

# **FLOSS - Free Libre & Open Source Software**

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**Perception Software**

**GEN Series Software**

**Version v8.32.0**



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# Introduction

Besides a high degree of own developed software code, HBM has been using Free, Libre and Open Source Software (FLOSS) to realize all functions of the GHS Data Acquisition System and the accompanying Perception PC software. The system basically consists of a mainframe (housing, power supply and backplane) with installed front panel or communication processor and an assembly of various connection boards and amplifier boards based on the customer's requirement.

The following gives an overview about the FLOSS used and the relevant license model.

Even though the list has been produced for the current GHS firmware and Perception, the software components are unlikely to change in the future, based on the fact, that all FLOSS software components are related to GHS's core system architecture.

## Perception Software Component

Table 1.1: Perception Software List

| Packages                              | License Model                    |
|---------------------------------------|----------------------------------|
| cJSON                                 | MIT                              |
| NewtonSoft.Json                       | MIT                              |
| Ooura's algorithm                     | Artistic-2.0                     |
| Microsoft.Azure.KeyVault.Core         | MIT                              |
| WindowsAzure.Storage                  | Apache-2.0                       |
| ListViewPrinterBase                   | ListViewPrinterBase License      |
| Microsoft.Data.Edm                    | Microsoft Software License Terms |
| Microsoft.Data.OData                  | Microsoft Software License Terms |
| Microsoft.Data.Services.Client        | Microsoft Software License Terms |
| System.ComponentModel.EventBasedAsync | Microsoft Software License Terms |
| System.Dynamic.Runtime                | Microsoft Software License Terms |
| System.Net.Requests                   | Microsoft Software License Terms |
| System.Spatial                        | Microsoft Software License Terms |
| LZ4                                   | BSD-2-Clause                     |

## GEN Series Firmware Component

Table 1.2: GEN Series Software List

| Packages      | License Model |
|---------------|---------------|
| alsa-lib      | LGPL-2.1      |
| alsa-ucm-conf | BSD-3-Clause  |

| Packages         | License Model |
|------------------|---------------|
| alsa-utils       | GPL-2.0       |
| attr             | GPL-2.0       |
| avahi-autoipd    | LGPL-2.1      |
| base-files       | GPL-2.0       |
| blkid            | GPL-2.0       |
| block-mount      | GPL-2.0       |
| blockd           | GPL-2.0       |
| boost            | BSL-1.0       |
| busybox          | GPL-2.0       |
| dbus             | AFL-2.1       |
| debugfs          | GPL-2.0       |
| dropbear         | MIT           |
| dumpe2fs         | GPL-2.0       |
| e2freefrag       | GPL-2.0       |
| e2fsprogs        | GPL-2.0       |
| f2fs-tools       | GPL-2.0       |
| f2fsck           | GPL-2.0       |
| fdisk            | GPL-2.0       |
| flashrom         | GPL-2.0       |
| fstools          | GPL-2.0       |
| fwtool           | GPL-2.0       |
| gdb              | GPL-3.0       |
| getrandom        | GPL-2.0       |
| ip-bridge        | GPL-2.0       |
| ip-full          | GPL-2.0       |
| jq               | BSD           |
| jshn             | ISC           |
| jsonfilter       | ISC           |
| kernel           | GPL-2.0       |
| asn1-decoder     | GPL-2.0       |
| ata-core         | GPL-2.0       |
| button-hotplug   | GPL-2.0       |
| cgosdrv          | GPL-2.0       |
| crypto-acompress | GPL-2.0       |
| crypto-aead      | GPL-2.0       |
| crypto-arc4      | GPL-2.0       |
| crypto-cbc       | GPL-2.0       |
| crypto-ccm       | GPL-2.0       |
| crypto-cmac      | GPL-2.0       |
| crypto-crc32     | GPL-2.0       |
| crypto-crc32c    | GPL-2.0       |
| crypto-ctr       | GPL-2.0       |
| crypto-cts       | GPL-2.0       |
| crypto-des       | GPL-2.0       |
| crypto-ecb       | GPL-2.0       |
| crypto-gcm       | GPL-2.0       |
| crypto-gf128     | GPL-2.0       |
| crypto-ghash     | GPL-2.0       |
| crypto-hash      | GPL-2.0       |
| crypto-hmac      | GPL-2.0       |
| crypto-manager   | GPL-2.0       |

