

APPLICATION NOTE



KEPCO An ISO 9001 Company.

BOP
005

How to Disable BIT card in BOP models with BIT 802E or 4886 cards installed

I — INTRODUCTION

BOP models with BIT 802E cards installed allow digital control via LAN; BOP models with BIT 4886 cards installed allow digital control via GPIB. In order to use analog control, the digital control BIT card must first be disabled as described in this application note.

When installed and enabled, the digital BIT card takes control over the references for all BOP control loops: voltage, current, voltage limit and current limit. In addition, local/ front panel control is disabled. Therefore, all the applications/configurations described in the Operation sections of the BOP 100W, 200W, 400W Operator Manual (P/N 243-1308) can not be used while the digital card is enabled.

NOTE: When connecting multiple units in parallel or series, the slave units MUST have the BIT card disabled.

If digital control of the connected units is needed, refer to Figure 3 for parallel connections and Figure 4 for series connections.

If digital control is not needed, disable both master and slave digital cards and refer to the appropriate connection diagrams in the BOP 100W, 200W, 400W Operator Manual (P/N 243-1308) since these diagrams are now valid once master and slave digital cards are disabled.

When multiple units are under digital control, the digital readback is for the master only. A good approximation for total output current of parallel configurations using two units or channels is to double the readback current (readback voltage is accurate). Similarly, a good approximation for total output voltage of series configurations using two units or channels is to double the readback voltage (readback current is accurate).

If needed, the BOP 2X-D Operator Manual can be downloaded from the Kepco web site at www.kepcopower.com/support/opmanls.htm#bop

II — DISABLING PROCEDURE.

The following procedure can be used for BOP models with a BIT 802E or Bit 4886 card installed.

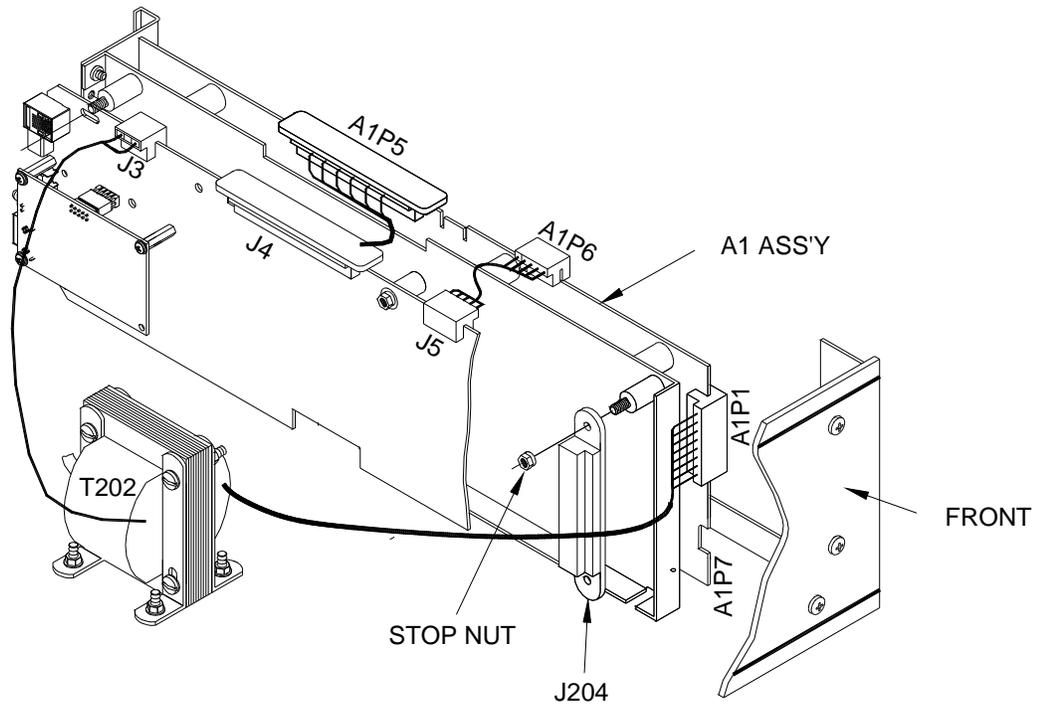
1. Disconnect the unit from AC source power.
2. Remove the top cover.
 - BOP Full rack: remove 20 screws: nine (9) at each side, one at the top and one at the front.
 - BOP 3/4 rack remove 11 screws: five (5) at each side and one at the top.
 - Save screws for reassembly.
3. Tag and remove the cable between BIT card J4 edge connector and A1P5 edge connector (see Figure 1). Store in a marked container and save for future BIT card enabling.
4. Locate the cable from the Auxiliary Transformer T202 to BIT card J3 edge connector (see Figure 1). Move the connector from BIT card J3 to A1P7 edge connector (see Figure 2). This stores the unused cable/connector while the BIT card is disabled.
5. Locate Connector Assembly J204 P/N 241-0680 (see Figure 1) which is stored as an accessory on the bracket associated with A1. Remove the stop nut securing J204 to the bracket standoff then remove J204 Connector assembly and reinstall the stop nut on the standoff.
6. Install J204 Connector assembly onto A1 assembly at A1P5 (see Figure 2)..
7. Reinstall top cover.
8. Mark unit DIGITAL CONTROL DISABLED. It is advisable to note the storage location of the cable removed in step 3 and keep either the cable or the notation with the unit to facilitate future enabling of the digital card

