



US 20220385279A1

(19) **United States**(12) **Patent Application Publication**  
**LI et al.**(10) **Pub. No.: US 2022/0385279 A1**(43) **Pub. Date: Dec. 1, 2022**(54) **FIXED TIME-DELAY CIRCUIT OF  
HIGH-SPEED INTERFACE****Publication Classification**(71) Applicant: **SHENZHEN PANGO  
MICROSYSTEMS CO.,LTD.,**  
Shenzhen City (CN)(72) Inventors: **Kai LI**, Shenzhen City (CN); **Yuanjun  
LIANG**, Shenzhen City (CN)(73) Assignee: **SHENZHEN PANGO  
MICROSYSTEMS CO.,LTD.,**  
Shenzhen City (CN)(21) Appl. No.: **17/775,906**(22) PCT Filed: **Jul. 20, 2020**(86) PCT No.: **PCT/CN2020/103018**

§ 371 (c)(1),

(2) Date: **May 11, 2022**(30) **Foreign Application Priority Data**

Jan. 17, 2020 (CN) ..... 202010058653.0

(51) **Int. Cl.****H03K 5/01** (2006.01)**H03K 3/037** (2006.01)**H03K 21/02** (2006.01)(52) **U.S. Cl.**CPC ..... **H03K 5/01** (2013.01); **H03K 3/037**  
(2013.01); **H03K 21/02** (2013.01); **H03K**  
**2005/00078** (2013.01)

(57)

**ABSTRACT**

A fixed time-delay circuit of a high-speed interface is disclosed. The fixed time-delay circuit comprises: a counter circuit for generating a shift selection signal of any bit; a data selector circuit for receiving first parallel data signals and rearranging the first parallel data signals according to the shift selection signal and a first low-speed clock to obtain second parallel data signals; a clock selector circuit for selecting, according to the shift selection signal, one clock from multiple input clocks having different phases, for outputting, to form a second low-speed clock; and a synchronization circuit for synchronizing the second parallel data signals according to the second low-speed clock. According to the circuit, initialization alignment among multichannel data of the high-speed interface can be achieved.

