# Appendix G
# PC88 Internal Diagnostics

This appendix contains instructions on (1) how to use the PC88's internal diagnostics to test the unit and (2) how to perform a hard reset. ***Be sure to read all of the following instructions before using the diagnostics.*** Otherwise, damage to external equipment may occur.

## Entering Diagnostics

To start the PC88 diagnostics, power up the unit while simultaneously holding the **1**, **2**, and **3** buttons. Release the **1**, **2**, and **3** buttons within two seconds of turning on the PC88. After a brief introductory message, the display will appear as follows:

```
Press <<< to Reset
Press >>> for Diags
```

At this point, you can do one of three things:

1. Press the **<<<** button, which will erase the non-volatile memory. ***Any user sounds or setups in the instrument will be lost!*** The following message will be displayed:

```
RAM has been erased.
Cycle the Power now.
```

   After this message appears, remove power from the unit. When power is re-applied, the non-volatile memory will be reset.

2. Press the **>>>** button, which will enter diagnostics. ***Note that some diagnostic tests destroy the RAM; therefore, anything stored in the non-volatile memory will be lost!***

3. Remove power from the instrument. ***This is the only way to guarantee that user sounds and setups stored in the non-volatile RAM will be retained.***

## Running the Debug Sequence

If you pressed the **>>>** button in step 2 above, the following will appear in the display:

```
Menu
      CPU Test
```

***Before continuing, set the PC88's volume slider to its minimum setting.*** Some tests produce loud, potentially destructive test tones. When these tones begin to sound, if you wish, you can adjust the volume slider to hear them.

Press the **Zone 3** button. This will run all of the available tests in sequence, displaying the name of each as it executes. After each test finishes, the LCD will show *Pass* or *Fail* in the upper, right-hand corner. You must press any button (or keyboard key) to continue with the next test in the sequence.

Three tests in the sequence require special treatment: the *MIDI UART Test*, the *VGM Port Test*, and the *Sound Test*. The *MIDI UART Test* requires that a MIDI cable be connected between the MIDI Out and MIDI In connectors on the back of the unit. If this MIDI cable is not installed, the

test will fail. If this test passes, however, even when there is nothing connected to the MIDI In connector, there is a problem with the unit.

The *VGM Port Test* requires a VGM option to be installed. If no VGM option is installed, the test will fail. If, on the other hand, there is a VGM option installed, the PC88 will use it to play five test tones in sequence. You must press a button or keyboard key after each tone sounds in order to advance to the next. ***These tones are likely to be very loud and potentially destructive, so be sure to set the PC88's volume slider to its minimum setting before running the diagnostic tests.*** You can adjust the volume slider after each tone begins to sound.

The Sound Test produces five test tones in sequence. You must press a button or keyboard key after each one sounds in order to advance to the next. ***These tones are likely to be very loud, so be sure to set the PC88's volume slider to its minimum setting before running the diagnostic tests.*** You can adjust the volume slider after each tone begins to sound.

## Exiting Diagnostics

To leave Diagnostics mode, restart the PC88, without holding down any of its keys or buttons.