



ZETA THREE USER BULLETIN #13

**Non Volatile RAM Expansion Kit
and Installation Guide**

September 12, 1989

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.

3. At the front right of the main circuit board (just behind the CAPTURE key), you will find one or two EPROMS installed. These are 28 pin chips which will have paper labels identifying which software revision they contain.

To the left of the EPROMS are two locations for RAM chips, U-74 and U-83. There will be at least one Nonvolatile Ram memory (fat black box that has battery inside) installed in U-74 and possibly a thinner RAM (no battery) installed in U-83. The exact configuration of your ZETA depends on when it was purchased or last updated.

Adding RAM to your ZETA increases the number of MIDI tempo map banks available and also allows the tempo map to be remembered even when the ZETA is powered down. (The expansion RAM has batteries to retain the information). The number of banks available for various RAM configurations is shown below.

	<u>Unexpanded</u>	<u>1 RAM kit</u>	<u>2 RAM kits</u>
Existing Zeta:	1 bank (volatile)	4 banks (NV)	7 banks (NV)
New Zeta:	3 banks (NV)	7 banks (NV)	[unnecessary]

SPECIAL NOTE: the new, large capacity, NONVOLATILE RAMs are labeled DALLAS DS1235, there may be a smaller capacity, look alike part, located in U-74 labeled DALLAS DS1225, do not confuse the two devices.

4. Adjacent to the EPROM sockets, at the edge of the printed circuit board, is a row of wire jumpers, two of which are critical to this operation. See Fig 1.

Carefully inspect the two jumpers labelled JP2 and JP7 (identified in Fig 1).

Examine Fig 1 and determine how many RAM kits are to be installed. If 1 RAM kit is to be installed, modify JP7 and if 2 RAM kits are to be installed modify both JP7 and JP2.

BOTH JP2 AND JP7 MUST BE CONNECTED AS SHOWN IN FIG 1 DEPENDING ON THE NUMBER OF RAM KITS TO BE INSTALLED.

That is, with the wire connecting the outer two (of the three) contacts.

If JP2 or JP7 are incorrectly configured, then carefully follow the steps in section 5 below to correct it. Otherwise, skip to section 6.

5. With a single RAM kit to install, clip the wire jumper from pin 2 at the base of the circuit board and solder to pin hole 3 on JP7. If a second RAM kit is to be installed, repeat procedure above for JP2.

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 !

6. When installing RAMS, 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 RAM (for example, from your fingers), then the RAM can be seriously DAMAGED.

Therefore, BEFORE REMOVING RAMS FROM THEIR PLASTIC CASE, take hold of the chassis of the Zeta 3 to ensure that you and the chassis are at approximately the same potential.

From now until the RAMS 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.

6. Install the new RAM in U83 for the first RAM expansion and in U74 for the second RAM expansion. (see Fig 1)

If there already is a RAM installed in U74 or U83 then you must first remove it before installing the new expansion RAM. Carefully remove the installed RAM with the EXTRACTOR TOOL provided. It hooks rather neatly under each end of the RAM, and, if you're careful, helps to avoid mangling all the pins.

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

Installing the RAM around the WRONG way (i.e. dot to the front) can result in the DESTRUCTION of the RAM !

Make sure that none of the pins have missed the socket and bent under the body of the RAM. 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.)

7. If you are installing two RAM kits, repeat section 6 for the second expansion RAM.
8. Installation is now complete.

Check again that the DOT on the new RAM is towards the left rear of the ZETA.

DOUBLE CHECK THAT THE DOT ON THE CORNER OF THE NEW RAM IS TOWARD THE LEFT REAR OF THE ZETA 3.

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

10. Now we must perform a special POWER UP SEQUENCE that will totally reset all Zeta 3 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.

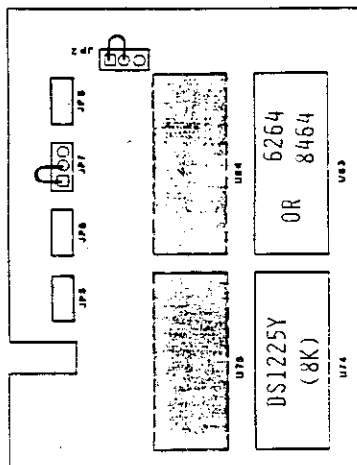
If there is any problem here, then give it one more try. If the problem persists, then CONTACT YOUR DEALER (OR THE FACTORY) IMMEDIATELY.

Otherwise, your Zeta 3 is now ready to use again.

NOTE:

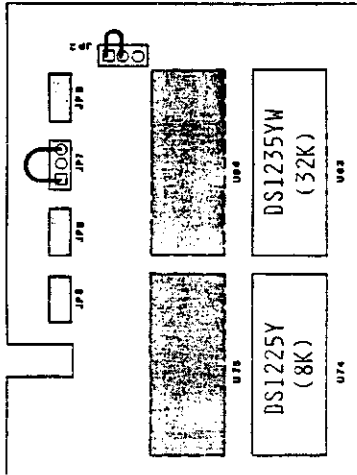
The special power up sequence need only be done ONCE. From now on, you may power up and down normally.

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



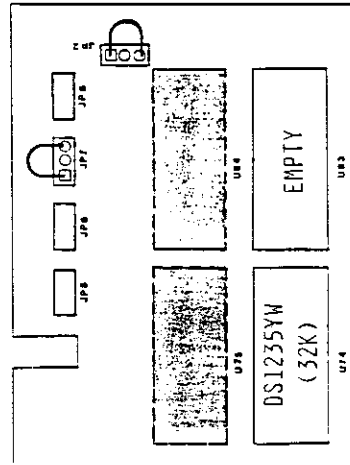
ZETA SHIPPED
BEFORE SOFTWARE 3.50
(1 BANK)

ADD RAM KIT #1
MODIFY JP7;
REPLACE U83
WITH DS1235YW



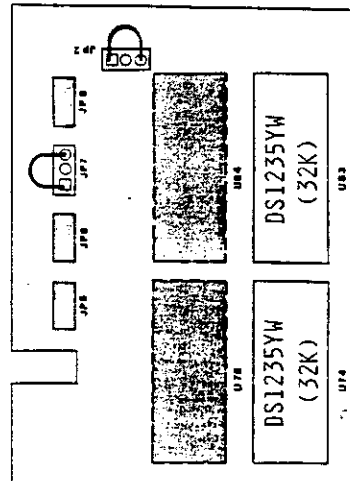
ZETA SHIPPED
BEFORE 3.50 - ONCE MODIFIED
(4 NV BANKS)

ADD RAM KIT #
MODIFY JP2;
REPLACE U74
WITH DS1235YW



ZETA SHIPPED
AFTER SOFTWARE 3.50
(3 NV BANKS)

ADD RAM KIT
INSERT DS1235YW
INTO EMPTY
U83 SOCKET



FULLY LOADED
(7 NV BANKS)

FIG.1 ZETA THREE RAM KIT ROAD MAP