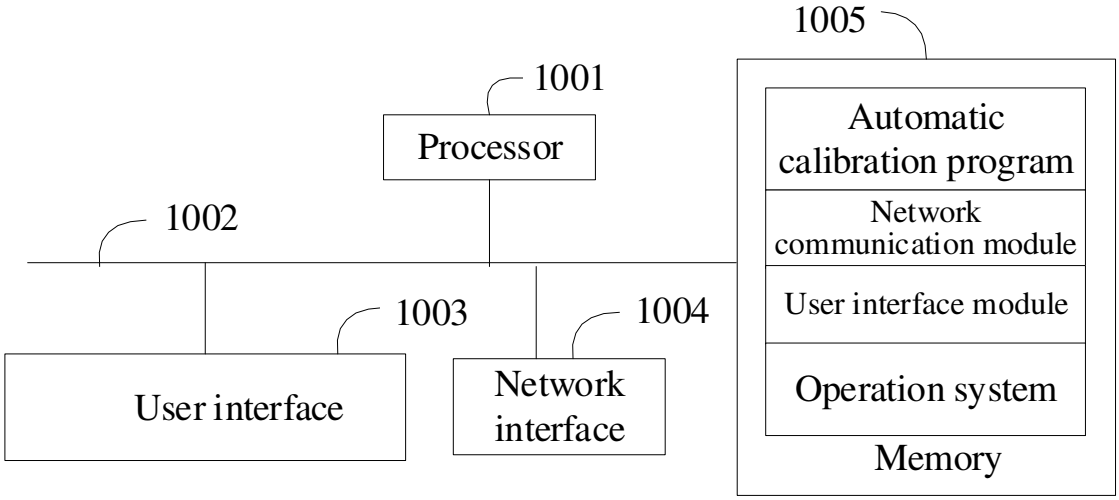

1005
1001
Processor
Automatic calibration program
Network communication module
User interface module
Operation system
Memory
1002
1003
1004
User interface
Network interface

