

Flexcan CAN Controller driver

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On/off RTR frames reception

For most flexcan IP cores the driver supports 2 RX modes:

- FIFO
- mailbox

The older flexcan cores (integrated into the i.MX25, i.MX28, i.MX35 and i.MX53 SOCs) only receive RTR frames if the controller is configured for RX-FIFO mode.

The RX FIFO mode uses a hardware FIFO with a depth of 6 CAN frames, while the mailbox mode uses a software FIFO with a depth of up to 62 CAN frames. With the help of the bigger buffer, the mailbox mode performs better under high system load situations.

As reception of RTR frames is part of the CAN standard, all flexcan cores come up in a mode where RTR reception is possible.

With the "rx-rtr" private flag the ability to receive RTR frames can be waived at the expense of losing the ability to receive RTR messages. This trade off is beneficial in certain use cases.

"rx-rtr" on

Receive RTR frames. (default)

The CAN controller can and will receive RTR frames.

On some IP cores the controller cannot receive RTR frames in the more performant "RX mailbox" mode and will use "RX FIFO" mode instead.

"rx-rtr" off

Waive ability to receive RTR frames. (not supported on all IP cores)

This mode activates the "RX mailbox mode" for better performance, on some IP cores RTR frames cannot be received anymore.

The setting can only be changed if the interface is down:

```
ip link set dev can0 down
ethtool --set-priv-flags can0 rx-rtr {off|on}
ip link set dev can0 up
```