NOTE: With digital control disabled, the application schematic diagrams found in the Operation Section of the BOP 100W, 200W, 400W Operator Manual are valid.

III — ENABLING PROCEDURE.

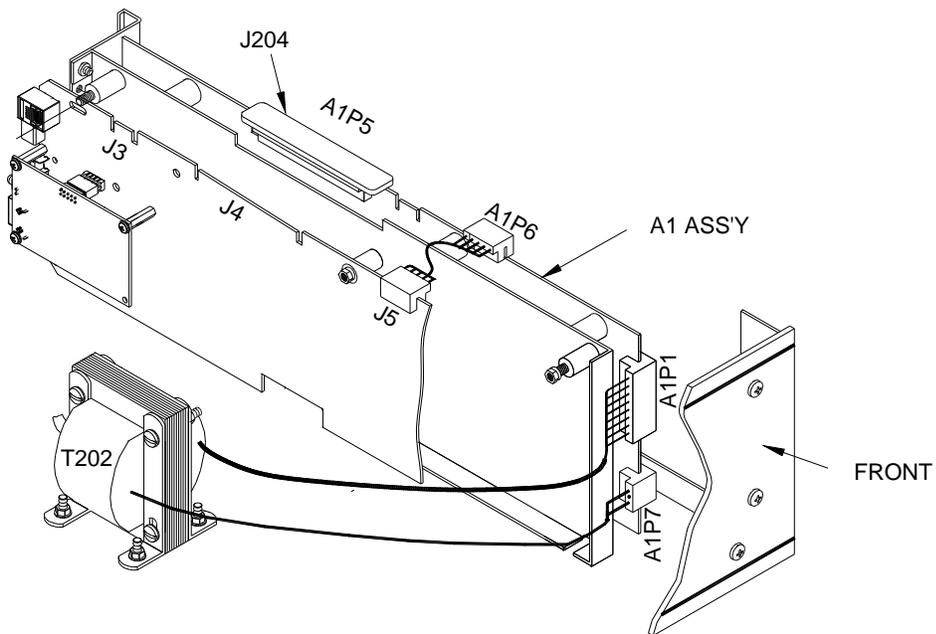
1. Disconnect the unit from AC source power.
2. Remove the top cover.
 - BOP Full rack: remove 20 screws: nine (9) at each side, one at the top and one at the front.
 - BOP 3/4 rack remove 11 screws: five (5) at each side and one at the top.
 - Save screws for reassembly.
3. Remove connector J204 from A1P5 (see Figure 2) and secure on bracket using stop nut as shown in Figure 1
4. Obtain cable assembly removed during disabling and install between BIT card J4 and A1P5 per the tags on the cable assembly (see Figure 1).
5. Disconnect cable connector from A1P7 and install on BIT card at J3 (see Figure 1).
6. Reinstall top cover. Remove marking that unit or digital channel(s) are disabled.

NOTE: With digital control enabled, the application schematic diagrams found in the Operation Section of the BOP 100W, 200W, 400W Operator Manual are NOT valid.



