

APPLICATION NOTE



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BOP
006

How to Disable BIT card in BOP 2X-DE Models

I — INTRODUCTION

BOP 2X models with DE suffix include two factory-installed BIT 802E cards for digital control via LAN of each channel. In order to use analog control of a channel, the digital control BIT card must first be disabled as described in this application note.

When enabled for a channel, the digital BIT card takes control over the references for all BOP control loops: voltage, current, voltage limit and current limit. Therefore, all the applications/configurations described in the Operation section of the BOP 2X Series Operator Manual (P/N 243-1387) can NOT be used while the digital card is enabled.

NOTE: When channels are connected in parallel or series, the slave channels MUST have the BIT card disabled. If digital control of the connected channels is needed, refer to Figure 4 for parallel connections and Figure 5 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 2X Series Operator Manual (P/N 243-1387) since these are now valid once master and slave digital cards are disabled.

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

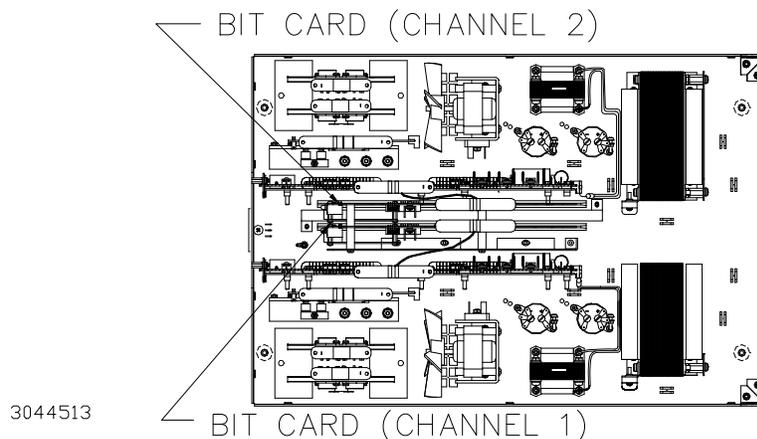


FIGURE 1. BIT CARD LOCATION

If needed, the BOP 2X-D Operator Manual can be downloaded from the Kepco web site at www.kepcopower.com/support/opman1s.htm#bop-2x

II — DISABLING PROCEDURE.

The following procedure can be used for BOP 2X models with DE suffix. Refer to Figure 1 for channels 1 and 2 BIT card locations.

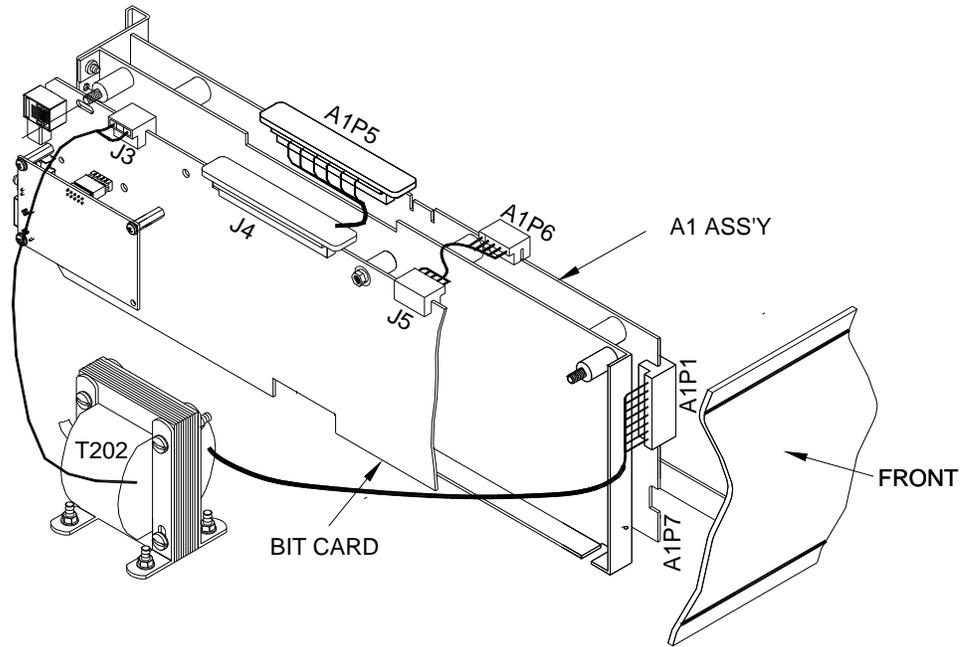
1. Disconnect the unit from AC source power.
2. Remove the top cover.
 - Remove 21 screws: six (6) securing the mounting ears, three (3) at each side (bottom), two (2) at each side (rear) and three (3) at the top rear and two (2) at the top front.
 - Save screws for reassembly.
3. Tag and remove the cable between BIT card J4 edge connector and A1P5 edge connector (see Figure 2). 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 2). Move the connector from BIT card J3 to A1P7 edge connector (see Figure 3). This stores the unused cable/connector while the BIT card is disabled.
5. Obtain Connector Assembly J204 P/N 241-0680. If necessary **contact Kepco** (please provide serial number):.
6. Install J204 Connector assembly onto A1 assembly at A1P5 (see Figure 3)..
7. Repeat steps 3 through 6 above for the other channel if desired to disable both channels.
8. Reinstall top cover.
9. Mark channel(s) DIGITAL CONTROL DISABLED as appropriate. 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 2X Operator Manual, P/N 243-1387, are valid.

