Technical Support Bulletin: S3-FRPIOIC-02

Field Replacement of the BVS-S3 PIO IC on Controller Board

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This procedure outlines the steps required to replace the PIO IC in the BVS-S3 with the BTECH Controller Board #910049-XX.

ELECTROCUTION HAZARD!

High voltage is present within the BVS chassis. The voltage sensing leads and load current leads carry full battery voltage. Battery Voltage can be as high as 600Vdc depending on the battery system! If you are not trained to work with high voltage equipment, do not attempt to use this procedure!

1. Ensure the customer has downloaded the results from the latest autoread, and all power outage data. If not, download the data into the laptop. If no laptop is available, turn on the printer, and print the data on a tape.
2. Turn on the printer, enter Calibration Mode (BBADD), and press the star (*) key. This will print a report showing the status of the Short Hit Alarm Function, the value of the Power Out Interval, all Impedance Multipliers, the Temperature Scale, and whether the BVS is set for Initial or Average Impedance Mode. This report will be used in Step 13 below.
3. Press # to return to the Normal Mode. Record the following by interrogating the BVS through the keypad (or Keypad Mode in the BVM software):

    - C = Location Code _____
    - D = Dial Out Phone Number _____
    - 0 = Current Date and Time***** _____
    - 1 = Next Auto Read Date and Time _____
    - 2 = Auto Read Interval _____
    - 3 = Battery Upper Voltage Limit _____
    - 4 = Battery Lower Voltage Limit _____
    - 6 = Unit Upper Voltage Limit _____
    - 7 = Unit Lower Voltage Limit _____
    - 8 = Unit Maximum % Impedance Limit _____

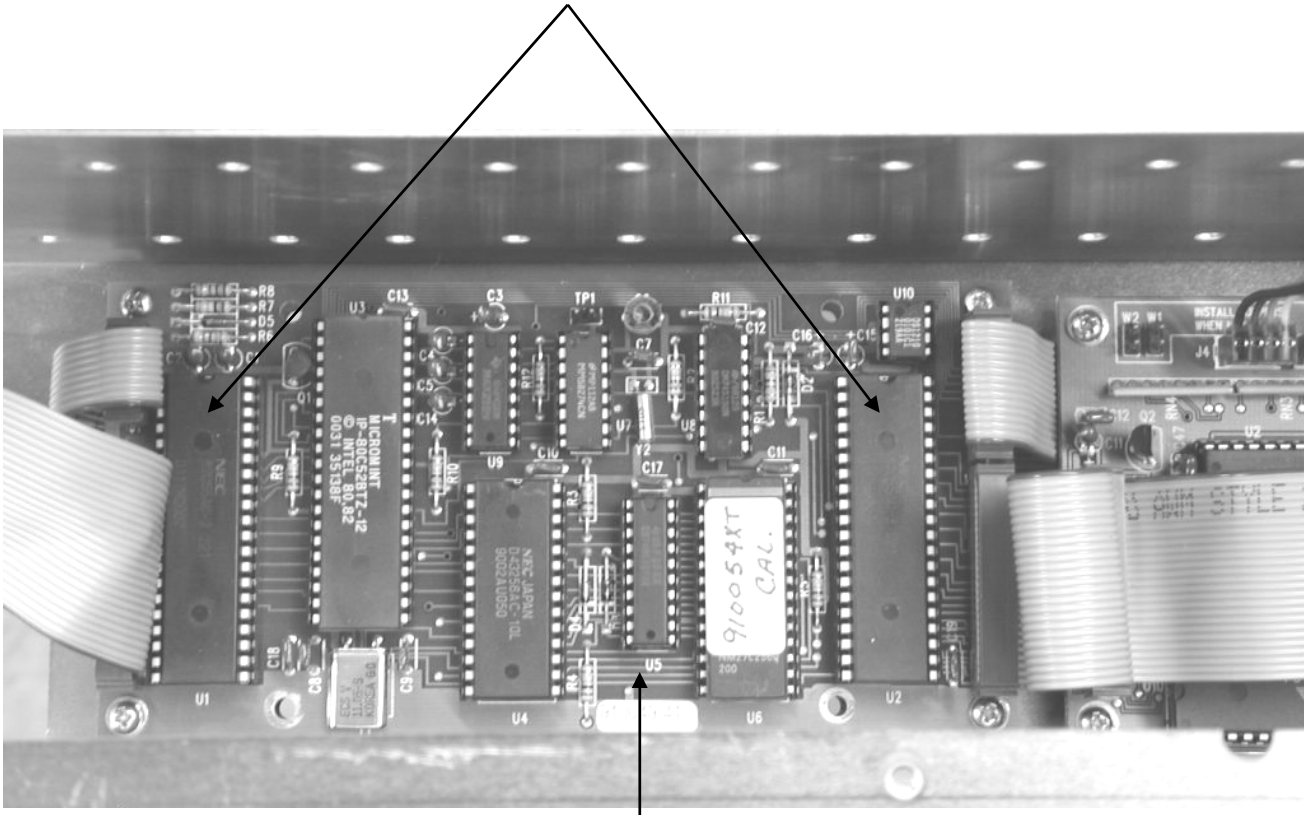
***** Some customers purposefully offset their BVS clock. Take note of any *hours* offset, and preserve it when you enter the Current Date and Time later in this procedure.

4. Unplug load current leads from Load Plate connectors.
5. Set the NiCad switch to OFF, and the Run/Standby switch to STANDBY. Unplug the power input connector from the chassis.
6. Remove the chassis cover.
7. Unplug the small NiCad battery.
8. Remove PIO ICs from their sockets. Be sure to note the orientation of the ICs. See picture below for location of ICs. If the PIO ICs are not socketed, the entire controller board must be replaced. Please see the Technical Support Bulletin for Controller Board replacement for assistance.
9. Install new PIO ICs in their sockets, making sure the notch on the ICs are facing the correct direction.
10. Short both pins on the PC board header where the small NiCad is connected to discharge the RAM backup supply. Plug in the small NiCad battery, and the plug in the input power connector. If you do not hear the BVS's boot tones immediately, unplug the input power connector, and plug it back in again within two seconds. Repeat until the BVS boots successfully.

11. After a minute has passed since the boot tones, set the NiCad switch to ON, and the Run/Standby switch to RUN.
12. Re-install the chassis cover.
13. Enter the Current Year.
14. Enter the Current Date and Time.
15. Re-enter the remaining values recorded in Step 3, except the Next Auto Read Date and Time.
16. Using the values from the report printed in Step 2, reset the Temperature Scale, the Short Hit Alarm Function, and the Power Out Interval. Also, reset the Impedance Multipliers if they are other than 100%.
17. Plug in the load current lead connectors.
18. Press the star (*) key to begin the learning process.
19. Reset the Next Auto Read Date and Time to the values recorded in Step 3.
20. If the report from Step 2 indicates the Initial Impedance Mode, enter the Unlocked Mode and press 9.

Please call **BTECH Inc.** Technical Support if any questions arise.

Location of PIO ICs on Controller Board



Controller Board