FIG.1

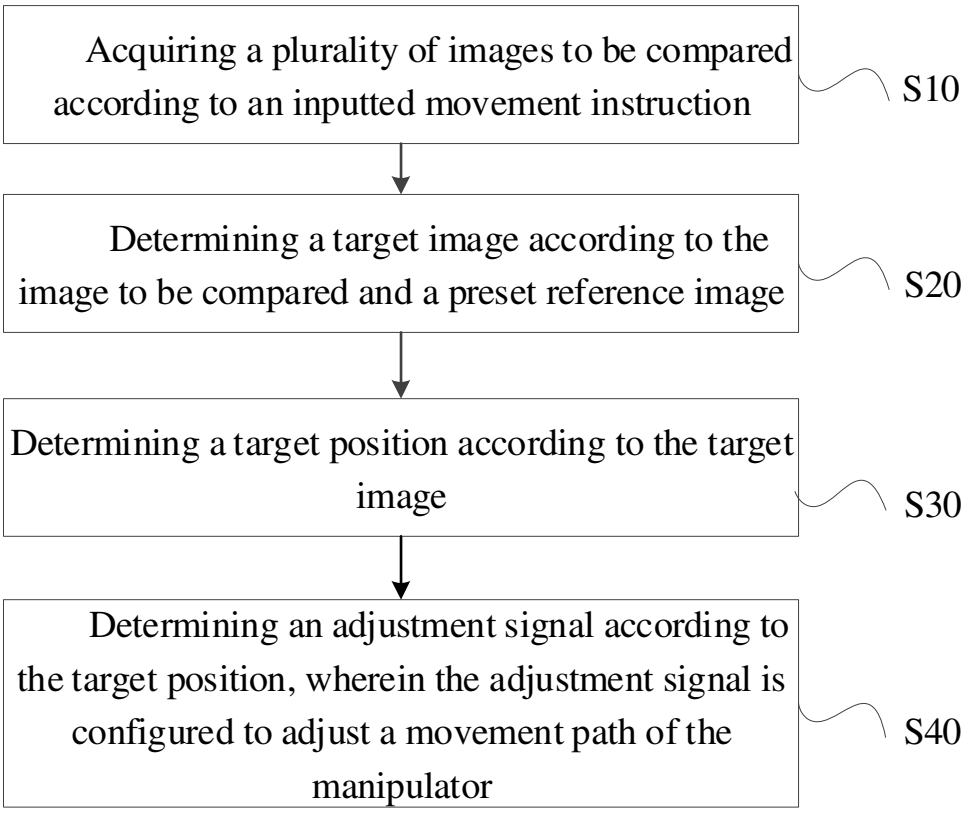

Acquiring a plurality of images to be compared according to an inputted movement instruction
S10
Determining a target image according to the image to be compared and a preset reference image
S20
Determining a target position according to the target image
S30
Determining an adjustment signal according to the target position, wherein the adjustment signal is configured to adjust a movement path of the manipulator
S40

FIG.2

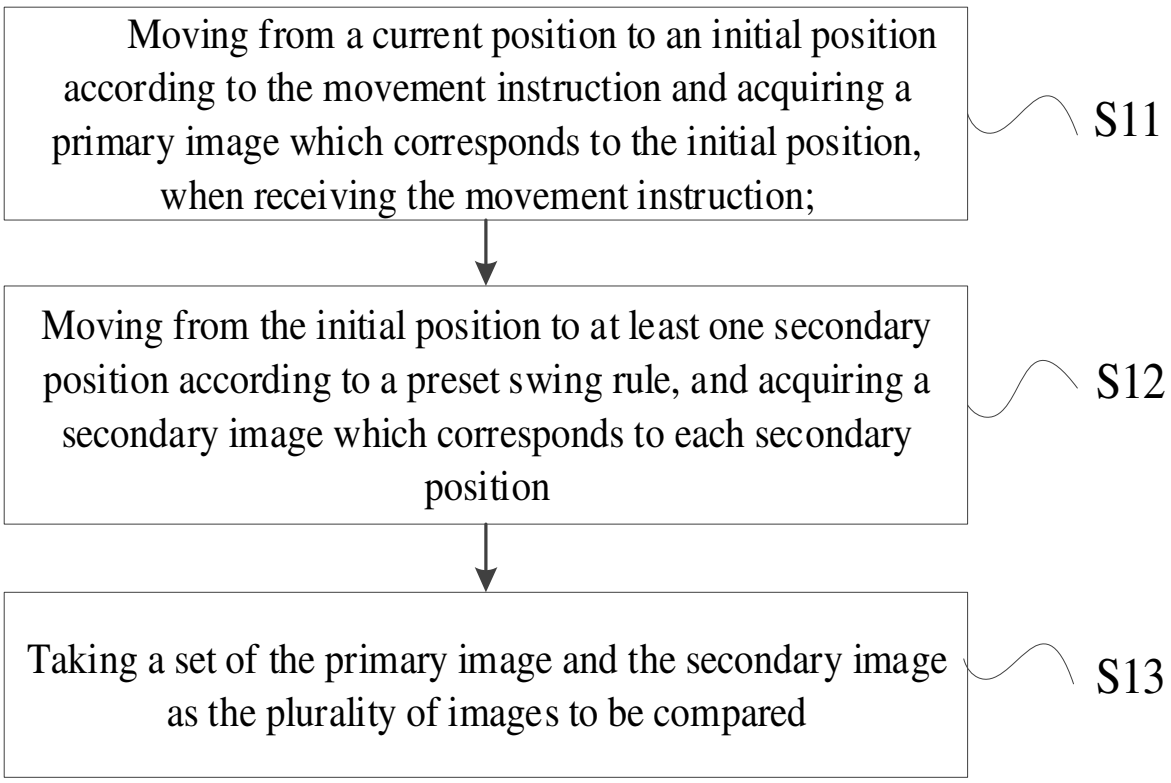

Moving from a current position to an initial position according to the movement instruction and acquiring a primary image which corresponds to the initial position, when receiving the movement instruction;
S11
Moving from the initial position to at least one secondary position according to a preset swing rule, and acquiring a secondary image which corresponds to each secondary position
S12
Taking a set of the primary image and the secondary image as the plurality of images to be compared
S13