III — ENABLING PROCEDURE.

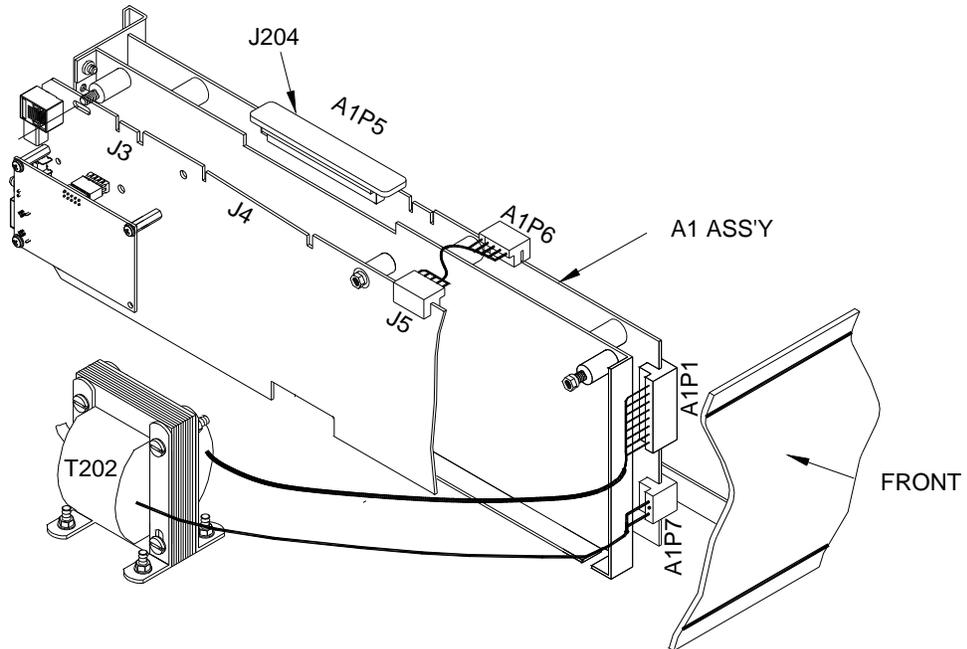
1. Disconnect the unit from AC source power.
2. Remove the top cover.
 - Remove 21 screws: six (6) securing the mounting ears, three (3) at each side (bottom), two (2) at each side (rear) and three (3) at the top rear and two (2) at the top front.
 - Save screws for reassembly.
3. Remove connector J204 from A1P5 (see Figure 3) and store in a marked container for future BIT card enabling.
4. Obtain cable assembly removed during disabling and install between BIT card J4 and A1P5 per the tags on the cable assembly (see Figure 2).
5. Disconnect cable connector from A1P7 and install on BIT card at J3 (see Figure 2).
6. Reinstall top cover. Remove marking that digital channel(s) are disabled.

NOTE: With digital control enabled, the application schematic diagrams found in the Operation Section of the BOP 2X Operator Manual, P/N 243-1387, are NOT valid.



