

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

Send any inquiries to <http://www.renesas.com/inquiry>.

MESC TECHNICAL NEWS

No.M740-15-9910

Attention of USB MCU software for Apple PC

When the USB MCU shown below is connected to Apple PC* (PC with MacOS*), the software countermeasures of the MCU side are required.

●Affected devices

M37532RSS, M37532E8FP, M37532M4-XXXFP, M37532M4-XXXGP
M37536RSS, M37536E8SP, M37536M4-XXXSP

*: Apple, MacOS are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

1. Reason

When the USB MCU is connected to Apple PC (PC with MacOS), in the Control transfer of Endpoint 0, the case in which the transaction is handled in order shown by Figure 1 might happen. In this case, the toggle function of the USB function in the 7532/7536 Group may be failed. (Enumerate may be failed in Enumerate.)

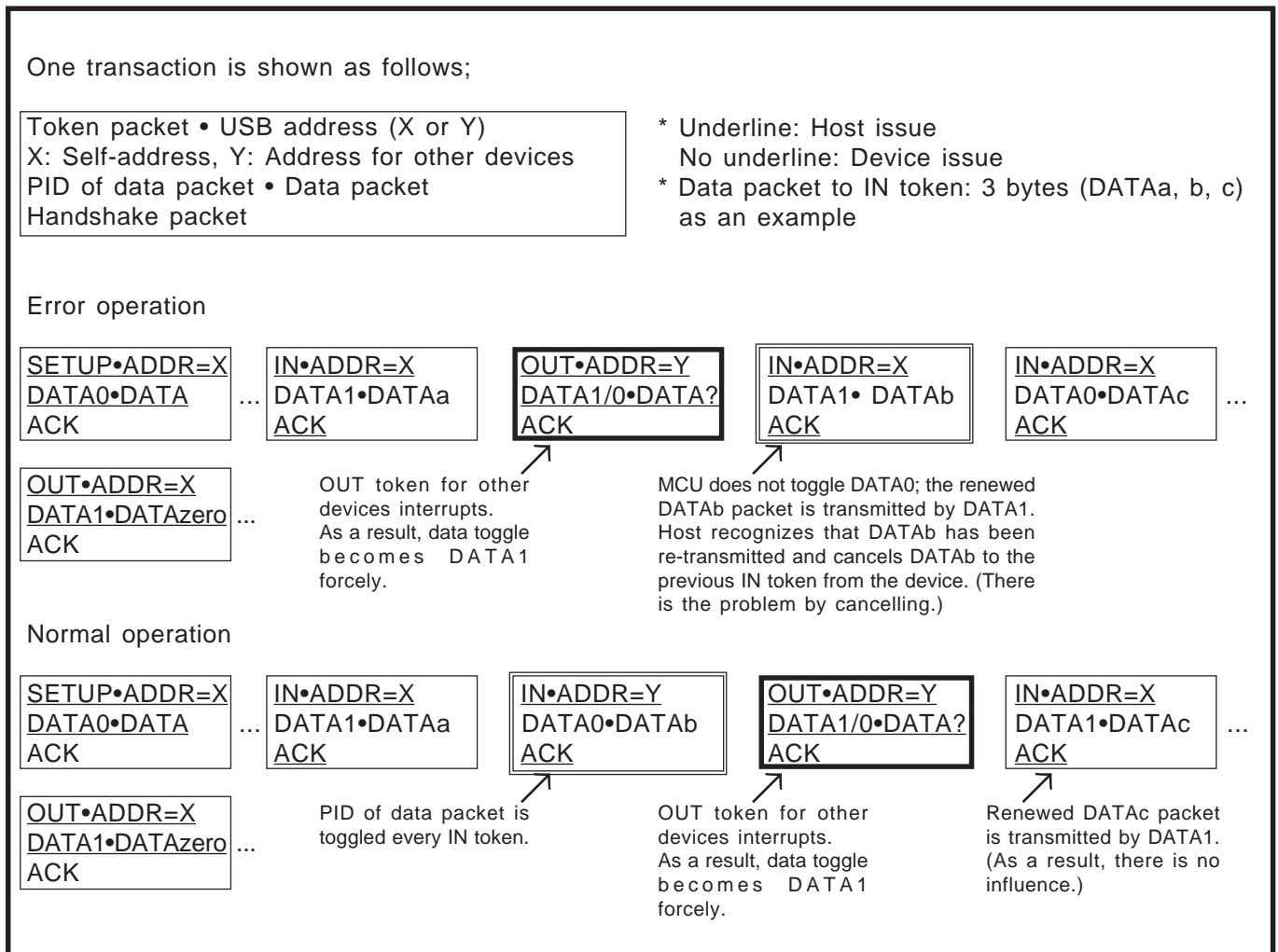


Fig. 1 Description of error operation at Control transfer

2. Software countemeasures

Change the software of MCU according to the flow chart in Figures 2 and 3 to prevent this problem.