FIG.3

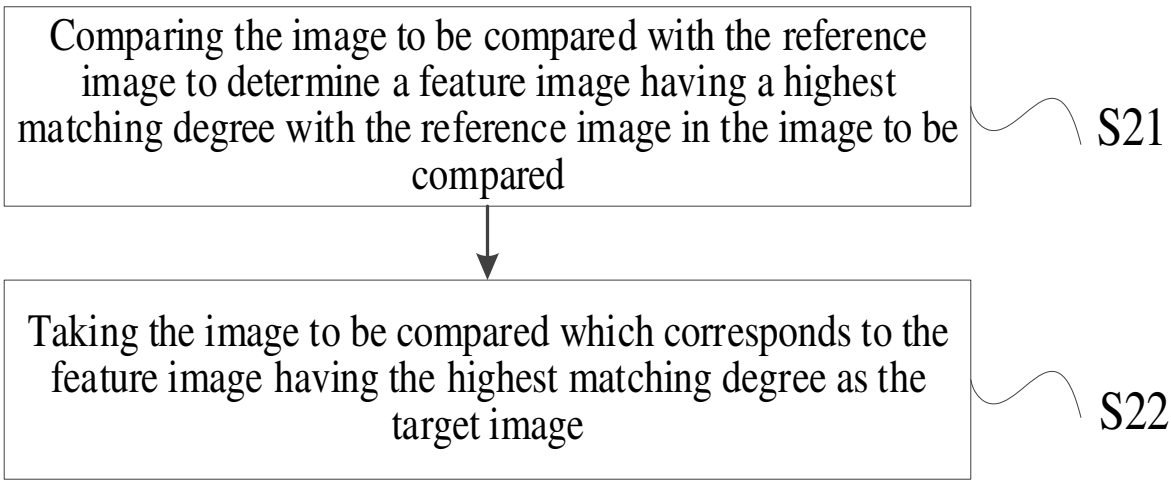

Comparing the image to be compared with the reference image to determine a feature image having a highest matching degree with the reference image in the image to be compared
S21
Taking the image to be compared which corresponds to the feature image having the highest matching degree as the target image
S22

