ADAMS · SMITH

USER BULLETIN

ZETA THREE USER BULLETIN #18

Installation of ZETA-THREE^{em} Conversion Kit (Software Version 3E60)

Oct 29, 1990

CONTENTS OF KIT

Before proceeding with the installation, please verify that your ZETA-THREE^{em} Conversion Kit contains the following items:

Qty.	Description
3	ZETA-THREE^{em} EPROMS marked "A", "B" and "C"
1	ZETA-THREE^{em} Reset PCB ("red box")
1	Non-volatile RAM (Dallas DS1235YWL)
1	Front panel decal
	Documentation:
1	Manual Chapter 13
1	Manual Chapter 14
5	Manual Appendices E,F,G,H and I
1	Display Menu List
1	Editor Configuration Sheet Index
9	Editor Configuration Sheets
1	User Bulletin Index
6	User Bulletins (1,5,7,8,14,18)

ADAMS-SMITH 34 TOWER STREET, HUDSON, MA 01749-1721 U.S.A.
Tel.: 508-562-3801 Fax: 508-568-0404
THE STYPHER CORPORATION

INSTALLATION

1. Turn **off** the power and **disconnect the power cord.**

2. Remove the six screws attaching the top panel to the chassis and lift off the panel.

   Alternatively, on older models, remove the two screws at the rear of the top panel, and remove the panel by sliding it backwards out of the chassis.

IDENTIFY AND REMOVE OLD MEMORY COMPONENTS

3. The Zeta-Three's memory components are all located at the front right corner of the main circuit board, just behind the CAPTURE key, as shown in Figure 1.

   You will find one or two EPROM's installed in sockets U75 and U84. These are 28 pin chips with paper labels identifying the software version which they contain.

   To the left of the EPROM's are two locations for RAM chips, designated U74 and U83. There will be at least one non-volatile RAM (a "fat black box") installed in U74, and possibly a thinner RAM installed in U83. The exact configuration of your Zeta depends upon when it was purchased or last updated.

4. Carefully remove all EPROM(s) and RAM(s) from sockets U74, U75, U83 and U84 **with one exception**: if the non-volatile RAM at **U74** is a **Dallas DS1235YWL**, then you already have the correct part in that location and need not change it at all.

   But beware! Older units were shipped with a smaller capacity, look-alike part, called a DALLAS DS1225Y. Do not confuse the two devices.

   (The letters at the end of the Dallas non-volatile RAM part numbers may vary. The only significant part of the number, for our purposes, is the "DS1235" or "DS1225" portion.)

   Either remove the EPROM(s) and RAM(s) with an Integrated Circuit Extractor Tool, or very carefully lever them out with a small screwdriver, working alternately at one end of the chip and then the other. Be careful not to bend the pins!

CHECK WIRE JUMPERS

5. Adjacent to the now empty EPROM sockets, at the edge of the printed circuit board, is a row of wire jumpers, all of which are critical to this operation. These jumpers are labelled JP5, JP6, JP7, JP8 and JP2.

   Figure 1 shows all five of these jumpers configured as they must be for the ZETA-THREE^{em} to operate correctly (or at all). Carefully compare the diagram with the jumpers on your board.

If any jumpers are not exactly as shown, then they must be modified as outlined in step 6.

In all cases except JP8, the wire must connect the outer two (of the three) contacts. Zeta's shipped from the factory with software version 3.50 or higher are unlikely to need modification.

6. For each jumper that requires modification, follow the steps outlined in Figures 2A, 2B, 2C and 2D. Clip the wire as close to the circuit board as is practical, and solder it very carefully in the position shown.

NOTE:

Small wire cutters, **needle nose pliers**, and a **fine-tipped soldering iron** are **absolutely essential** to success here.

If you **do not** have this equipment, or lack any confidence in your **soldering skills** whatsoever, then we **highly recommend** that you have a professional repair person do the job.

The unit may also be returned to the factory for modification. This will probably take longer, and we cannot undertake to provide free shipping for this process, but it will be done correctly !

INSTALL NEW MEMORY COMPONENTS

7. When installing integrated circuits, one must be careful to avoid the build up of static electricity. Should such a build up come into contact with the pins of the chip (for example, from your fingers), then the internal circuitry can be seriously **damaged**.

