ALLWIMER® Lillegitet Lillegitet

LRADC接口使用说明书



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文档履历

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1. 概述

1.1 编写目的

介绍按键 key 模块的基本实现原理。

1.2 适用范围

适用 allwinnertech 的平台

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1.3 相关人员

按键 key 模块驱动的开发/维护人员

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2. 模块介绍

2.1 模块功能介绍

按键模块属于 input 输入子系统,一般包括音量加,音量减, home 键等。

2.2 相关术语介绍

lesitet	Mesitek
Sillo	Sillo
18,00	118,00
7.	

	Siter	Siter	a siter	asiter
术语 心間	解释说明	Ville	Wille	Julie
KEY	按键			
LRADC	low rate analog digital converter 低速率模数转换器			

2.3 模块配置介绍

2.3.1 menuconfig 配置说明

在命令行中进入内核根目录,执行 make ARCH=arm menuconfig (64 位平台执行 make ARCH=arm64 menuconfig)进入配置主界面,并按以下步骤操作:首先,选择 Device Drivers选项进入下一级配置,如下图所示:



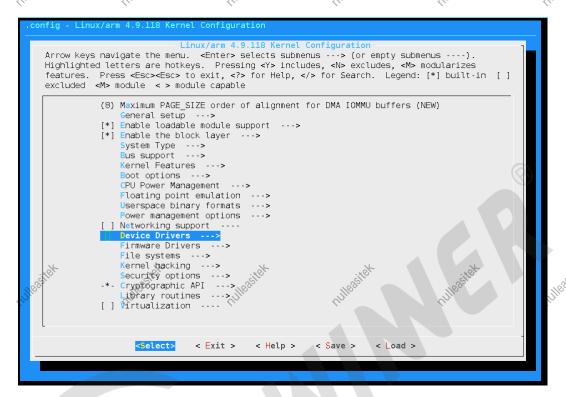


图 1: Device Drivers 选项配置

然后,选择 Input device support 选项,进入下一级配置,如下图所示:



LWIMER*

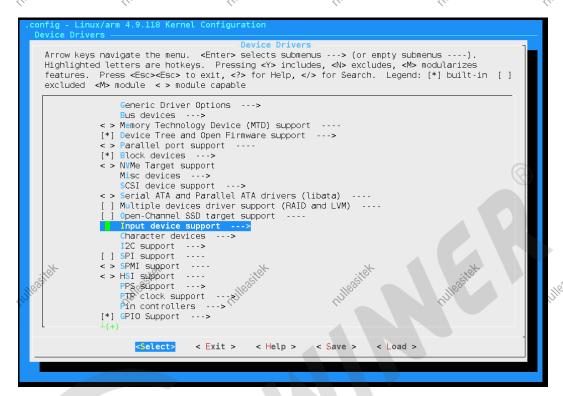


图 2: Device Drivers 选项配置

接着,选择 Keyboards 选项,进入下一级配置,如下图:

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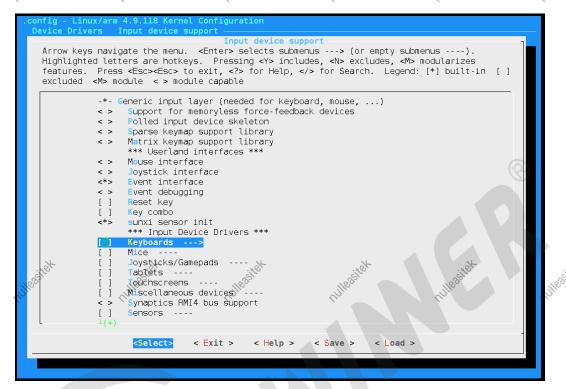


图 3: Device Drivers 选项配置

选择 softwinner KEY BOARD support 选项,可选择直接编译进内核。如下图:





Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [] excluded <M> module <> module capable DECstation/VAXstation LK201/LK401 keyboard Polled GPIO buttons TCA6416/TCA6408A Keypad Support TCA8418 Keypad Support GPIO driven matrix keypad support LM8333 keypad chip Maxim MAX7359 Key Switch Controller MELFAS MCS Touchkey Freescale MPR121 Touchkey Newton keyboard OpenCores Keyboard Controller Samsung keypad support Stowaway keyboard Sun Type 4 and Type 5 keyboard Allwinner sun4i low res adc attached tablet keys support TI OMAP4+ keypad support XT keyboard Mccrochip CAP11XX based touch sensors ĭroadcom keypad driver sunxi IR TX support < Exit > < Help > < Save >

图 4: Device Drivers 选项配置

2.3.2 dts 配置说明

```
keyboard0:keyboard{
    compatible = "allwinner,keyboard_2000mv";
    reg = <0x0 0x07030800 0x0 0x400>;
    interrupts = <GIC_SPI 140 IRQ_TYPE_MONE>;
    status = "okay";
    key_ent = <5>;
    key0 = <190 115>;
    key1 = <390 114>;
    key2 = <600 139>;
    key3 = <800 28>;
    key4 = <980 102>;
};
```

其中: key_cnt: 按键数目; key0: 按键 0 的电压值与上报值。



2.4 源码结构介绍



3. 接口设计

3.1 内部接口

1, sunxikbd init

函数原型: int __init sunxikbd_init(void)

功能:初始化 key 模块

参数: 无

返回值:成功返回0,失败返回错误码

2 sunxi_isr_key

函数原型: static irqreturn_t sunxi_isr_key(int irq, void *dummy)

功能:中断服务函数,读取电压值,并解码

参数: irq 中断号, dummy 无作用返回值: 返回 IRQ_HANDLED

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4. Declaration

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