FIG.4

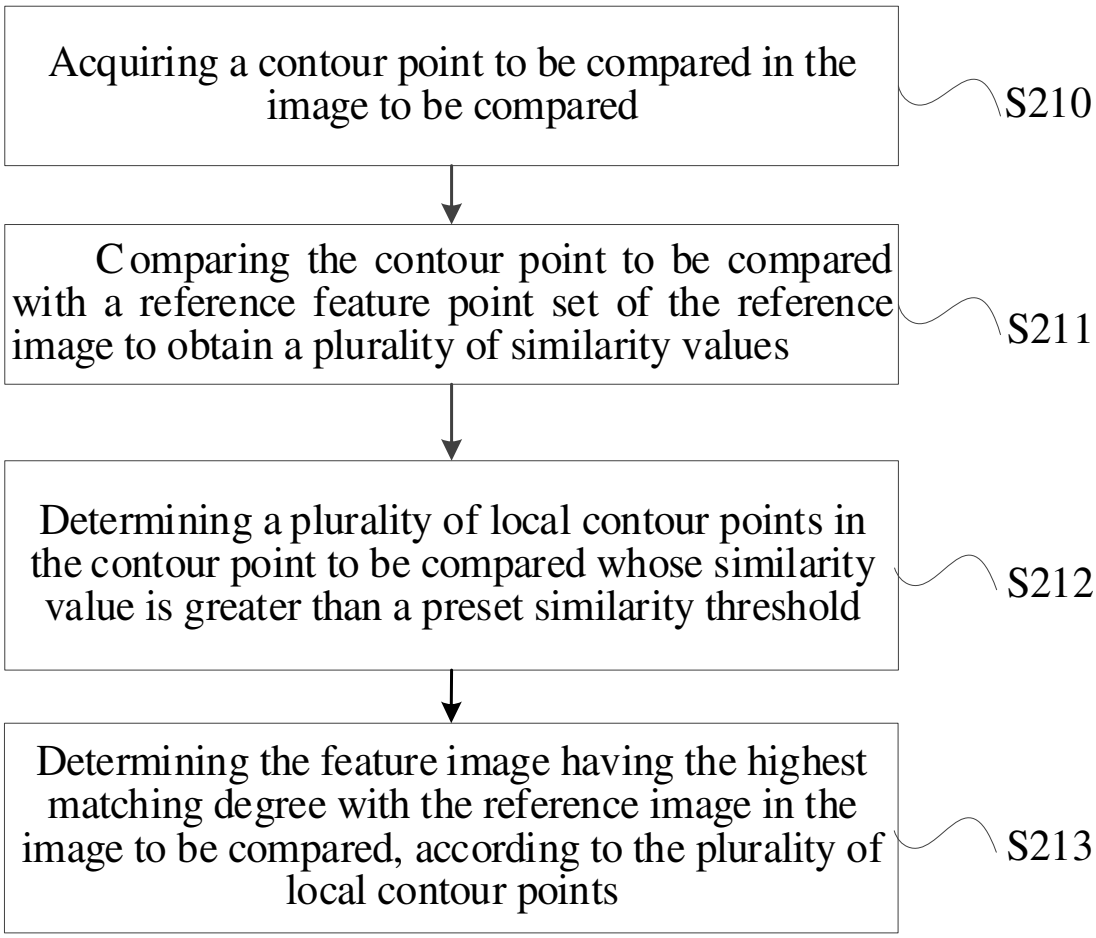

Acquiring a contour point to be compared in the image to be compared
S210
Comparing the contour point to be compared with a reference feature point set of the reference image to obtain a plurality of similarity values
S211
Determining a plurality of local contour points in the contour point to be compared whose similarity value is greater than a preset similarity threshold
S212
Determining the feature image having the highest matching degree with the reference image in the image to be compared, according to the plurality of local contour points
S213

