

What is claimed is:

1. A chip packaging apparatus, comprising:

at least two chip supply devices (20, 20');

at least two chip processing devices (30, 30'), which are configured to process chips (70, D1, D2) provided by the corresponding chip supply device (20, 20');

at least two chip transfer devices (40, 40'), each chip transfer device (40, 40') respectively having multiple bond heads (41), and each bond head (41) transferring one of chips (70, D1, D2) which are processed by each corresponding chip processing device (30, 30');

wherein each chip processing device (30, 30') comprises at least two pick-up platforms (37, 37'), each pick-up platform (37, 37') is configured to simultaneously arrange the multiple chips (70, D1, D2); and the multiple bond heads (41) on the corresponding chip transfer device (40, 40') are configured to pick up the multiple chips (70, D1, D2) simultaneously from each pick-up platform (37, 37') at one time.;

wherein at least the two chip processing devices (30, 30') and at least the two chip transfer devices (40, 40') are disposed on the same side of at least the two chip supply devices (20, 20').
2. A chip packaging apparatus according to Claim 1, wherein at least the two chip supply devices (20, 20'), at least the two chip processing devices (30, 30') and at least the two chip transfer devices (40, 40') are arranged symmetrically and operated independently.
3. A chip packaging apparatus according to Claim 1, wherein each said chip processing device (30, 30') comprises a first pick-up platform (37) and a second pick-up platform (37'),

and a corresponding chip transfer device (40, 40') picks up the multiple chips (70, D1, D2) from the first pick-up platform (37) and the second pick-up platform (37') respectively.

4. A chip packaging apparatus according to Claim 3, wherein each of said pick-up platforms (37, 37') is movable between a loading position and a picking position, said pick-up platforms (37, 37') are adapted to be loaded with the multiple chips (70, D1, D2) while in the loading position, and said pick-up platforms (37, 37') are adapted to have the multiple bond heads simultaneously pick up the multiple chips (70, D1, D2) while in the picking position.

5. A chip packaging apparatus according to Claim 4, wherein each said chip processing device (30, 30') is arranged such that the first pick-up platform (37) and the second pick-up platform (37') are alternately in the loading position and in the picking position.

6. A chip packaging apparatus according to Claim 4, wherein at least the two chip transfer devices (40, 40') are correspondingly disposed above at least the two chip processing devices (30, 30'), and each pick-up platform (37, 37') is configured to be vertically adjustable in height to move between the loading position and picking position.

7. A chip packaging apparatus according to Claim 2, wherein at least the two chip supply devices (20, 20') provide different chips (70, D1, D2).

8. A chip packaging apparatus according to Claim 7, wherein at least the two chip processing devices (30, 30') respectively process chips (70, D1, D2) provided by the corresponding chip supply device (20, 20').

9. A chip packaging apparatus according to Claim 8, wherein at least the two chip transfer devices (40, 40') respectively transfer chips processed by the corresponding chip processing device (30, 30').

10. A chip packaging apparatus according to Claim 1, wherein the chip packaging apparatus further comprises a bonding platform (50); a substrate (80) is disposed on the bonding platform (50); the chip is bonded to the substrate (80) by said bond head (41).

11. A chip packaging apparatus according to Claim 10, wherein the bonding platform (50) is provided with a heating device (52), and the heating device (52) is adapted to heat the substrate (80) disposed on the bonding platform (50) to bond it to the chips (70, D1, D2).

12. A method for packaging chips, comprising:

providing a first chip supply device and a second chip supply device;

providing a first chip processing device and a second chip processing device, each chip processing device comprises a first pick-up platform and a second pick-up platform;

providing a first chip transfer device and a second chip transfer device;

wherein the two chip processing devices and the two chip transfer devices are disposed on the same side of the two chip supply devices,

moving the first pick-up platform and the second pick-up platform alternately in the loading position and in the picking position, wherein the pick-up platform is adapted to be loaded with the multiple chips in said loading position, and the pick-up platform is adapted to have the multiple bond heads, which is disposed on the chip transfer device, simultaneously pick up the multiple chips in said picking position;

wherein the first pick-up platform and the second pick-up platform are configured to be vertically adjustable in height in order to move between the loading position and picking position.

13. A method according to Claim 12, wherein the first chip processing device and the second chip processing device process different chips independently.

14. A method according to Claim 12, wherein a bonding platform is further provided, and the bonding platform is used for placing a substrate, and the chip is bonded to the substrate by the bond head.

15. A method according to Claim 14, wherein further comprises activating a heating device on the bonding platform, to heat the substrate disposed on the bonding platform in order to bond the chip to the substrate.

16. A method according to Claim 12, wherein the first chip transfer device and the second chip transfer device are further provided with a camera for detecting the multiple chips on the pick-up platform one by one to determine whether the position of each chip meet the requirements.

17. A method according to Claim 12, wherein the first chip transfer device and the second chip transfer device place the chips onto the substrate one by one to perform bonding.