Therefore, **before removing EPROM's or RAM's from their conductive foam carrier**, take hold of an unpainted section of the Zeta-Three chassis to ensure that you and the chassis are at approximately the same potential.

From now until the chips are installed, try not to shuffle your feet or do any of the things which can create static electricity.

Be particularly careful in cold climates, where the air tends to be very dry in heated buildings.

8. Install the supplied EPROM marked "A" in socket U75, located as shown in Figure 1.

THE NOTCH IN THE END OF THE EPROM BODY MUST FACE TOWARDS THE REAR OF THE ZETA.

Installing the EPROM around the **wrong** way (i.e. notch to the front) can result in the **destruction** of the EPROM!

Make sure that none of the pins have missed the socket or bent under the body of the EPROM. Careful alignment of the pins before applying any insertion force can help a lot. (You may have to use your fingers to do this. Just be careful, and try to keep yourself at the same potential as the Zeta chassis.)

9. Following the same precautions, install EPROM "B" in socket U84 (located front right, as in Figure 1).

   ONCE AGAIN, THE NOTCH IN THE END OF THE EPROM BODY MUST FACE TOWARDS THE REAR OF THE ZETA.

10. Similarly install EPROM "C" in socket U83 (formerly a RAM socket), **NOTCH TOWARD THE REAR.**

11. If U74 did not already contain a Dallas DS1235YWL, as described in step 4, then install the supplied DS1235YWL into position U74.

    THE DOT ON THE CORNER OF THE RAM BODY MUST FACE TOWARDS THE LEFT REAR OF THE ZETA.

12. Check again that **notch** in the end of each EPROM points toward the rear of the Zeta, and that the **dot** on the DS1235YWL RAM is towards the left rear of the Zeta.

    Double check that the components are arranged as shown in Figure 1.

INSTALL EMULATOR RESET PCB

13. Approximately half way between the Zeta's front and rear panels, towards the right, is a small printed circuit board which is plugged into socket U40 on the main circuit board (see Figure 3, pointer #1). This is called the "Reset PCB".

    Remove it.

14. In its place, install the supplied "Emulator Reset PCB" (a small "red box with legs"). Orientation is identical to that of the original "Reset PCB", that is, with the larger portion overhanging towards the right. Make very sure that **all** pins have mated correctly with socket U40.

    The same precautions regarding static electricity should be observed while handling this circuit board (see step 7).

RE-CONFIGURE THE COMPUTER PORT

15. The Zeta's COMPUTER port must be set up for RS-422 operation. This may already be the case, but it is unlikely, as most Zeta's to date have been shipped in an RS-232 configuration.

    Locate the short ribbon cable originating at the 9-pin COMPUTER connector on the rear panel (see Figure 3).

    For RS-422 operation, plug the other end of this cable into connector **"J17 RS-422"** on the main printed circuit board (Figure 3, pointer #2). Be careful here! Connector J17 consists of two rows of 5 pins each, and it is quite possible to plug into it and "miss" one of these rows entirely.

    In addition, position blue jumper **JP3** on the two of its three pins which are adjacent to connector J17 (see Figure 3, pointer #3). In other words, both the connector and the jumper are "towards the **front**" of the cabinet.

PACK UP AND RESET

16. Replace the top cover and the screws that secure it.

17. Now perform a special **power up sequence** that will totally reset all Zeta-Three functions:

    PERFORMANCE OF THIS SEQUENCE IS MANDATORY IMMEDIATELY AFTER INSTALLING NEW SOFTWARE.

    Re-attach the power cord.

    Hold down the three keys SHIFT, CURSOR and CAPTURE on the right side of the Zeta front panel.

    Keep them held down.

    Turn on the Zeta power switch with the keys still held down.

    The display **"*** SYSTEM RESET ***"** should be the first to appear.

    Do not release the SHIFT, CURSOR, CAPTURE keys until the usual Generator display comes up.

    If there is any problem here, then give it one more try. If the problem persists, then **contact your dealer (or the factory) immediately.**

    NOTE:

    The special power up sequence need only be done **once**. From now on, you may power up and down normally.

18. It will be necessary to re-select your Master and Slave Transport parameters, just as you had to do when your Zeta was new.

19. Attach the supplied decal to the front panel. Your Zeta-Three is now officially a ZETA-THREE^{em}!

20. Proceed to the instructions contained in Chapter 14 of the manual (supplied). They will provide a step by step path to successful Emulation.