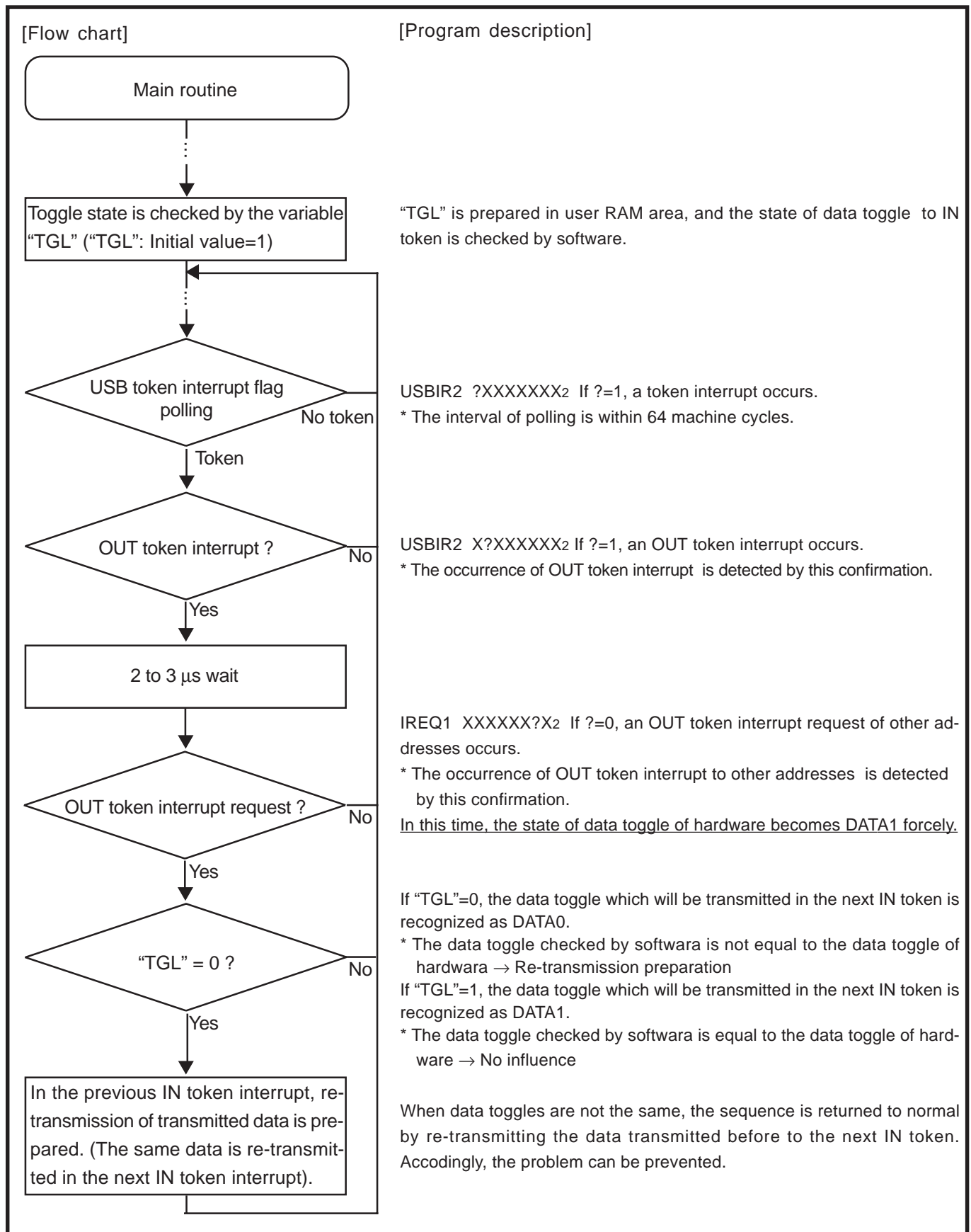


Fig. 2 MCU software flow chart for preventing problem (add to main routine)

