

ABSTRACT

SOLDER BALL LOADING MECHANISM

The present ball loading mechanism includes a movable plate. Resting on top of the plate is a ball container adapted for holding relatively large quantities of solder balls. Pressurized air is provided from two sides of the container via an air supply tube in an alternating fashion where only one of the tubes is providing air at any given time such that the air pressure causes the solder balls to move from side to side inside the container. The plate has at least one array. The template basically comprises step holes which are arranged in an array formation identical to that of the pattern formed by the balls on the eventual BGA device. A pair of sensor devices , a detector and an emitter, is provided for detecting a missing ball in the templates. The emitter shines a light through the templates so that any hole which is not occupied by a solder ball will allow the light to be shined onto the detector when the templates are positioned below the detector.

FIG. 1