

1.程序与历史记录描述

依赖: **libusb>=1.0.20**

可执行程序: **ProgrammerAssistant + udev\rules.d**

运行权限: 管理员

参数支持设计: 参见 **KungFu32 Programmer Assistant User Manual CN V1.x.x.pdf** 文档描述

注 1: **linux** 版本不需要传递 **port** 参数指定编程器串口号

注 2: **linux** 版本当设备未匹配存在输出 **libusb** 驱动内核错误的输出信息, 如
libusb: error [submit_bulk_transfer] submiturb failed error -1 errno=16

1.1. 版本: 1.0.1 试行发布版本 2023-01

- 1、增加型号 **KF32A141GQS** 的支持
- 2、增加型号 **KF32A141GQS KF32A156IQS** 的支持
- 3、增加试样型号 **KF32A158SQV KF32A168SQW** 的试样支持
- 4、增加参数**--fastcheck** 使用快速 **sig** 的检测机制, 具体见手册描述
- 5、针对测试版本的通信降速进行恢复

1.1.1. 已知不良现象:

1. 开发平台 **centos** 普通用户下构建与运行正常, 运行在 **ubuntu20** 下程序需要管理员权限
2. 使用该程序将设备的驱动从系统内核切换到 **libusb**,并执行完毕后切换到系统内核驱动。若因异常造成当前或一直的不能切换回内核驱动。如 **chiponprogram32** 的上位机软件将无法识别编程器设备, 需要通过插拔的重新连接的回到系统内核驱动模式。
3. 支持 **KF32DP2** 的编程器(黄色), **KF32-LINK-A** 编程器(蓝色)产品的默认固件不能在该程序下工作, 即需要交互编程与串口端点的特殊固件(如资源包中 **KF32B02V01S04t.fw3**), 当前编程器只支持在 **windows** 平台进行固件升级管理(如 **FW3 UpLoaderCN.exe**)。

1.2. 版本: v1.0.0 测试版本 2022-12

首个实验版本

1.2.1. 已知不良现象:

4. 开发平台 **centos** 下构建与运行正常, 运行在 **ubuntu20** 下程序需要管理员权限。
5. 基于 **libusb** 的通信的通信传输耗时相对 **windows** 平台具有更多的运行时间。
6. 平台下存在概率读取功能下获取设备失败现象, 如 2 次失败下第 3 次可以获取设备与工作。
7. 使用该程序将设备的驱动从系统内核切换到 **libusb**,在 **centos 6.3+libusb1.0.20** 的平台验证设备操作完成不能从 **libusb** 驱动还原回内核驱动。因此如 **chiponprogram32** 的上位机软件将无法识别编程器设备, 需要通过插拔的重新连接的回到系统内核驱动模式。

2.配置使能命令举例

```
su
chmod 777 ./20-usb-serial_kungfu32.rules
cp ./20-usb-serial_kungfu32.rules /etc/udev/rules.d
chmod 777 ./ProgrammerAssistant
reboot
```

3.应用使用示例:

3.1. 命令参数选项示例

3.1.1. 芯片唯一id号查看

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -which
```

3.1.2. 擦除芯片(附加查空Flash区域操作)

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -erase -flashdata  
-writeconfig
```

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -erase -flashdata  
-writeconfig -fastcheck
```

3.1.3. 查空芯片

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -empty -flashdata  
-writeconfig -fastcheck
```

3.1.4. 程序下载

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -flashdata -writeconfig
```

3.1.5. 芯片内容与文件内容比较验证

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -check -flashdata  
-writeconfig
```

3.1.6. 芯片内容读取到文件(行对齐空内容不输出到文件)

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -read AA.hex -flashdata  
-writeconfig
```

3.1.7. 文件格式转换

```
./ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -copy AA.s19 s19
```

3.2. 运行过程示例（示例平台 CentOS 6.3X86_64）:

[illegible]

3.2.1. 测试脚本 (512K 程序内容大小: 15K)

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -which
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex  
-fastcheck -noskipzerocheck
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -check
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -check  
-fastcheck
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -erase
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -erase  
-fastcheck
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -empty
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -empty  
-fastcheck
```

```
./build/Release/bin/ProgrammerAssistant -mcu KF32A151MQV -file CANFD_CAN_A01.hex hex -read  
-outhex.hex
```

3.2.2. 正常运行过程输出

```
[chipon@localhost kflink]$ ./1runtest.sh
```

```
Task [III-0]
```

```
Note->kf32ProgrammerAssistant 1.0.1
```

```
Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]
```

```
Time: 00:00:00 percent: 100 %
```

```
Note->finish!
```

```
Note->kf32ProgrammerAssistant 1.0.1
```

```
Note-> Begin Down...
```

```
Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]
```

```
Time: 00:00:00 percent: 33 %
```

```
Time: 00:00:02 percent: 100 %
```

```
Note->Write finish!
```

```
Note->kf32ProgrammerAssistant 1.0.1
```

```
Note-> Begin Down...
```

```
Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]
```

```
Time: 00:00:00 percent: 48 %
```

```
Time: 00:00:01 percent: 96 %
```

```
Time: 00:00:02 percent: 100 %
```

```
Note->Write finish!
```

```
Note->kf32ProgrammerAssistant 1.0.1
```

```
Note-> Begin Check...
```

```
Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]
```

```
Time: 00:00:00 percent: 29 %
```

```
Time: 00:00:01 percent: 58 %
```

```
Time: 00:00:01 percent: 87 %
```

```
Time: 00:00:02 percent: 100 %
```

```
Note->finish!
```

```
Note->kf32ProgrammerAssistant 1.0.1
```

Note-> Begin Check...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:01 percent: 90 %

Time: 00:00:02 percent: 100 %

Note->finish!

Note->kf32ProgrammerAssistant 1.0.1

Note-> Begin Erase...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:00 percent: 56 %

Time: 00:00:01 percent: 72 %

Time: 00:00:01 percent: 88 %

Time: 00:00:02 percent: 100 %

Note->finish!

Note->kf32ProgrammerAssistant 1.0.1

Note-> Begin Erase...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:01 percent: 90 %

Time: 00:00:02 percent: 100 %

Note->finish!

Note->kf32ProgrammerAssistant 1.0.1

Note-> Begin Empty...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:00 percent: 33 %

Time: 00:00:01 percent: 64 %

Time: 00:00:02 percent: 100 %

Note->finish!

Note->kf32ProgrammerAssistant 1.0.1

Note-> Begin Empty...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:01 percent: 90 %

Time: 00:00:02 percent: 100 %

Note->finish!

Note->kf32ProgrammerAssistant 1.0.1

Note-> Begin Read...

Note->UniqueSerialNumber [A151E0F3-000000B8-00000106-A151E2B1]

Time: 00:00:00 percent: 4 %

Time: 00:00:01 percent: 11 %

Time: 00:00:01 percent: 18 %

Time: 00:00:02 percent: 25 %

Time: 00:00:02 percent: 32 %

Time: 00:00:03 percent: 38 %

Time: 00:00:03 percent: 45 %

Time: 00:00:04 percent: 52 %

Time: 00:00:04 percent: 59 %

Time: 00:00:05 percent: 66 %

Time: 00:00:05 percent: 72 %

Time: 00:00:06 percent: 79 %

Time: 00:00:06 percent: 86 %

Time: 00:00:07 percent: 93 %

Time: 00:00:08 percent: 100 %

Note->Read finish!

[chipon@localhost kflink]\$