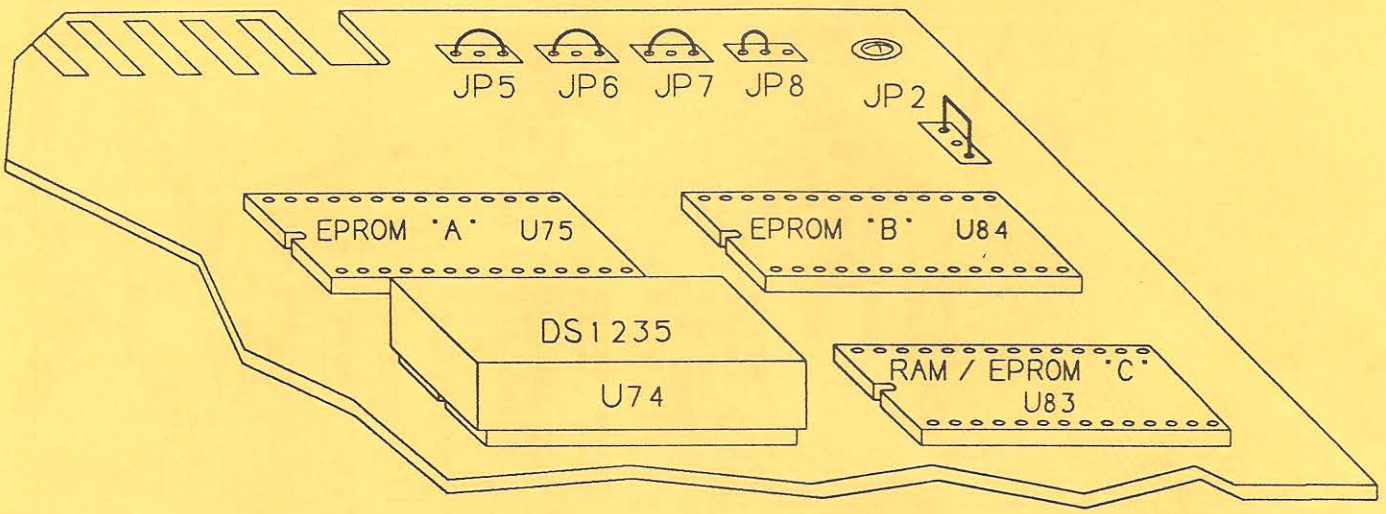

Figure 1. Location of EPROM's, RAM's and Jumpers

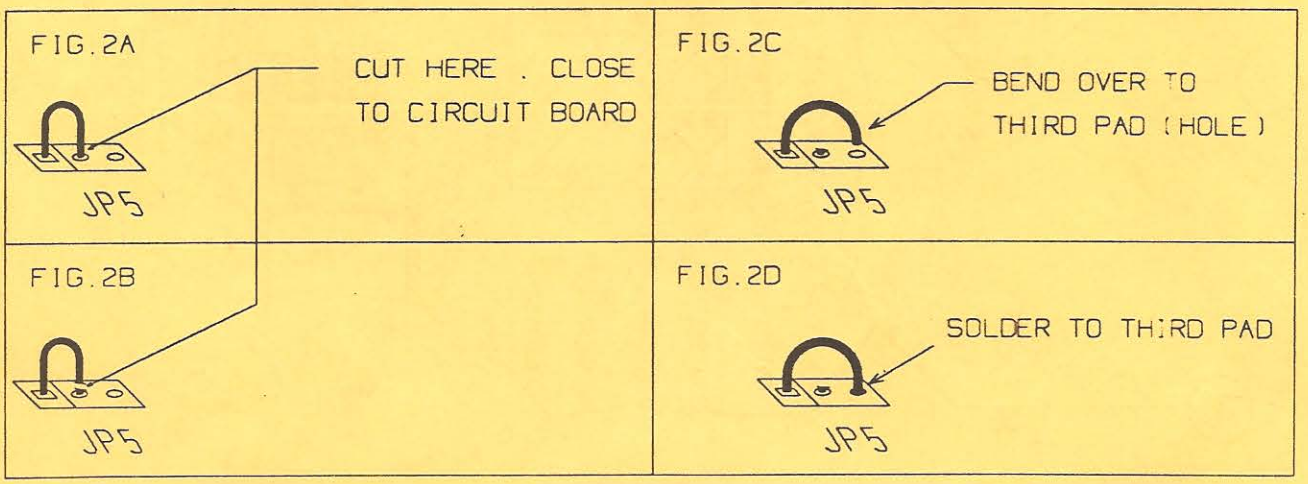