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BIT CARD ENABLED
FIGURE 1. BIT CARD ENABLED (TYPICAL)



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FIGURE 2. BIT CARD DISABLED (TYPICAL)

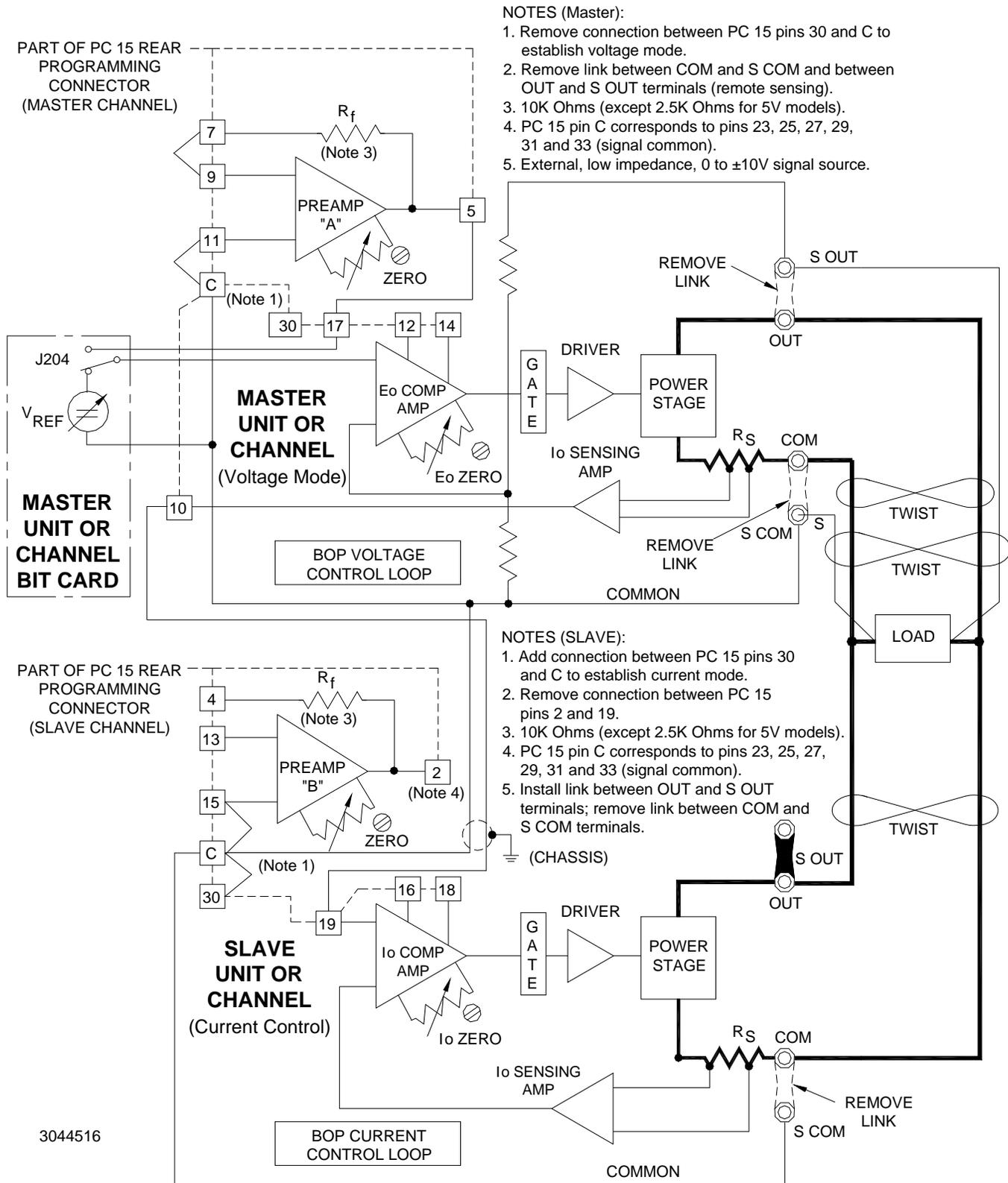


FIGURE 3. PARALLEL CONNECTIONS, MASTER/SLAVE WITH DIGITAL CONTROL OF MASTER, REMOTE ERROR SENSING, SLAVE BIT CARD DISABLED (APPLIES TO BIT 100W, 200W, 400W UNITS AND BOP 2X-DE CHANNELS)