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FIGURE 2. BIT CARD ENABLED (TYPICAL)



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FIGURE 3. BIT CARD DISABLED (TYPICAL)

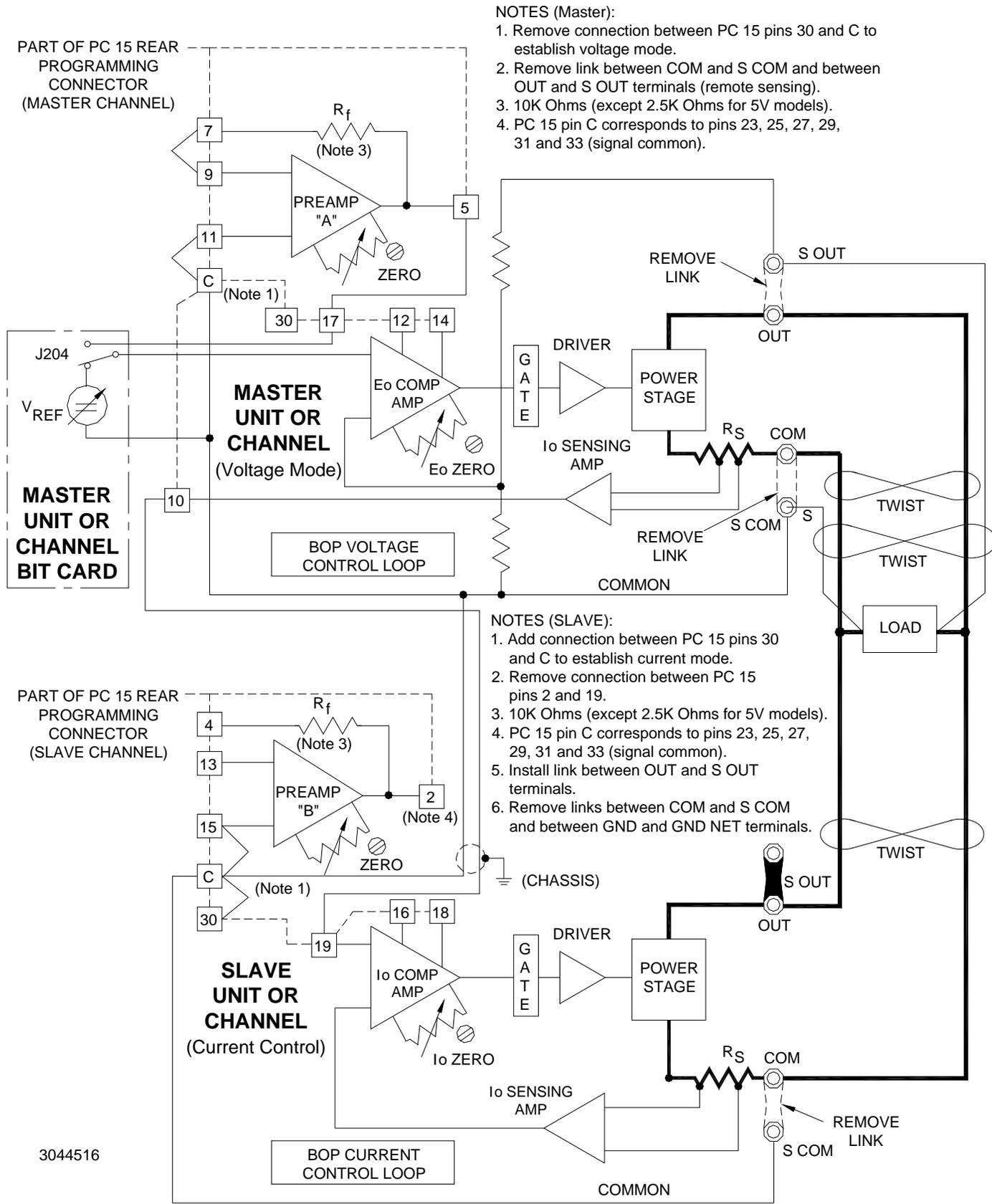


FIGURE 4. PARALLEL CONNECTION, VOLTAGE MODE (SHOWN) MASTER/SLAVE WITH DIGITAL CONTROL OF MASTER, REMOTE ERROR SENSING, SLAVE BIT CARD DISABLED (APPLIES TO BOP 2X-DE CHANNELS)

