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Part No. GL68-00676A

SMT-H3462

User Guide



The purpose of Safety Concerns is to ensure users' safety and to prevent property losses.
Please read this document carefully for proper use.

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SAFETY CONCERNS

The purpose of the Safety Concerns section is to ensure the safety of users and prevent property damage. Please read this document carefully for proper use.

Conventions



Warning

Provides information or instructions that you should follow in order to avoid personal injury or fatality.



Caution

Provides information or instructions that you should follow in order to avoid a service failure or damage to your set-top box.



Note

Indicates additional information for reference.



Checks

Provides the operator with checkpoints for stable system operation.

Symbols



Caution

Indication of a general caution



Restriction

Indication for prohibiting an action for a product



Instruction

Indication for commanding a specifically required action



WARNING

Power



Insert the power plug firmly.



Do not connect multiple devices to a single outlet simultaneously.



Do not touch the main body, power cable, or power plug with wet hands.



If video/sound cable generates heat after connection, pull out the power cord and contact customer service immediately.

Installation/Maintenance



Do not install in humid or dusty areas, and avoid installing near heating devices.



To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



Keep flammable substances or sprays away from the set-top box.



Pull out the power plug during thunderstorms or when not used for a prolonged period of time.



Do not place heavy objects on this product.



Pull out the power plug at once and contact customer service if unusual noise, smell, or smoke comes out.



Do not cover the top.

General



Check if the coaxial cable is correctly grounded before connecting to the set-top box.



Ask the installation engineer to check if the set-top box to be connected is correctly grounded.



Class 1 LED Product.



This product complies with 21 CFR Chapter 1, subchapter J



This product contains chemicals known to the State of California to cause cancer and reproductive toxicity.

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CAUTION

Power



Connect your TV after powering off the TV and the set-top box by pulling out the power plug.



The socket-outlet shall be installed near the equipment and shall be easily accessible



Do not insert the power plug before connecting the power cable to the product.



Before connecting the power source, permanent protective earth connection to the cable distribution should be made.



The Mains plug is used as a disconnect device and shall stay readily operable at any time.

Installation/Maintenance



Install the product correctly complying with the instructions in the user guide.



Apparatus shall not be exposed to dripping or splashing and no objects filled with liquid, such as vases, shall be placed on the apparatus.



Do not spray water directly on the unit and do not use chemical solvents such as wax, mosquito spray, alcohol or detergent.



Do not place the product on unstable support.



Do not disassemble, repair, or remodel.



No connection to an antenna.



Do not remove the CableCARD™ from the set-top box.



Do not place any metal items such as pins, paper clips or coins on the top of the product.



Risk of electric shock, Do NOT OPEN.



Wipe the product with a soft and dry cloth when cleaning.



Cautions regarding data loss (HDD management)

1. When handling, take care not to damage the data in the hard disc.
 - Hard discs are vulnerable to problems caused by the external environment or to impact during use, so take care not to damage the device.
 - Take care not to move the set-top box while the power is on, or to subject it to impact, as this may damage the data.
2. Situations where the hard disc and data may be damaged
 - The hard disc and data may be damaged if subjected to shock while moving the set-top box or during installation.
 - The hard disc and data may be damaged when the set-top box is reset (reconfigured) or if there is a power outage while the hard disc is running.
 - Data may be irrecoverable for a variety of several reasons (e.g. a virus infection).
 - The hard disc and data may be damaged by turning the power off while recording or playing.
 - Files may be damaged or bad sectors may result if the set-top box is subjected to shock or moved while the hard disc is operating.

Important Safety Instructions

Read these operating instructions carefully before using the unit. Follow all the safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not stack equipment
- 8) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 9) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 10) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 11) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 12) Only use attachment/accessories specified by the manufacturer.
- 13) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 14) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 15) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



TABLE OF CONTENTS

SAFETY CONCERNS 1

Conventions	1
Symbols	1
Warning.....	2
Caution	3
Important Safety Instructions.....	4

BEFORE USE..... 7

Digital HD DVR OCAP STB	7
Package Contents	7
Names and Functions.....	8
Front Panel	8
Rear Panel.....	9
DVR Features	10
CableCARD™.....	10

INSTALLATION 11

Installation Environment.....	11
Peripheral Device Connection.....	12
Connection to a TV Having a Composite Port	13
HDMI Cable Connection	14
VCR Connection.....	15

TROUBLESHOOTING.....	16
-----------------------------	-----------

ANNEX	17
--------------------	-----------

Specification	17
---------------------	----

Cable Specifications	19
----------------------------	----

Open Source Announcement.....	21
-------------------------------	----

BEFORE USE

Digital HD DVR OCAP STB

Digital HD DVR OCAP STB (Digital High-Definition Digital Video Recorder OpenCable Application Platform Set-Top Box) provides high quality video and audio broadcasting, and interactive services including Video-On-Demand.

Digital HD DVR OCAP STB (SMT-H3462) provides the following functions.

