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LEDの割り当てと表示パターン、使用例

LEDの割り当て □LED assignment□

Status LED

MA-X3xx には、2色(赤/緑) LED が 4 個 (POWER, STATUS-1□3) 実装されています。

□English:MA-X3xx is equipped with four two-color (red/green) LEDs (POWER, STATUS-1 to 3).□



それぞれのデフォルトでの割り当ては下記のようになっています。

□The default assignments for each are as follows□

LED	Color	状態	意味	sysfs以下 相対PATH
POWER	緑 (green□	消灯	電源OFF□Power OFF□	PowerLED:G
	赤 (red□	点灯	電源ON□Power ON□	power-stat:r
STATUS-1	緑 (green□	消灯		system-status1:g
	赤 (red□	点灯	Kernel動作中□Kernel is running□	system-status1:r
STATUS-2	緑 (green□	消灯		system-status2:g
	赤 (red□	点灯		system-status2:r

LED	Color	状態	意味	sysfs以下 相对PATH
STATUS-3	緑 (green)	消灯		system-status3:g
		点灯	出荷状態での起動 (Default startup) ¹⁾	
	赤 (red)	消灯		system-status3:r
点灯				
点滅 (flashing)	シャットダウン処理中 (shutdown process in progress)			

全ての LED は LED class driver²⁾ の実装となっていますので (sysfs³⁾ I/F により任意の動作に変更が可能です。

(All LEDs are implemented with LED class driver²⁾ , so they can be changed to any operation by sysfs³⁾ I/F.)

```

root@metis:~# ls -l /sys/class/leds/
total 0
lrwxrwxrwx 1 root root 0 Jun 13 13:36 ConsoleEnable ->
../../devices/platform/gpio-leds/leds/ConsoleEnable
lrwxrwxrwx 1 root root 0 Jun 13 13:36 D0_S0 -> ../../devices/platform/gpio-
leds/leds/D0_S0
lrwxrwxrwx 1 root root 0 Jun 13 13:36 D0_T0 -> ../../devices/platform/gpio-
leds/leds/D0_T0
lrwxrwxrwx 1 root root 0 Jun 13 13:36 LED_Drv_Enable ->
../../devices/platform/gpio-leds/leds/LED_Drv_Enable
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MSP430_RST ->
../../devices/platform/gpio-leds/leds/MSP430_RST
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MSP430_TEST ->
../../devices/platform/gpio-leds/leds/MSP430_TEST
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_G0 ->
../../devices/platform/gpio-leds/leds/MobileLED_G0
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_G1 ->
../../devices/platform/gpio-leds/leds/MobileLED_G1
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_G2 ->
../../devices/platform/gpio-leds/leds/MobileLED_G2
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_R0 ->
../../devices/platform/gpio-leds/leds/MobileLED_R0
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_R1 ->
../../devices/platform/gpio-leds/leds/MobileLED_R1
lrwxrwxrwx 1 root root 0 Jun 13 13:36 MobileLED_R2 ->
../../devices/platform/gpio-leds/leds/MobileLED_R2
lrwxrwxrwx 1 root root 0 Jun 13 13:36 Mobile_Power ->
../../devices/platform/gpio-leds/leds/Mobile_Power
lrwxrwxrwx 1 root root 0 Jun 13 13:36 Mobile_RESETN ->
../../devices/platform/gpio-leds/leds/Mobile_RESETN
lrwxrwxrwx 1 root root 0 Jun 13 13:36 PHY0_Reset ->
../../devices/platform/gpio-leds/leds/PHY0_Reset
lrwxrwxrwx 1 root root 0 Jun 13 13:36 PHY1_Reset ->
../../devices/platform/gpio-leds/leds/PHY1_Reset
lrwxrwxrwx 1 root root 0 Jun 13 13:36 PowerLED:G ->
../../devices/platform/gpio-leds/leds/PowerLED:G
    
```

```
lrwxrwxrwx 1 root root 0 Jun 13 13:36 SHUTDOWN_REQ ->
../..../devices/platform/gpio-leds/leds/SHUTDOWN_REQ
lrwxrwxrwx 1 root root 0 Jun 13 13:36 USBHub_Reset ->
../..../devices/platform/gpio-leds/leds/USBHub_Reset
lrwxrwxrwx 1 root root 0 Jun 13 13:36 mmc0:: ->
../..../devices/platform/bus@f4000/fa10000.mmc/leds/mmc0::
lrwxrwxrwx 1 root root 0 Jun 13 13:36 mmc1:: ->
../..../devices/platform/bus@f4000/fa00000.mmc/leds/mmc1::
lrwxrwxrwx 1 root root 0 Jun 13 13:36 power-stat:r ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/power-stat:r
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status1:g ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status1:g
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status1:r ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status1:r
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status2:g ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status2:g
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status2:r ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status2:r
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status3:g ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status3:g
lrwxrwxrwx 1 root root 0 Jun 13 13:36 system-status3:r ->
../..../devices/platform/bus@f4000/20010000.i2c/i2c-1/1-0045/leds/system-
status3:r
root@metis:~#
```

