

APPARATUS FOR LIQUID COOLING OF SPECIFIC COMPUTER COMPONENTS
ABSTRACT

Apparatus is provided for a heat transfer assembly for direct attachment to a high heat generating chip, which assembly includes a pump, air side heat exchanger mounted adjacent to a fan and a heat transfer plate which is attached to the high heat generating component for dissipating heat from such component under operating conditions. In another embodiment, apparatus is provided for dissipating heat from a hard disk drive including a U-shaped heat exchange clip resiliently mounted on opposite surfaces of a hard disk drive. In another embodiment, apparatus for dissipating heat from a hard disk drive includes a generally rectangular plate for mounting on the top or bottom of the hard disk drive. And, in another embodiment, apparatus is provided transferring heat from a vertical array of hard disk drives, which apparatus includes one or more panels interposed between adjacent vertically disposed hard disk drives.

(Fig. 1)