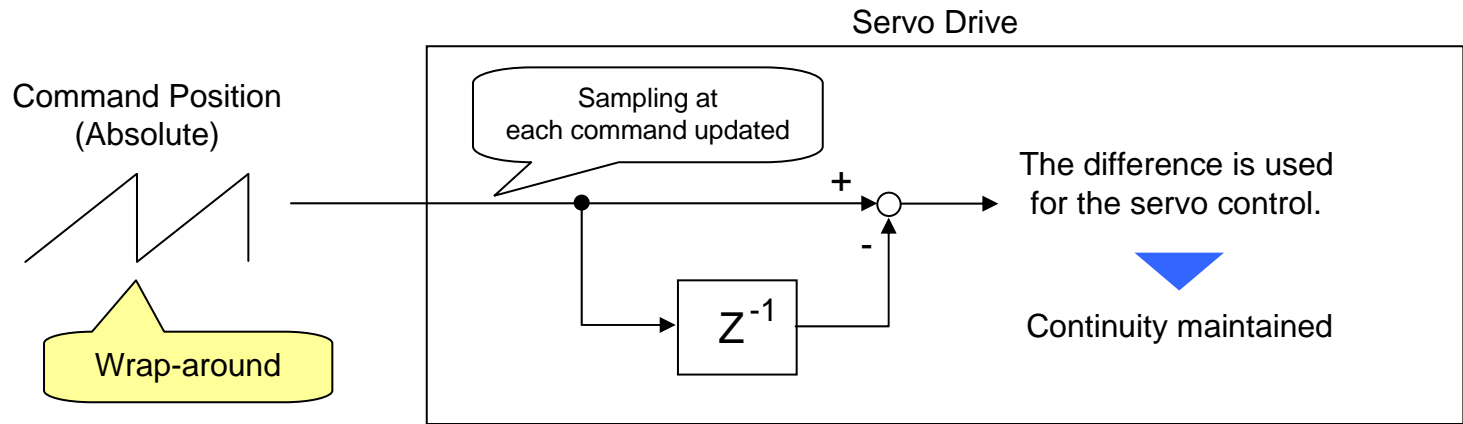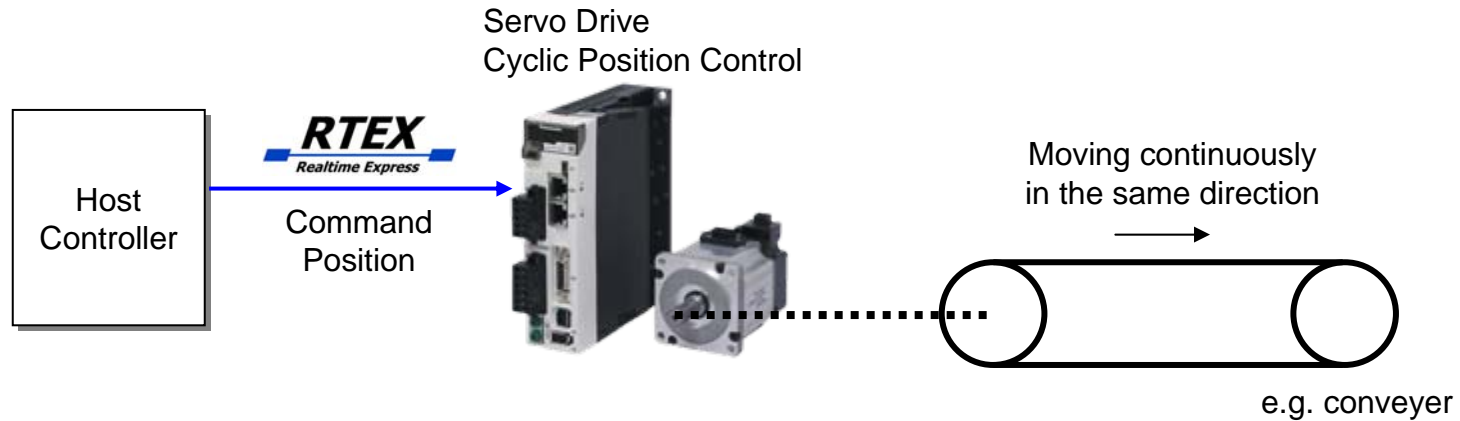# Wrap-around in Command Position