LED の変更

前述したとおり `sysfs`⁴⁾ I/F により任意の動作に変更が可能です。
使用例を示します。

トリガー

- system-status2:r LED のトリガー設定を確認

```
root@metis:/sys/class/leds/system-status2:r# cat trigger
[none] usb-gadget usb-host kbd-scrolllock kbd-numlock kbd-capslock kbd-
kanalock kbd-shiftlock kbd-altgrlock kbd-ctrllock kbd-altlock kbd-shiftllock
kbd-shiftrlock kbd-ctrlllock kbd-ctrlrlock usbport timer oneshot mtd nand-
disk heartbeat gpio cpu cpu0 cpu1 activity default-on transient panic netdev
```

```
pattern mmc0 mmc1 8000f00.mdio:03:link 8000f00.mdio:03:1Gbps
8000f00.mdio:03:100Mbps 8000f00.mdio:03:10Mbps 8000f00.mdio:02:link
8000f00.mdio:02:1Gbps 8000f00.mdio:02:100Mbps 8000f00.mdio:02:10Mbps
```

- “heartbeat” に変更

```
root@metis:/sys/class/leds/system-status2:r# echo heartbeat > trigger
root@metis:/sys/class/leds/system-status2:r# cat trigger
none usb-gadget usb-host kbd-scrolllock kbd-numlock kbd-capslock kbd-
kanalock kbd-shiftlock kbd-altgrlock kbd-ctrllock kbd-altlock kbd-shiftllock
kbd-shiftrlock kbd-ctrllock kbd-ctrlrlock usbport timer oneshot mtd nand-
disk [heartbeat] gpio cpu cpu0 cpu1 activity default-on transient panic
netdev pattern mmc0 mmc1 8000f00.mdio:03:link 8000f00.mdio:03:1Gbps
8000f00.mdio:03:100Mbps 8000f00.mdio:03:10Mbps 8000f00.mdio:02:link
8000f00.mdio:02:1Gbps 8000f00.mdio:02:100Mbps 8000f00.mdio:02:10Mbps
```

On/Off (brightness)

- system-status2:r LED の On/Off 状態を確認

```
root@metis:/sys/class/leds/system-status2:r# cat brightness
0
```

- On に変更

```
root@metis:/sys/class/leds/system-status2:r# echo 255 > brightness
root@metis:/sys/class/leds/system-status2:r# cat brightness
255
```

LTE Module LED

LTE モジュールが搭載された機種には For models equipped with LTE modules

- アンテナレベル (0 3) Antenna level (0 to 3)
- 回線接続状態 line connection status

を表す LED が実装されています An LED is mounted to indicate the



LTE モジュールのアンテナレベル及び回線への接続状態により、点灯パターンが変化します。
 [The lighting pattern changes depending on the antenna level of the LTE module and the state of connection to the line.]

アンテナレベルモニタ(mobile_watch_ng) により制御されています。

接続状態	アンテナレベル	LED			Note
		ANT I	ANT II	MOBILE	
-	0	点灯	消灯	-	
	1	点灯	消灯	-	
	2	消灯	点灯	-	
	3	点灯	点灯	-	
切断 [line disconnection]	-	-	-	消灯	
接続中 ⁵⁾ [The line is connecting.]	-	-	-	点灯	
モジュール電源OFF [Module power OFF]	-	消灯	消灯	消灯	

1)
出荷時状態での起動

2)
<https://www.kernel.org/doc/Documentation/leds/leds-class.txt>

3) , 4)
<http://ja.wikipedia.org/wiki/Sysfs>

5)
Demand で待機中含む

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