

Test Plan for Keypad



Test Plan for Keypad

1 Outline

This document is for the keypad driver in Linux kernel of MVF TOWER BOARD (XTWR-VF600) with VF6XX SoC, and describes test plan for each API/feature of such unit.

2 Test Environment

Toolchain: The latest Linaro toolchain
Bootloader: u-boot 2011.12
Kernel: Freescale i.MX Linux 3.0.15 kernel
Rootfs: rootfs on NFS

3 Target Module of test

Keypad Driver

4 Test Plan

Keypad is used as an input event device.
Test will be carried out from command prompt via /dev/input/event0 device.

5 Conditions

Testable keys on the board are two (SW1 and SW2). Other keys will be assigned to GPIO port as necessary.
Discard if keys other than SW1 and SW2 are pressed due to hardware status (condition of GPIO destination).
Create /dev/input/event0 with c 13 64 in advance as a device to test keypad.

Test Plan for Keypad Details

No.	Head	Item	Procedure	Points to be checked	Judge	Note
1	Interrupt	Interrupt number	After kernel boot, carry out the following procedure. 1. Enter the following command in command prompt. # cat /proc/interrupts	Have the following output as interrupt numbers. 294, 295, 285, 286, 287	OK	
2		SW1 interrupt	After kernel boot, carry out the following procedure. 1. Enter the following command in command prompt. # cat /proc/interrupts 2. Push SW1 (do not release). 3. Enter the following command in command prompt. # cat /proc/interrupts	Interrupt number 294 increases.	OK	Virtual interrupt number of GPIO starts from 256. SW1 is connected to PTB16 and becomes GPIO38 input from GPIO Mapping, so interrupt number is 294 (256+38).
3			Continue from the test above. 1. Release SW1. 2. Enter the following command in command prompt. # cat /proc/interrupts	Interrupt number 294 increases.	OK	
4		SW2 interrupt	After kernel boot, carry out the following procedure. 1. Enter the following command in command prompt. # cat /proc/interrupts 2. Push SW2. 3. Enter the following command in command prompt. # cat /proc/interrupts	Interrupt number 295 increases.	OK	Virtual interrupt number of GPIO starts from 256. SW2 is connected to PTB17 and becomes GPIO39 input from GPIO Mapping, so interrupt number is 295 (256+39).
5			Continue from the test above. 1. Release SW2. 2. Enter the following command in command prompt. # cat /proc/interrupts	Interrupt number 295 increases.	OK	
6	Input	event	After kernel boot, carry out the following procedure. 1. Enter the following command in command prompt. # hexdump /dev/input/event0 2. Push SW1 (do not release).	Key event occurs at a time of keypad push. key code = 102(0x66)	NG	Event occurs twice. A cause is going to be investigated at a later date.
7			Continue from the test above. 1. Release SW1.	Key event occurs at a time of keypad release. key code = 102(0x66)	NG	Same as above
8			After kernel boot, carry out the following procedure. 1. Enter the following command in command prompt. # hexdump /dev/input/event0 2. Push SW2.	Key event occurs at a time of keypad push. key code = 158(0x9e)	NG	Same as above
9			Continue from the test above. 1. Release SW2.	Key event occurs at a time of keypad release. key code = 158(0x9e)	NG	Same as above