

Title (en)

PRINT HEAD CONTROL CIRCUIT, PRINT HEAD, AND LIQUID DISCHARGE APPARATUS

Title (de)

DRUCKKOPFSTEUERUNGSSCHALTUNG, DRUCKKOPF UND FLÜSSIGKEITSAUSGABEVORRICHTUNG

Title (fr)

CIRCUIT DE COMMANDE DE TÊTE D'IMPRESSION, TÊTE D'IMPRESSION ET APPAREIL DE LIBÉRATION DE LIQUIDE

Publication

EP 3686013 A3 20200909 (EN)

Application

EP 19198472 A 20190919

Priority

- JP 2018174369 A 20180919
- JP 2019036737 A 20190228

Abstract (en)

A print head control circuit controls an operation of a print head including a diagnosis circuit that diagnoses whether or not normal discharge of a liquid is possible. The print head control circuit includes a first cable including a first diagnosis signal propagation wiring for propagating a first diagnosis signal, a second diagnosis signal propagation wiring for propagating a second diagnosis signal, a third diagnosis signal propagation wiring for propagating a third diagnosis signal, a fourth diagnosis signal propagation wiring for propagating a fourth diagnosis signal, and a first driving signal propagation wiring for propagating a driving signal. A shortest distance between the first driving signal propagation wiring and the diagnosis circuit is longer than a shortest distance between the first diagnosis signal propagation wiring and the diagnosis circuit, longer than a shortest distance between the second diagnosis signal propagation wiring and the diagnosis circuit, longer than a shortest distance between the third diagnosis signal propagation wiring and the diagnosis circuit, and longer than a shortest distance between the fourth diagnosis signal propagation wiring and the diagnosis circuit.

IPC 8 full level

B41J 2/045 (2006.01); **B41J 2/14** (2006.01)

CPC (source: EP)

B41J 2/0451 (2013.01); **B41J 2/04521** (2013.01); **B41J 2/04541** (2013.01); **B41J 2/04563** (2013.01); **B41J 2/04581** (2013.01); **B41J 2/04588** (2013.01); **B41J 2/04593** (2013.01); **B41J 2/04596** (2013.01); **B41J 2/14233** (2013.01); **B41J 2002/14491** (2013.01)

Citation (search report)

- [Y] US 2014247299 A1 20140904 - KAMEYAMA HIROAKI [JP], et al
- [Y] US 2017173950 A1 20170622 - HAYASHI HIROKI [JP]
- [Y] WO 2017111065 A1 20170629 - SEIKO EPSON CORP [JP]

Cited by

US11772375B2; US11752768B2; US11760093B2; EP3960468A1; CN114103449A; US11806987B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3686013 A2 20200729; EP 3686013 A3 20200909; EP 3686013 B1 20221102; JP 2020049933 A 20200402; JP 7196690 B2 20221227

DOCDB simple family (application)

EP 19198472 A 20190919; JP 2019036737 A 20190228