

Title (en)  
Integrally formed bubblejet print device

Title (de)  
Einstückig ausgebildete Bubblejet Druckvorrichtung

Title (fr)  
Imprimante à jet d'encre par bulles intégrée

Publication  
**EP 0498292 B1 19961127 (EN)**

Application  
**EP 92101475 A 19920129**

Priority

- AU 8999891 A 19911223
- AU PK437491 A 19910130
- AU PK473191 A 19910222
- AU PK473291 A 19910222
- AU PK473391 A 19910222
- AU PK473491 A 19910222
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- AU PK473791 A 19910222
- AU PK473891 A 19910222
- AU PK473991 A 19910222
- AU PK474091 A 19910222
- AU PK474191 A 19910222
- AU PK474291 A 19910222
- AU PK474391 A 19910222
- AU PK474491 A 19910222
- AU PK474591 A 19910222
- AU PK474691 A 19910222

Abstract (en)  
[origin: EP0498292A2] A bubblejet print device (100) is disclosed which is integrally formed having arrays (102,103,104,105) of nozzles (110) which form part of a passageway communicating between opposite surfaces of a semiconductor substrate (130). Each nozzle (110) has an integrally formed heater (120) which permits heating of ink (106) within the respective nozzle (110) for the ejection of an ink drop (108) therefrom. The heater (120) can provide a fault tolerant structure through the provision of a main heater (121,441) and a redundant heater (122,443) each of which can be separately energised from a corresponding electronic drive circuit (160,165). Several methods of manufacturing the device (100) using semiconductor fabrication techniques are also disclosed. A bubblejet print head (200) incorporating the device (100) can form part of an image reproducing apparatus (531,533,535,537) and is capable of printing full colour images at 400 dpi and monochrome images up to 1600 dpi. An ink drop size of about 3 picolitres is used for these image intensities. A thermal shunt (140) or diffuser (491) are used to transport heat away from the heater (120) to prevent formation of hot spots thereabout after the ejection of an ink drop (108). Electronic circuitry (310,302-305) is disclosed which is used to couple data to the device (100) to provide full width page printing using a stationary head (200) and a moving paper medium (220) <IMAGE>

IPC 1-7  
**B41J 2/16; B41J 29/377**

IPC 8 full level  
**B41J 2/14** (2006.01); **B41J 2/16** (2006.01); **B41J 2/175** (2006.01)

CPC (source: EP)  
**B41J 2/1404** (2013.01); **B41J 2/14056** (2013.01); **B41J 2/14137** (2013.01); **B41J 2/14145** (2013.01); **B41J 2/1603** (2013.01); **B41J 2/1623** (2013.01); **B41J 2/1628** (2013.01); **B41J 2/1629** (2013.01); **B41J 2/1631** (2013.01); **B41J 2/1632** (2013.01); **B41J 2/1635** (2013.01); **B41J 2/1642** (2013.01); **B41J 2/1643** (2013.01); **B41J 2/1645** (2013.01); **B41J 2/17563** (2013.01); **B41J 2002/1437** (2013.01); **B41J 2202/11** (2013.01); **B41J 2202/13** (2013.01)

Citation (examination)  
PATENT ABSTRACTS OF JAPAN, vol. 9, no. 121 (M-382)(1844), 25th May 1985; & JP-A-60 8076 (SEIKO DENSHI KOGYO K.K.) 16.01.1985

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Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IT LI LU NL PT SE

DOCDB simple family (publication)  
**EP 0498292 A2 19920812; EP 0498292 A3 19930224; EP 0498292 B1 19961127**; AT E145589 T1 19961215; AU 657931 B2 19950330; AU 8999891 A 19920806; DE 69215397 D1 19970109; DE 69215397 T2 19970605

DOCDB simple family (application)  
**EP 92101475 A 19920129**; AT 92101475 T 19920129; AU 8999891 A 19911223; DE 69215397 T 19920129