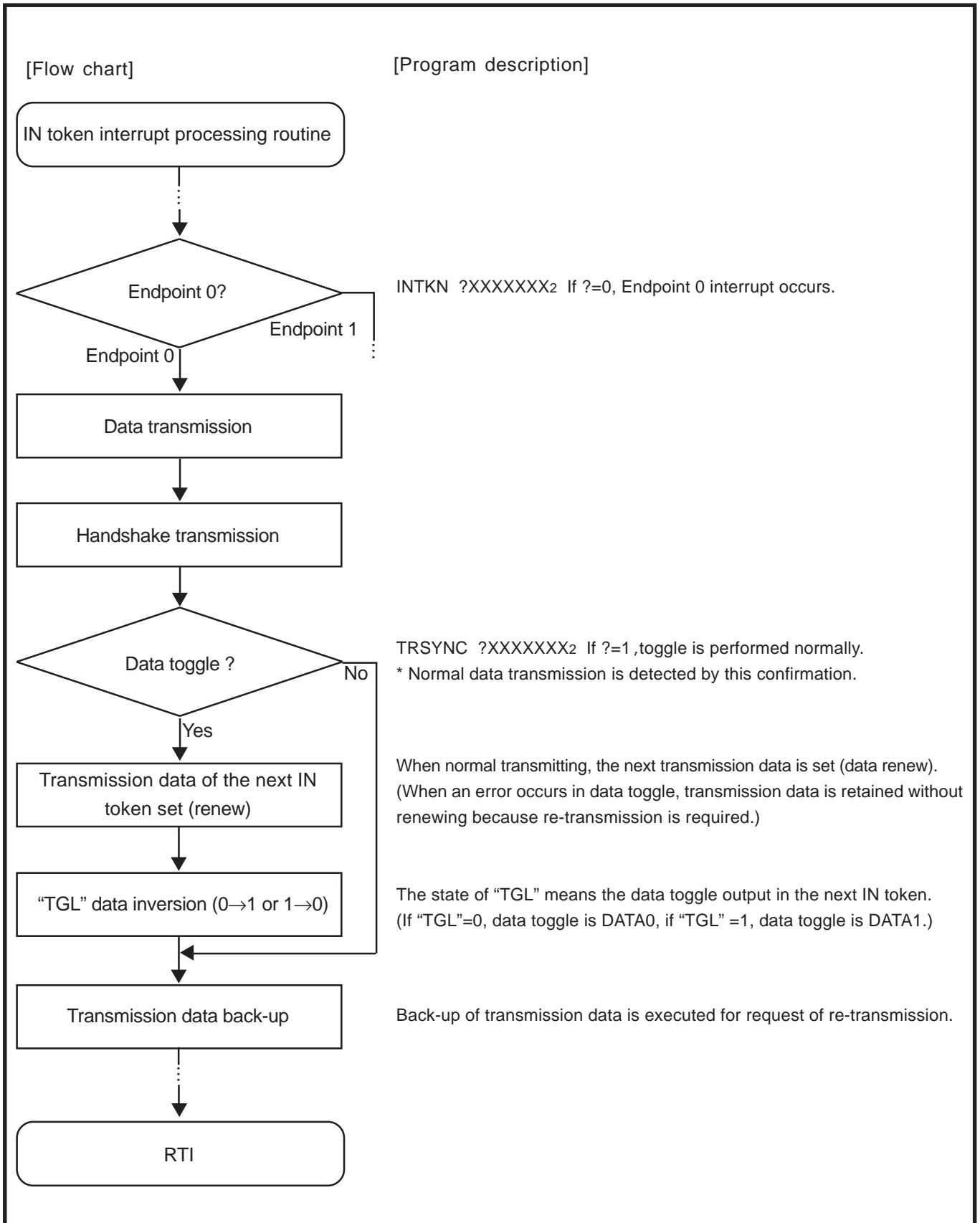


Fig. 3 MCU software flow chart for preventing problem (add to IN token interrupt)