| Packages             | License Model |
|----------------------|---------------|
| crypto-md4           | GPL-2.0       |
| crypto-md5           | GPL-2.0       |
| crypto-null          | GPL-2.0       |
| crypto-rng           | GPL-2.0       |
| crypto-seqiv         | GPL-2.0       |
| crypto-sha1          | GPL-2.0       |
| crypto-sha256        | GPL-2.0       |
| crypto-sha512        | GPL-2.0       |
| dax                  | GPL-2.0       |
| dm                   | GPL-2.0       |
| fs-autofs4           | GPL-2.0       |
| fs-cifs              | GPL-2.0       |
| fs-cramfs            | GPL-2.0       |
| fs-exportfs          | GPL-2.0       |
| fs-ext4              | GPL-2.0       |
| fs-f2fs              | GPL-2.0       |
| fs-ksmbd             | GPL-2.0       |
| fs-nfs-common        | GPL-2.0       |
| fs-nfs-common-rpcsec | GPL-2.0       |
| fs-nfsd              | GPL-2.0       |
| hbm-eth-core         | GPL-2.0       |
| hbm-fpga-core        | GPL-2.0       |
| hbm-gestalt-driver   | GPL-2.0       |
| hid                  | GPL-2.0       |
| hwmon-core           | GPL-2.0       |
| i2c-algo-bit         | GPL-2.0       |
| i2c-core             | GPL-2.0       |
| igb                  | GPL-2.0       |
| input-core           | GPL-2.0       |
| input-evdev          | GPL-2.0       |
| ipt-core             | GPL-2.0       |
| ipt-raw              | GPL-2.0       |
| ixgbe                | GPL-2.0       |
| keys-encrypted       | GPL-2.0       |
| keys-trusted         | GPL-2.0       |
| ktapi                | GPL-2.0       |
| ledtrig-audio        | GPL-2.0       |
| lib-crc-ccitt        | GPL-2.0       |
| lib-crc16            | GPL-2.0       |
| lib-crc32c           | GPL-2.0       |
| lib-lzo              | GPL-2.0       |
| lib-textsearch       | GPL-2.0       |
| lib-zlib-inflate     | GPL-2.0       |
| libphy               | GPL-2.0       |
| md-mod               | GPL-2.0       |
| md-raid0             | GPL-2.0       |
| md-raid1             | GPL-2.0       |
| md-raid10            | GPL-2.0       |
| mdio                 | GPL-2.0       |
| mdio-devres          | GPL-2.0       |
| nf-contrack          | GPL-2.0       |

| Packages              | License Model   |
|-----------------------|-----------------|
| nf-ipt                | GPL-2.0         |
| nf-log                | GPL-2.0         |
| nf-nat                | GPL-2.0         |
| nf-nathelper-extra    | GPL-2.0         |
| nf-reject             | GPL-2.0         |
| nls-base              | GPL-2.0         |
| nls-cp437             | GPL-2.0         |
| nls-iso8859-1         | GPL-2.0         |
| nls-utf8              | GPL-2.0         |
| oid-registry          | GPL-2.0         |
| pcan                  | GPL-2.0         |
| pcspkr                | GPL-2.0         |
| pexesc_uio            | GPL-2.0         |
| pps                   | GPL-2.0         |
| ptp                   | GPL-2.0         |
| random-core           | GPL-2.0         |
| regmap-core           | GPL-2.0         |
| scsi-core             | GPL-2.0         |
| scsi-generic          | GPL-2.0         |
| sound-core            | GPL-2.0         |
| sound-hda-core        | GPL-2.0         |
| sound-hda-intel       | GPL-2.0         |
| tpm                   | GPL-2.0         |
| usb-core              | GPL-2.0         |
| ksmbd-avahi-service   | GPL-2.0         |
| ksmbd-server          | GPL-2.0         |
| ksmbd-utils           | GPL-2.0         |
| libattr               | GPL-2.0         |
| libavahi-client       | LGPL-2.1        |
| libavahi-dbus-support | LGPL-2.1        |
| libc                  | GPL-3.0         |
| libcap                | GPL-2.0         |
| libdbus               | AFL-2.1         |
| libedit               | BSD-3-Clause    |
| libexpat              | MIT             |
| libftdi1              | LGPL-2.1        |
| libgnutls             | LGPL-2.1        |
| libkmod               | LGPL-2.1        |
| libpci                | GPL-2.0         |
| libpcrc               | BSD-3-Clause    |
| libpthread            | GPL-3.0         |
| librt                 | GPL-3.0         |
| libselenium           | libselenium-1.0 |
| libsndfile            | LGPL-2.1        |
| libtasn1              | LGPL-2.1        |
| libthread-db          | GPL-3.0         |
| linuxptp              | GPL-2.0         |
| logd                  | GPL-2.0         |
| lsblk                 | GPL-2.0         |
| mkf2fs                | GPL-2.0         |
| mtd                   | GPL-2.0         |

| Packages        | License Model |
|-----------------|---------------|
| musl-fts        | LGPL-2.1      |
| netifd          | GPL-2.0       |
| openwrt-keyring | GPL-2.0       |
| opkg            | GPL-2.0       |
| partx-utils     | GPL-2.0       |
| pciids          | GPL-2.0       |
| pciutils        | GPL-2.0       |
| procd           | GPL-2.0       |
| procd-seccomp   | GPL-2.0       |
| procd-ujail     | GPL-2.0       |
| pv              | Artistic-2.0  |
| resize2fs       | GPL-2.0       |
| screen          | GPL-3.0       |
| terminfo        | MIT           |
| tune2fs         | GPL-2.0       |
| ubox            | GPL-2.0       |
| ubus            | LGPL-2.1      |
| ubusd           | LGPL-2.1      |
| uci             | LGPL-2.1      |
| uclient-fetch   | ISC           |
| urandom-seed    | GPL-2.0       |
| urngd           | GPL-2.0       |
| usign           | ISC           |
| zlib            | Zlib          |

## Licenses Description

**Apache 2.0**

## **Artistic 2.0**

## 2-Clause BSD

### 3-Clause BSD

## **Boost Software License 1.0**

**GPL-2.0**

**GPL-3.0**

ISC

## **LGPL-2.1**

MIT

## **The Dual OpenSSL and SSLeay Licence**

## Zlib

## ListViewPrinterBase License

## **Microsoft License Terms**