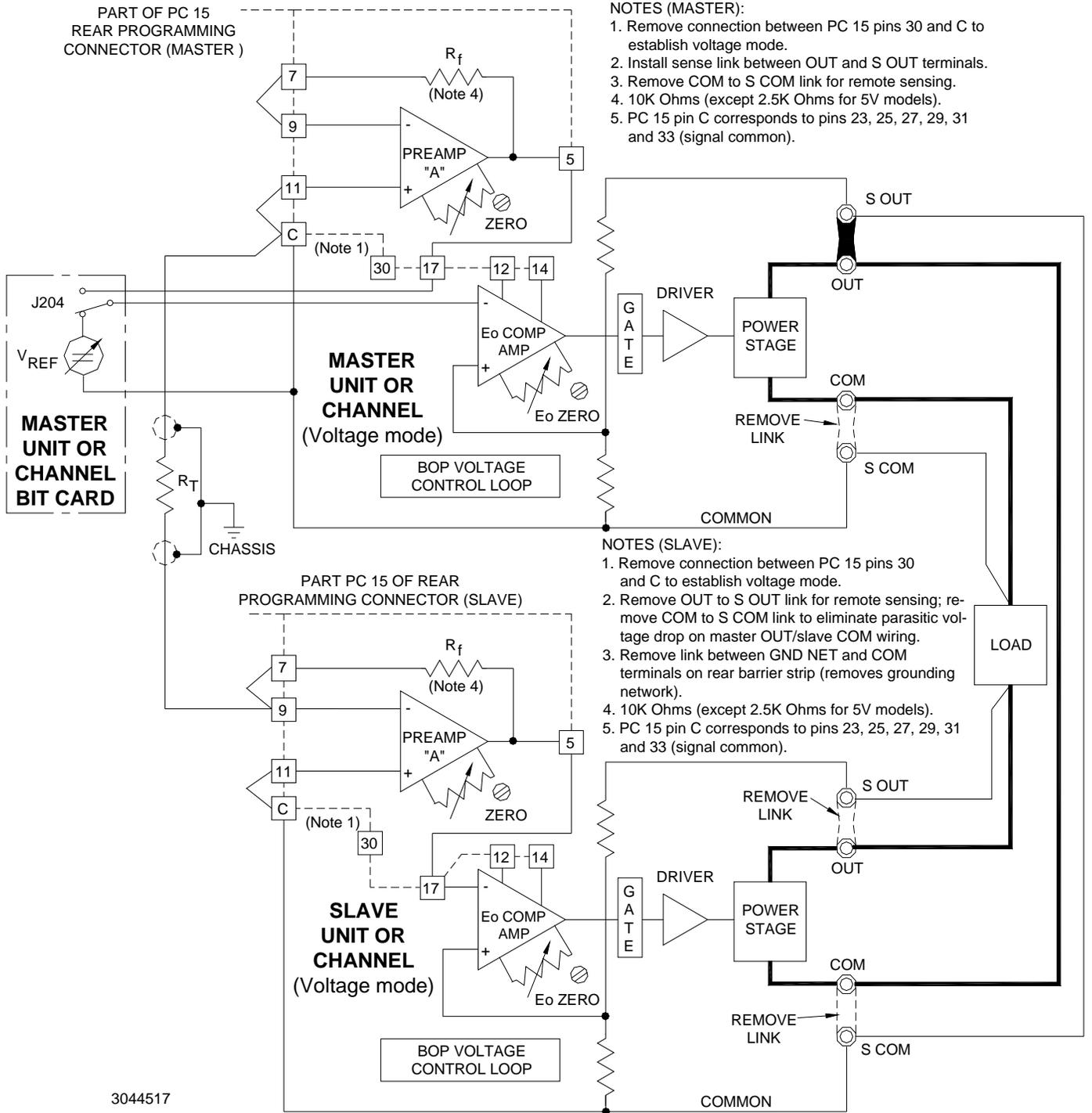


FIGURE 5. SERIES CONNECTION, VOLTAGE MODE (SHOWN), MASTER/SLAVE WITH DIGITAL CONTROL OF MASTER, REMOTE ERROR SENSING, SLAVE BIT CARD DISABLED (APPLIES TO BOP 2X-DE CHANNELS)

