

devGpio

EPICS Device Support for General Purpose Input/Output Pins

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Contents

1	Introduciton	1
2	Usage	1
3	Asynchronous Handling	1
4	IOC Shell Commands	2
5	TODOs	2

1 Introduciton

This Device Support Module allows to use the GPIOs of different ARM-Boards.

2 Usage

To make a record use devGpio, set its DTYP field to "devGpio". The INP or OUT link has the form "@PIN ACTIVE". PIN can either be the Name (e.g. "GPIO1_28"), Key (e.g. "P9_12") or the actual number (e.g. "60"). The first two options require to load the GPIO look-up tables (see sec. 4).

ACTIVE is the logic type for this gpio ("H" for active high, "L" for active low).

Example:

```
record( bo, "GPIO:P9:12:OUT" ) {
    field( DTYP, "devGpio" )
    field( OUT, "@P9_12 H" )
}
```

Currently only bi and bo records are supported.

3 Asynchronous Handling

Input records can be set to SCAN = "I/O Intr". Currently an interrupt is triggered on both (falling and rising) edges.

4 IOC Shell Commands

In order to load the lookup table for the GPIO names and keys the following IOC shell command has to be invoked before loading the database

```
1 GpioConstConfigure( "BOARD" )
```

Key	Meaning
"RASPI B REV2"	Load lookup table for the Raspberry Pi B Rev2
"RASPI B+"	Load lookup table for the Raspberry Pi B+ / Raspberry Pi 2 B
"BEAGLEBONE BLACK"	Load lookup table for the BeagleBone Black

5 TODOs

- Fix permission problem on BeagleBone Black
udev rule currently needs about 25 ms
- Support of multi-bit-binary records