

## T-EMU: GRLIB GRGPIO Device Model Manual



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## Record of Changes

Author	Description	Rev	Date
Mattias Holm	Initial Version	1.0	2017-01-06

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# 1. Introduction

The GRGPIO device is part of the GRLIB device library from Gaisler. The GrGPIO model simulates a 16 pin GPIO device by providing input and output via the SignalIface.

# 2. Usage

The device can be connected to and from via the signal interface it implements. It implements 16 usable signals (signal 0 through 15). Signal 0 cannot raise interrupts.

You can connect the signal interface as follows:

### Connecting via Command Line.

```
# Connect GPIO device signal 0 to device model
connect a=gpio.outSignals[0] b=mydevice:SignalIface

# Connect a device signal interface ref to GPIO device
connect a=mydevice.signal b=gpio:SignalIface[1]
```

### Connecting via API.

```
// Connect GPIO device signal 0 to device model
temu_connect(gpio, "outSignals[0]", mydevice, "SignalIface");

// Connect a device signal interface ref to GPIO device
temu_connect(mydevice, "signal", gpio, "SignalIface[1]");
```

## 3. Attributes

### 3.1. Properties

Name	Type	Description
data	uint32_t	
direction	uint32_t	
edge	uint32_t	
irqCtrl	iref / <unknown>	
mask	uint32_t	
object.timeSource	object	Time source object (a cpu or machine object)
outSignals	[32 x iref / SignalIface]	
output	uint32_t	
pnp.bar	uint32_t	
pnp.config	uint32_t	
polarity	uint32_t	

### 3.2. Interfaces

Name	Type	Description
ApbIface	ApbIface	
Devicelface	Devicelface	
MemAccessIface	MemAccessIface	
ResetIface	ResetIface	
SignalIface	SignalIface	Incomming signals

### 3.3. Ports

Prop	Iface	Description
-	-	-

## 4. Limitations

- Only the UT700 based configuration is supported at the moment. That means that the bypass and capabilities registers are missing. Further the IRQ map registers are not available.