

## Software Release Notes, MK.4 ESD & Latch-Up Test System

### *Release 8.1 (Software, Middleware, and Firmware)*

New Release: 8.1  
Date: 2007-12-17  
Previous Release: 8.0

Component	Version	Previous Version	Part Number
Software	<b>1.16.0.3</b>	1.15.0.5	70-901-205-00
Middleware	<b>1.52.4.00</b>	1.52.1.0	70-901-305-00
Firmware	<b>1.04.20071214</b>	1.03.20071109	70-901-305-00

#### *Effectivity*

This is a general release, applicable to all production and field systems.

#### *Dependencies*

The versions of the three components in this release (PC Software, Tester Middleware, and Tester Firmware) have been developed and tested to work with each other. Use of other version combinations is not recommended.

#### *New features*

1. Added an indicator to the run status screen that shows the currently applied vector (see figure 1)
2. Added Copy/Paste capability to a power sequence setup objects. For example, a user can test the PSU setup by running a manual Latchup test. Once the results are satisfactory, the whole sequence can be dragged and dropped into a Latchup-I test. To support this functionality, setup of manual groups is modified to allow the device groups referencing for later transfer to a standard test (see figure 2 and 3). In order for the group reference to be transferred correctly, the manual group referenced by a PSU (for example, Vs1) must have its **Pin List Selection** attribute set to **Based on Device Groups**.
3. Added ability to compare spots in the similar way to how it is done in the curve compare. See Additional Documentation section for the comparison algorithm details.
4. Added context sensitive help. F1 key will now react differently depending on which part of the application the user is currently working with.

#### *Fixes and Improvements*

## Middleware

### Software

1. Mapping validation routine would not allow testing of validly mapped pins on system with lesser matrix board configurations due to an error in the algorithm (fixed)
2. Greatly improved validation routines for the cross-reference of Ground and Power groups in Parametric and Latchup tests
3. Improved messages displayed when validating vector run options

### *Known issues*

1. Because of the switch was made to the binary data transfer protocol in this release for supporting the fast vector downloading feature, the control channel is now switched to the binary mode. The default binary port number the Tester Daemon is listening on is 10351. Since the channel has not been fully utilized prior to this release, the corresponding **controller.ini** file setting (**TransferPort**) has been set to a random value. For the Controller app to function correctly, this option must be set to 10351 (see Figure 4). To set the option, the following steps should be taken:
  - Shutdown Controller app
  - Go to Start->All Programs->ZapMaster Mk4->Data Folder
  - Open the Config folder
  - Right-click on the **controller.ini.xml** file
  - Select **Edit with Mk4 Config Editor** option
  - Click on **TransferPort** option found under **TesterProxy** section (see Figure 4)
  - Make sure that the **value** property is set to **10351**
  - Save and close the file
  - Restart the Controller app
2. Sometimes, when the tester is turned off while the Controller app is running, the app may not detect changes in the tester's status on time. The problem will be fixed in the next release.
3. Preconditioning vectors are incorrect for the 1.2KHz vector clock speed. This frequency causes the stress pulse to disappear and the parking level to be ignored. It occurs only with this frequency and it occurs regardless of whether or not the stress pin is actually being vectored. The problem will be fixed in future releases. For now, avoid using the 1.2KHz vector clock frequency.

## *Additional documentation*

See Release\_8.0.pdf for more information on what's been fixed in this limited distribution release.

### Comparing Spot Measurements To Reference Spots

A runtime error will occur if the number of spots in a set of reference spots isn't the same as the number of spots in the spot measurements descriptor which references those reference spots. The first measured spot will be compared to the first reference spot, the second measured spot will be compared to the second reference spot, and so forth, where the spots are arranged in the order in which they were measured. The way in which the spots are compared is determined by parameters in the spot measurement setup dictionary.

If CompareAlgorithm is Absolute, then MinVoltage and MaxVoltage should specify unsigned voltages in units of volts, MinCurrent and MaxCurrent should specify unsigned currents in units of amps, and a spot will fail the comparison if any of the following are true:

- MeasuredVoltage < ReferenceVoltage - MinVoltage
- MeasuredVoltage > ReferenceVoltage + MaxVoltage
- MeasuredCurrent < ReferenceCurrent - MinCurrent
- MeasuredCurrent > ReferenceCurrent + MaxCurrent

If CompareAlgorithm is Percentage, then MinVoltage, MaxVoltage, MinCurrent, and MaxCurrent should specify unsigned percentages with the value 1 corresponding to 100%, and a spot will fail the comparison if any of the following are true:

- MeasuredVoltage < ReferenceVoltage - ( |ReferenceVoltage| \* MinVoltage)
- MeasuredVoltage > ReferenceVoltage + ( |ReferenceVoltage| \* MaxVoltage)
- MeasuredCurrent < ReferenceCurrent - ( |ReferenceCurrent| \* MinCurrent)
- MeasuredCurrent > ReferenceCurrent + ( |ReferenceCurrent| \* MaxCurrent)