Figure 2. Modification of Wire Jumpers

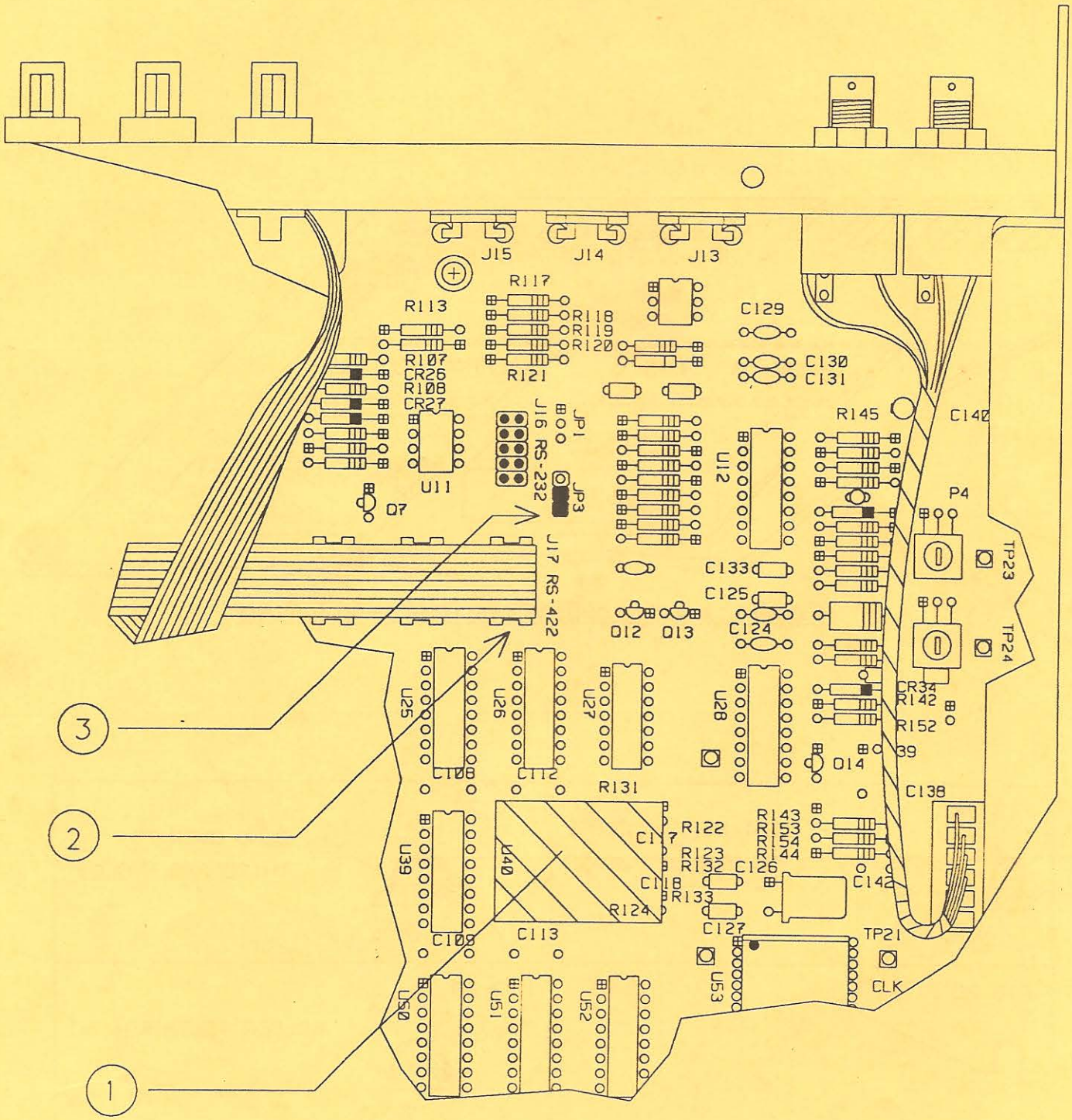

Figure 3. Location of Reset PCB and Computer Port Components