WHAT IS CLAIMED IS:

1. A processing apparatus for processing a workpiece having a plurality of devices in respective areas demarcated on a face side thereof by a plurality of projected dicing lines, along the projected dicing lines, comprising:

a holding table for holding the workpiece thereon;

a processing unit for processing the workpiece held on the holding table;

an image capturing unit for capturing an image of the workpiece held on the holding table; and

a control unit,

wherein the control unit includes

a wider image displaying section for combining images of a plurality of adjacent areas that are captured by the image capturing unit into a wider image representing an area wider than a field of vision of the image capturing unit, and displaying in an image display area for displaying a display image on a display unit, the wider image and a registration range frame;

a target registering section for registering any pattern on each of the devices that is specified in the wider image, as a target for detecting one of the projected dicing lines, and further registering X and Y coordinates of a center of the registration range frame as a position of the target; and

a projected dicing line registering section for registering a position of one of the projected dicing lines selected in the wider image, as a projected processing position.

2. The processing apparatus according to claim 1, wherein

an image of a display area for the display image displays an image of a portion of the target, and the control unit performs a process of adjusting the display area for the wider image such that the target is displayed in its entirety exactly in the display image displayed in the image display area of the display unit, and

after adjusting the display area for the display image, the control unit performs a process of registering an image of the target that is displayed in the display image in the image display area of the display unit.

3. The processing apparatus according to claim 1,

wherein the wider image includes a processed groove formed in the workpiece processed by the processing unit, and

the control unit displays the wider image on the display unit when the control unit performs a kerf check process to check quality of the processed groove.

4. The processing apparatus according to claim 2,

wherein the display unit displays a screen for setting various conditions, the screen including display

area movement buttons for accepting input moving the display area in respective directions, and when an operator selects the display area movement buttons, the display area for the display image in the image display area is moved.

5. The processing apparatus according to claim 2,

wherein the control unit moves the display area by accepting swipe input on the display image displayed in the image display area, from the operator.

6. The processing apparatus according to claim 2,

wherein the control unit moves the display area by accepting numerical input representing a desired distance by which the display is to be moved, from the operator.

7. The processing apparatus according to claim 2,

wherein the wider image displaying section of the control unit controls the image capturing unit to capture an image of a new field of vision as the display area changes, to acquire an image, and generates and displays the wider image.

8. The processing apparatus according to claim 2,

wherein, before the display area is changed, the wider image displaying section combines a plurality of images captured from a range sufficiently wider than the field of vision of the image capturing unit, generating in advance the wider image sufficiently wider than the field of vision of the image capturing unit, and changes the

display area to be displayed in the image display area as the display area changes.

9. The processing apparatus according to claim 2,

wherein, in a case where the display area is changed into an area in excess of the area of a plurality of fields of vision whose images have been captured, the wider image displaying section controls the image capturing unit to newly capture images of the exceeding area and combines the newly captured images to generate and display a new wider image, or generates and displays a wider image in which the exceeding area is displayed in black.

10. The processing apparatus according to claim 3,

wherein, if the processed groove and a hairline representing a projected cutting line recognized by the image capturing unit are shifted from each other by a distance equal to or larger than a threshold value, then the control unit issues an error message.