2014/1/28

Motor Business Division
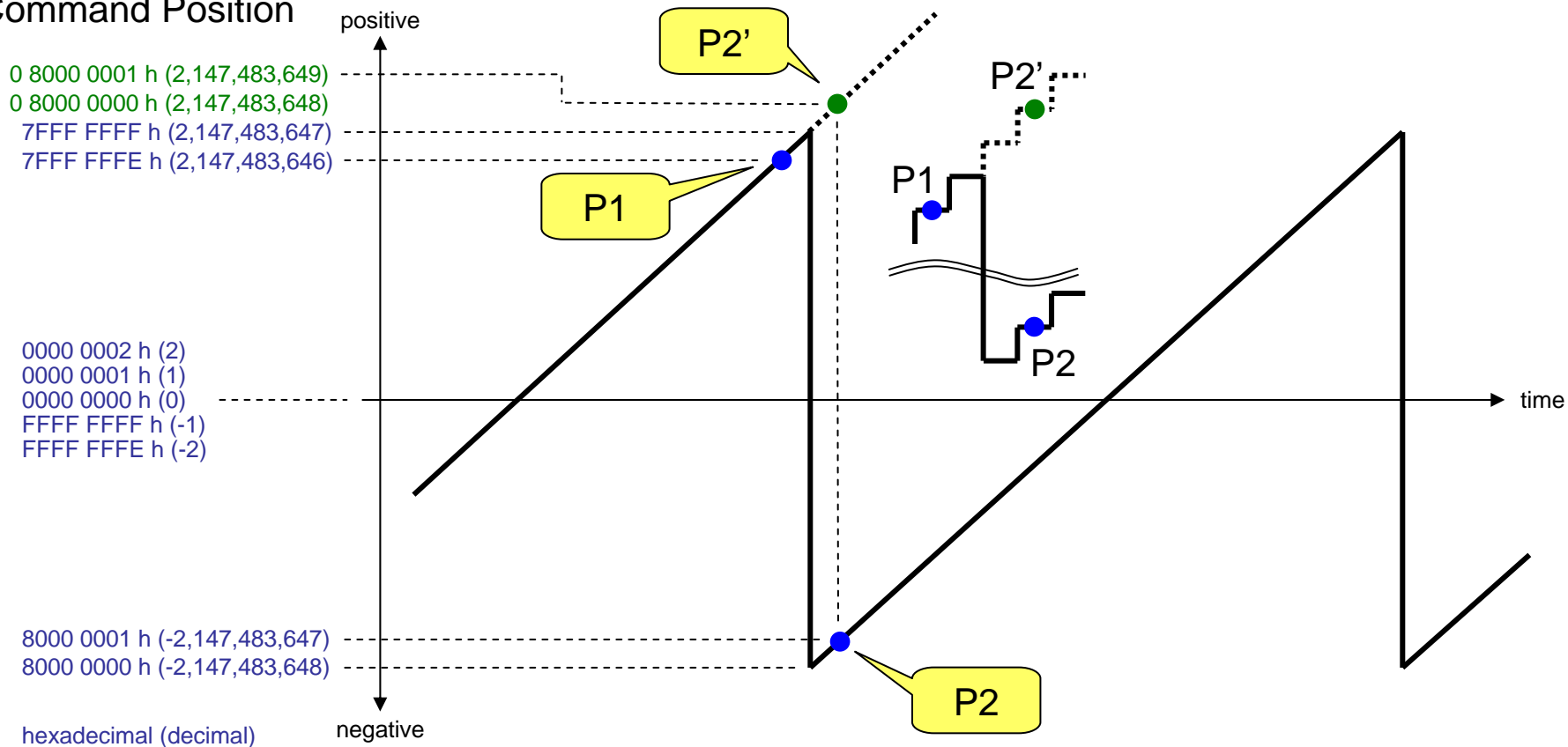Appliances Company
Panasonic Corporation

Wrap-around in Command Position

When the cyclic position control is used for an application moving continuously in the same direction such as a conveyer, wrap-around occurs in the command position.
To maintain continuity in this case, the difference between current and previous position is used for the servo control.

Servo Drive
Cyclic Position Control

RTEX *Realtime Express*

Host Controller

Command Position

Moving continuously in the same direction

e.g. conveyer

Servo Drive

Command Position (Absolute)

Sampling at each command updated

The difference is used for the servo control.

+

−

Z^{-1}

Continuity maintained

Wrap-around

Panasonic

Example of Positive Rotation

In the above figure, when the command position is changed from P1 to P2, the difference is as follows:

P2 – P1 = 8000 0001 h – 7FFF FFFE h
$\qquad$ = 0000 0003 h (3)

Thus the servo drive recognizes 3-pulse motion forward.
This is the same result as change from P1 to P2' calculated with the longer data than 32-bit.

Panasonic