FIG.5

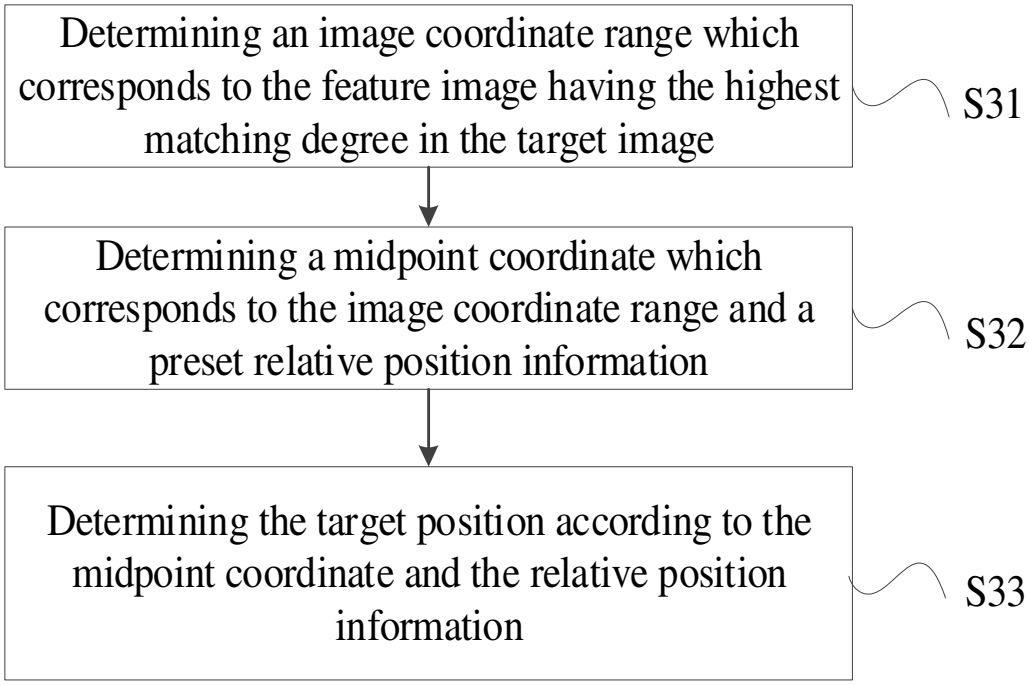

Determining an image coordinate range which corresponds to the feature image having the highest matching degree in the target image
S31
Determining a midpoint coordinate which corresponds to the image coordinate range and a preset relative position information
S32
Determining the target position according to the midpoint coordinate and the relative position information
S33

FIG.6

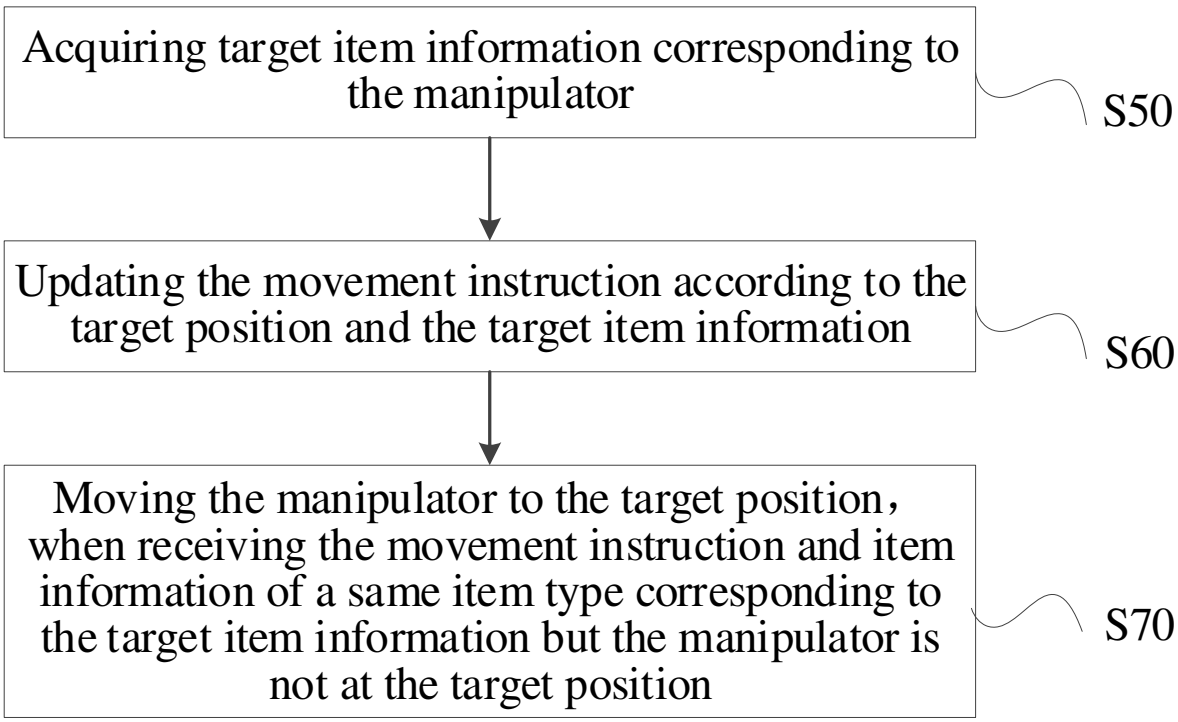

Acquiring target item information corresponding to the manipulator
S50
Updating the movement instruction according to the target position and the target item information
S60
Moving the manipulator to the target position, when receiving the movement instruction and item information of a same item type corresponding to the target item information but the manipulator is not at the target position
S70