**Figures**



Figure 1. Vector indicator

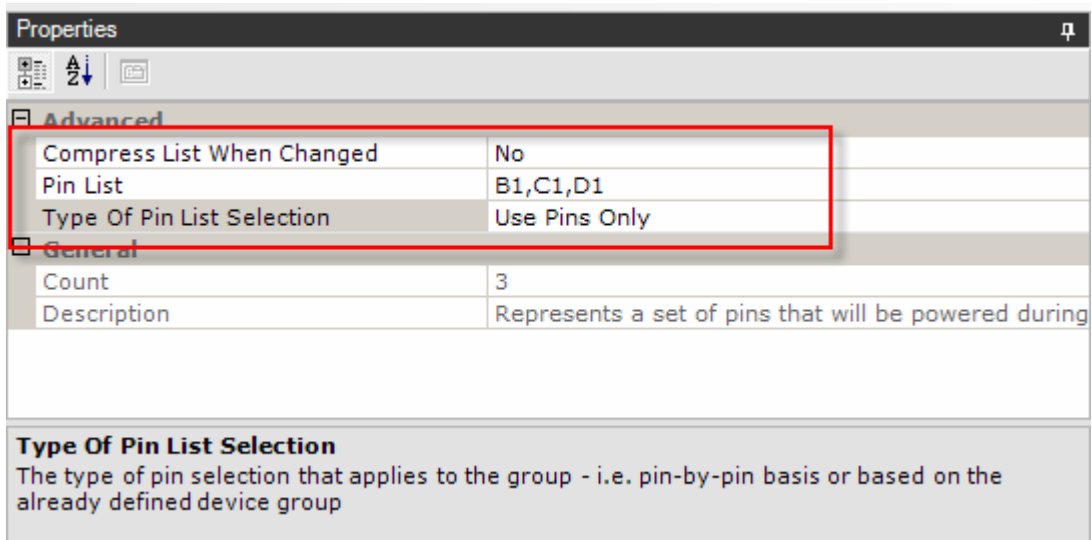


Figure 2. Manual group properties in Pin-only selection mode compatible with the previous software versions

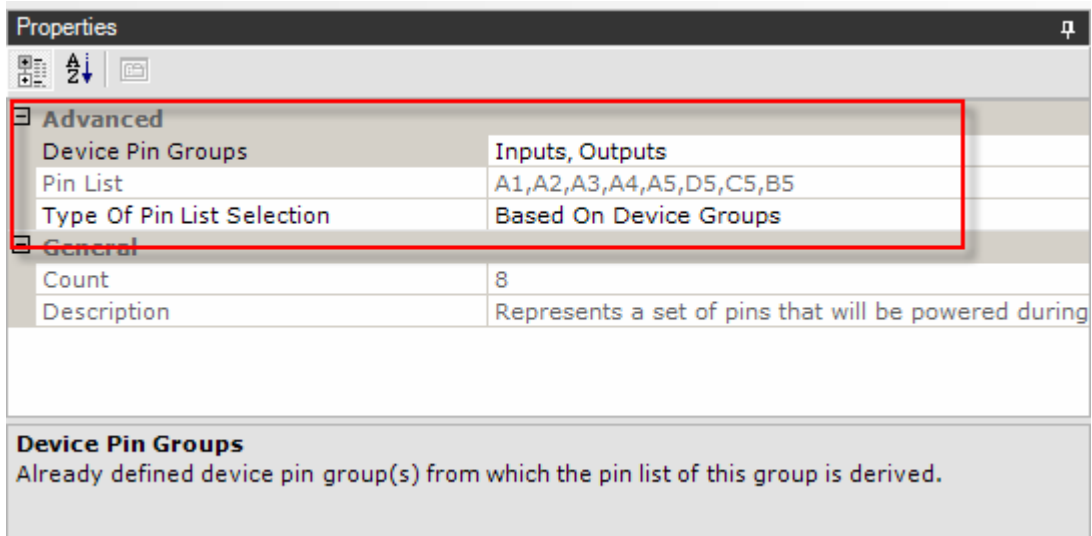


Figure 3. Manual group properties in Device Groups pin selection mode to support drag-and-drop operation on a PSU sequence object

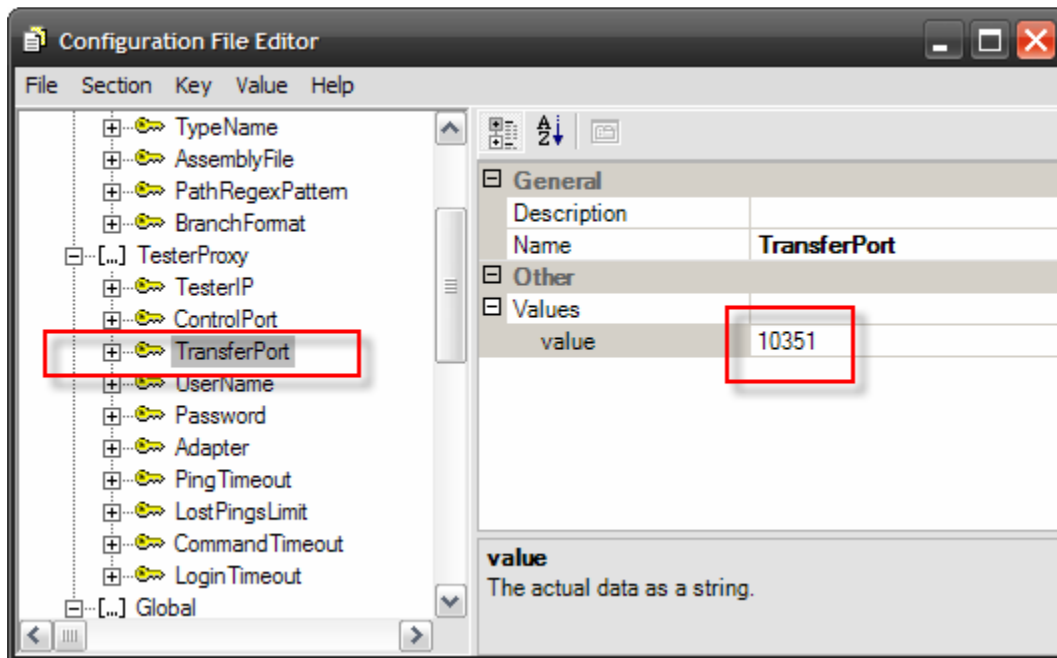


Figure 4. Correct setting for the binary port in the controller.ini.xml file