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ABSTRACT

**TEST HANDLER APPARATUS FOR SMD (SURFACE MOUNT DEVICES), BGA
(BALL GRID ARRAYS) AND CSP (CHIP SCALE PACKAGES)**

A test handler apparatus (1), having a treatment area
(3); a testing station (5) in the treatment area; and
5 an output unit (9) connected to an output of the
treatment area. An input unit (2) picks singulated or
stripped packages (30) and unloads them on carrier
boats (12) in a loading zone (4); a conveyor mechanism
(20, 6, 26, 47) transfers the carrier boats (12) from
10 the loading zone through the treatment area to the
testing station and from the testing station to the
output unit (9). In practice, the carrier boat (4)
forms a universal carrier which is able to contain
multiple singulated or strip packages for the purpose
15 of testing. Placing packages onto carriers with
standardized dimension allows handler equipment to
accommodate the packages in singulated or strip
condition.

20 Figure 2