3. Operation after software countermeasures

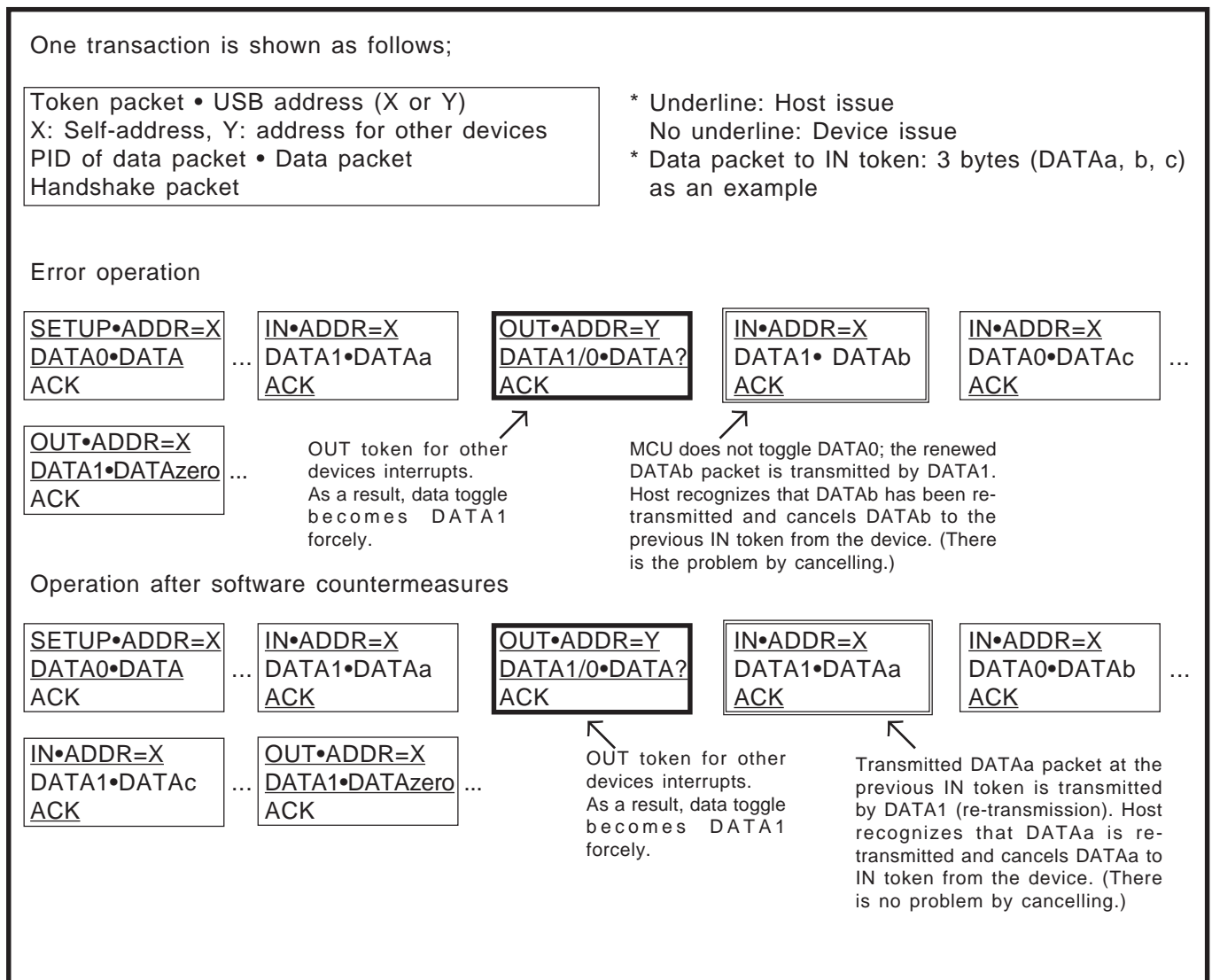


Fig. 4 Comparing the error operation at Control transfer with the operation after software countermeasures

4. Eternal countermeasures

As for the affected devices, consider about the execution of software countermeasures. We are planning to revise the hardware to solve the above problem.

This problem is found only at the connection between the Apple PC with MacOS and the above devices of OS on the market. However, when the program is revised, take the above software countermeasures into consideration to connect the Windows* or PC with MacOS to the USB MCU stably in the future.

*: Windows is a registered trademark of Microsoft Corporation in the U.S. and other countries.