FIG.7

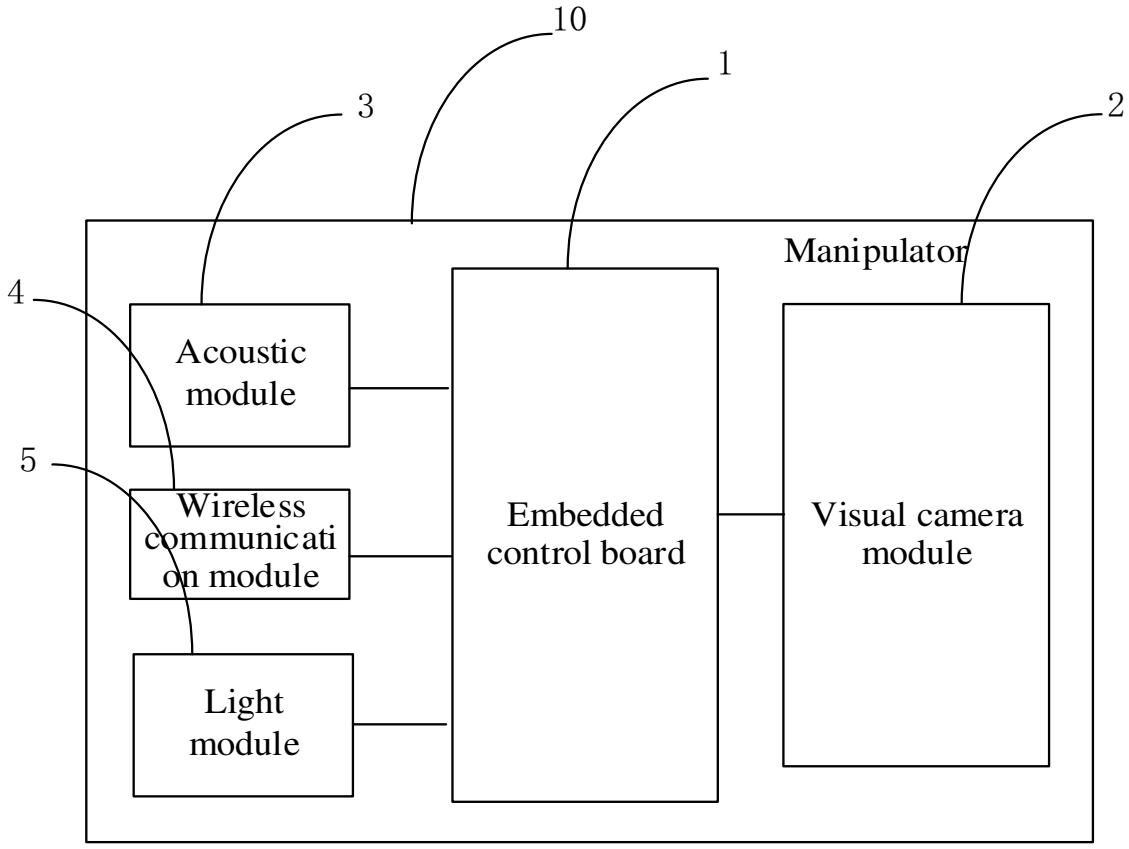

10
1
3
2
Manipulator
4
Acoustic module
5
Wireless communicati on module
Light module
Embedded control board
Visual camera module

FIG.8