering equipment to be plugged in for predictive maintenance purposes. Both types have connectors so that Bently Nevada vibration monitoring equipment can be permanently cabled to the terminal board to measure and analyze turbine vibration.



Vibration Processor Board, Terminal Board, and Cabling

Installation

➢ **To install the V-type board**

1 Power down the VME processor rack

2 Slide in the board and push the top and bottom levers in with your hands to seat its edge connectors

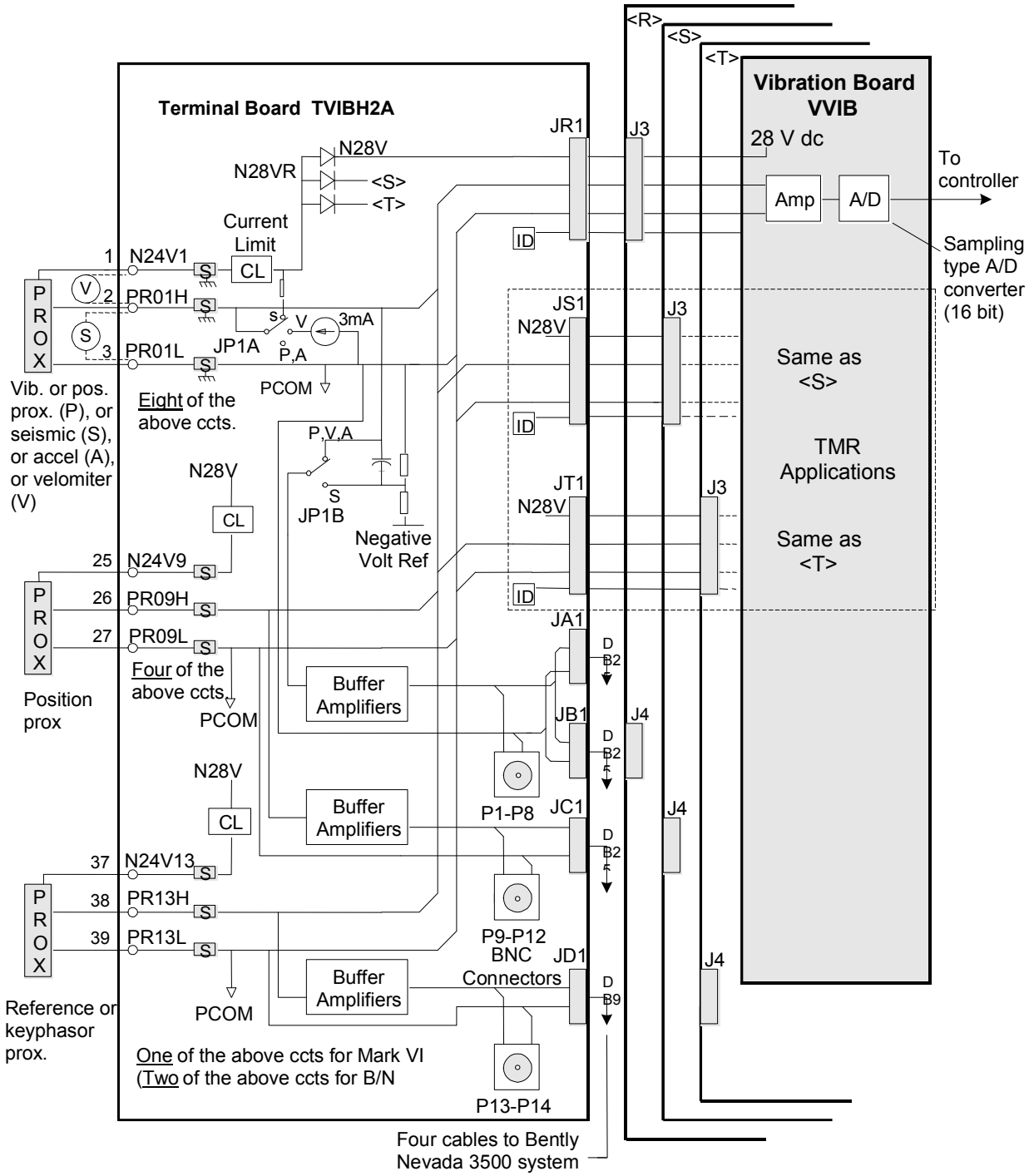
3 Tighten the captive screws at the top and bottom of the front panel

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Note Cable connections to the terminal boards are made at the J3 and J4 connectors on the lower portion of the VME rack. These are latching type connectors to secure the cables. Power up the VME rack and check the diagnostic lights at the top of the front panel. For details, refer to the section on diagnostics in this document.

Operation

The terminal board supports Proximitor, Seismic, Accelerometer, and Velomitor® probes of the type supplied by Bently Nevada. Power for the vibration probes comes from the VVIB boards, in either simplex or TMR mode. The probe signals return to VVIB where they are A/D converted and sent over the VME bus to the controller.



VVIB Processor, Vibration Probes, and Bently Nevada Interface, TMR system