TECH BULLETIN

ADAMS•SMITH

ZETA-THREE

# TECHNICAL BULLETIN #1

## Time Code Reader Input Improvement

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Under some circumstances, the Time Code Reader inputs of some Zeta Three's in the field have shown a tendency to fail when exposed to sharp transients.

This has typically happened when the Time Code inputs have been re-patched to another source, or simply when there have been disturbances in the grounding system or in the AC power source.

The usual symptom of the problem is that one of the Zeta readers stops reading time code completely. A secondary symptom is that the reader may continue to function, but only if excessively high Time Code levels are sent to it.

The usual fix for the problem has been the replacement of one or both of the CA3080 integrated circuits U19 (Master reader) and U8 (Slave reader).

**If this problem has been experienced in either reader, then the modifications described in this bulletin should be applied.**

These modifications are considered OPTIONAL, not mandatory.

### WARRANTY Considerations

Reader modification is NOT covered by the Warranty arrangement. In other words, there will be a charge for upgrading units at the factory.

On the other hand, any unit returned to the factory for any kind of REPAIR (under Warranty or not), will automatically receive the modification with no extra charge.

## Parts Required

2 1uF/35volt Tantalum capacitors
2 10K (1/4 watt) resistors

## Objective

To replace capacitors C54 (Master reader) and C24 (Slave reader) each with an identical resistor/capacitor network.

## Procedure

ALL WORK MUST BE DONE IN A STATIC-FREE ENVIRONMENT.

THE WORKBENCH SURFACE SHOULD BE CONDUCTIVE AND GROUNDED.

ALL SOLDERING EQUIPMENT SHOULD BE ADEQUATELY GROUNDED.

THE TECHNICIAN MUST ENSURE THAT HE/SHE IS NOT CARRYING A STATIC CHARGE. GROUNDING WRIST STRAPS ARE RECOMMENDED.

1. Turn OFF the Zeta Three power and DISCONNECT the POWER CORD.

2. Remove the top cover from the chassis. Newer models have 6 screws, and the cover lifts off. Older models have 2 screws at the rear, and the cover slides backwards out of the chassis.

3. On the main circuit board, disconnect J50, the 6-pin connector coming from the power supply. Let the other end of the cable remain attached to the power supply.

4. On the main circuit board, disconnect J51, the ribbon cable connector from the front panel. Let the other end of the ribbon cable remain attached to the front panel.

5. Remove all 8 screws which attach the main circuit board to the chassis. (Note that there is never a screw installed in the hole adjacent to crystal Y5.)

6. Remove 2 screws from each end of the rear panel (4 screws in all). These attach the rear panel to the side panels.

7. Carefully slide the complete rear panel and circuit board assembly backwards out of the chassis. Place the assembly on a conductive, grounded workbench.

8. Locate capacitors C54 and C24 (1uF/35v). These may be found in a row of capacitors near the "Master Code In" XLR connector.

9. VERY CAREFULLY de-solder and remove C54 and C24.

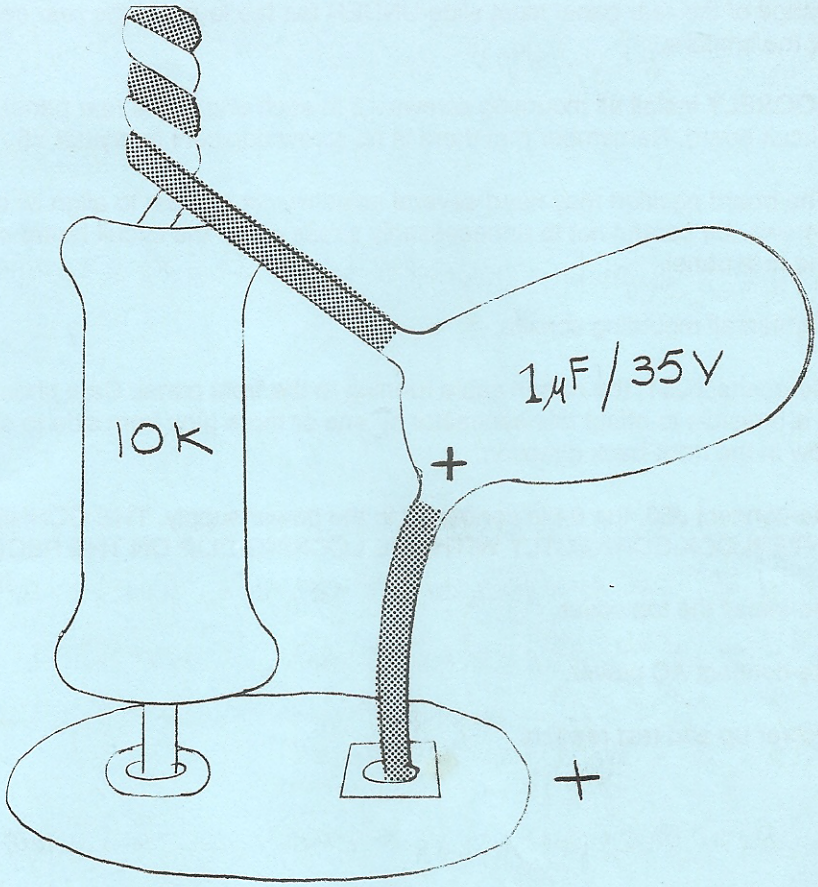


FIG 1

10. Prepare two resistor/capacitor networks. Each is constructed by twisting together one lead of a 10K resistor and the NEGATIVE lead of a 1uF/35volt capacitor. The twisted leads should be soldered and the excess clipped off. (See Fig 1)

11. Install and solder one each of these networks in capacitor positions C54 and C24 as shown in Fig 1.

    NOTE: THE "+" SIGNS PRINTED ON THE ZETA CIRCUIT BOARD ARE VERY MISLEADING, AND SHOULD BE IGNORED.
    THE POSITIVE LEAD OF THE CAPACITOR MUST BE SOLDERED INTO THE SQUARE PAD, WHILE THE RESISTOR IS SOLDERED INTO THE ROUND PAD. SEE FIG 1.

12. Clip off excess leads protruding beneath the circuit board.

13. VERY CAREFULLY slide the circuit board back into the Zeta chassis. Note that the lower flange of the rear panel must slide UNDER the tab found in the rear center of the bottom of the chassis.

14. LOOSELY install all mounting screws - 2 in each end of the rear panel, and 8 in the main circuit board. Remember that there is no screw adjacent to crystal Y5.

    The board position may need several adjustments in order to align all of the mounting screws. Be careful not to unnecessarily stress either the circuit board or its connection to the rear panel.

15. Tighten all mounting screws.

16. Re-connect J51, the ribbon cable running to the front panel. Care should be exercised, as it is possible to offset this connector by one or more pins from side to side, or by a whole row in the front-back direction.

17. Re-connect J50, the 6-pin connector to the power supply. THE CONNECTOR MUST INTERLOCK CORRECTLY WITH THE LOCKING CLIP ON THE RECEPTACLE.

18. Re-install the top cover.

19. Re-connect AC power.

20. Power up and test readers.