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SP Map is capable of creating custom bin maps for any wafer up to 10,000 die. SP Map can be used to ink any die location immediately or by performing an inking run after testing is complete. All bin data is saved to a standard CSV for easy data manipulation. If testing cannot be finished in one session, the map can be resumed from the last save point; allowing for test completion at a later session.

To create a map, a user enters the map name, wafer size, die width, die height (die width and height include street dimensions) and any exclusion zone. From this information a square or round map can be created by checking or unchecking the Auto Crop option and clicking "Create". After the initial map is created, the user can add/remove die locations and set a specific location as the "Home" or starting die. Using the Map Creator the user is also able to specify a navigation mode to use. For detailed information regarding all navigation types refer to the SP Map Navigation section. Custom binning sets may also be created with up to a total of 100 user specified sets with up to 20 individual bin values in each set. This allows for creation of simple pass/fail bin sets or more complex sets used to distinguish between different failure/passing/testing criteria.



a) Navigation

SP Map is supports 8 different navigation schemes user selected at map design time. These schemes are based navigational directions of a compass and include East North (EN), South East (SE), West North (WN), North East (NE), East South (ES), South West (SW), West South (WS) and North West (NW). The first direction in each combination depicts the first direction to move from the Home Die and the second is the direction to move when the end of a row or column is reached. The following diagrams show how each navigation scheme is applied to a map.















b) Interface

- Main



1 Menu

- 2 Displays list of saved map templates the user can choose from
- **3** Used by the user to identify the lot the wafer being tested is from.
- **4** Used by the user to distinguish wafers in a specific lot.
- 5 Load Load map indicated by Map Name, LotID and WaferID.
- **6 Resume** Check to resume a previously started map.





- **1** Perform Vision Find Feature after move commands if checked.
- **2** Perform move to contact command after move commands if checked.
- **3** Set current stage position as home position.
- 4 Move prober to previous die.
- **5** Move Prober to Home Die.
- **6** Move Prober to next die
- 7 Place Map in GoTo mode moving the prober to die clicked on map.
- 8 Bin value to use if 11 is clicked.
- **9** Bin value to use if 12 is clicked.
- **10** Bin Value to use if 13 is clicked.
- **11** Bin current die as Pass with number in 8.
- 12 Bin current die as Fail with number in 9.
- **13** Bin current die with number in 10.
- 14 Millisecond time Inker 1 fires if 15 is clicked.
- 15 Fire Inker1 by time indicated in 14.
- 16 Fire Inker2 by time indicated in 17.
- 17 Millisecond time Inker 2 fires if 16 is clicked.
- 18 Specify bin value(s) for ink all procedure. Separate each bin value with a semicolon. i.e. 2;4;5.
- **19** Ink all die with bin number(s) indicated in 13.
- 20 Specify inker for Ink All procedure. Checked Inker 1, unchecked Inker 2.
- **21** Displays current die and wafer information of loaded map.
- 22 Save current map state.



23 Close and return to loading stage. Dialog will display if map has not been saved.



Map Creator



- **1** Specify map name.
- **2** Specify map size.
- **3** Specify μ m width of each die (include street/lane size).
- **4** Specify µm height of each die (include street/lane size).
- **5** Specify exclusion zone to subtract from the wafer perimeter.
- 6 Specify the location of the flat or notch of the wafer.
- 7 Specify the bin set to use with the map.
- 8 Create a new bin set to use with a map.
- 9 Create map based on check state of 10.
- **10** Check for round map; uncheck for square map when 9 is clicked.
- **11** Add die to the map.
- **12** Remove die from the map.
- **13** Set the Home die of the map.
- **14** Specify the Navigation routine to use on the map.
- **15** Set the navigation routine.
- **16** Save the map. An error message will display if map already exists and as if to overwrite old map.
- 17 Close the Map Creator.
- 18 Stop creating a map and close the Map Creator.



Bin Creator

SP Map			_ ×
	Bin Creator		
1	1 Bin Set Name		
	Sa	mple	
BINNU	mber	4 2	-
Color			3
4	Add	Delete	5
6	Bin	C	olor
	1		
	2		
	4		
7	Save	Close	8

1 Specify the name of the bin set.

- **2** Specify the bin number to add.
- **3** Specify the bin color associated with the bun number in 2.
- **4** Add the bin number and color to the table.
- **5** Delete the highlighted bin number and color from the table.
- **6** Displays all the bin number and color values to be added to the bin set.
- **7** Save all of the bin number and color values in 6 to the bin set.
- 8 Close the Bin Creator.



- Menu



- **1 Connect** Displays option to connect to the SemiServer or Prober.
- **2 MAP** Options to create, delete or modify a wafer map.
- **3 Settings** Specify is using scan results from Scanner application.
- **4 Test Inker** Menu to perform a test on inker 1 or inker 2.
- **5 Tools** Displays tools available to the user to save, clear or enable log.
- 6 View Set option to use form in minimal window size or display demo button on map processing tab.