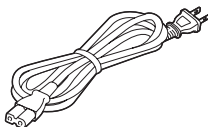
- An MPEG decoder capable of processing HD/SD stream
- SCTE55-1, 55-2 and DOCSIS Cable Modem for OOB Signaling
- Digital AV transmission, such as HDMI
- Content Protection
- CableCARD Interface for CAS
- OCAP™ 2.0 application platform
- Recording: Up to 400 hours for SD (Standard Definition) stream, Up to 90 hours for HD (High Definition) stream.
- DVR Features
- MoCA 2.0 (Multimedia over Coax Alliance)

Package Contents

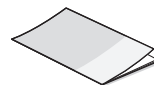
Please make sure the following items are contained in your product package box.



SMT-H3462



Power Cable



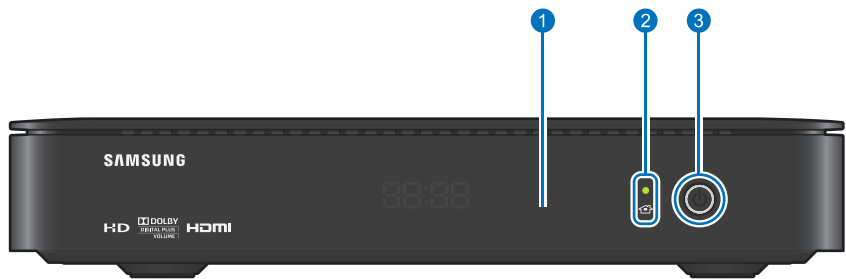
User Guide

Names and Functions

Names and functions on the front and rear panel of the STB are described as follows:

Front Panel

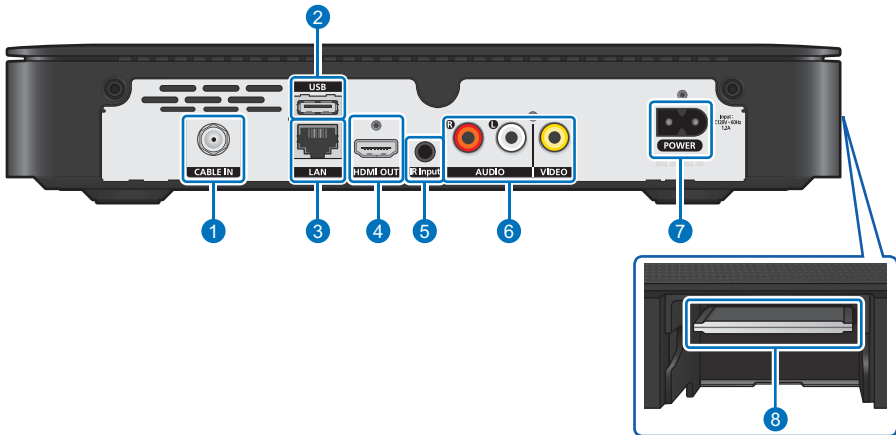
The buttons and LEDs on the front are described as follows:



Name	Function
1 Remote Control Sensor	Detect signals from the remote control.
2 MoCA LED	Turn on YellowGreen LED when the STB is linked with other STB by MoCA application.
3 Active/Standby Button	– Active Mode: The STB is in operation mode and you can get broadcasting. The LED is illuminated. – Standby Mode: The power is supplied and it is in ready to active status. All the A/V outputs are disabled. The LED is dimmed.

Rear Panel

The port names and functions of the rear panel are described as follows:



BEFORE USE

Name	Function
1 CABLE IN	Connect the coaxial cable that transmits the signal from the Cable Service Provider.
2 USB	Only for maintenance purposes.
3 LAN	Only for maintenance purposes.
4 HDMI OUT	Connect a HDMI cable to a HDMI port supported HDTV.
5 IR Input	TBD
6 VIDEO/AUDIO OUT	Connect a Video & Audio cable (RCA cable) to send an analog Video/Audio signal to the TV or VCR.
7 POWER	Connect the power cable to supply AC power to the STB.
8 CableCARD Slot	Allow CableCARD access. Normal Cover is for Cisco CableCard. Blue Cover is for Motorola CableCard.



CableCARD Slot

제품 밑면의 덮개 나사를 풀고 덮개를 제거한 후 케이블 카드를 삽입하세요.

DVR Features

SMT-H3462 supports DVR feature through the HDD (Hard Disk Drive) as follows.

Feature	Description
File Playback	Play, Stop, Rewind, Pause for recorded contents.
File Trick Mode	1, 4, 8, 32 times FFP (Fast Forward Play) 1, 4, 8, 32 times FRP (Fast Rewind Play) 1/2, Frame by frame skipping SFP (Slow Forward Play) 1/2, Frame by frame SRP (Slow Rewind Play)
Time-Shift Recording	User can pause live TV program for a certain amount of time, and resume it to watch. The STB allows 90 minutes of recording for Time-shift recording.
Instant Recording	Record live TV program instantly
Watching and Recording	Record six live TV programs simultaneously while watching one recorded programs on HDD.
Audio/Radio Recording	Audio or Radio program recording
Simultaneous Recording and Time Shift Recording	Up to six Simultaneous Recording and up to two Simultaneous Time-Shift Recording on live TV programs
EPG Recording	Scheduled recording using EPG

CableCARD™

CableCARD is the STB authorization device, which allows subscribers to watch digitally encrypted programs.

CableCARD is inserted by the service provider when a digital broadcasting receiver is installed.



CableCARD Use

Do not remove the CableCARD.

INSTALLATION

Follow the instructions below to see how to install the digital HD STB.

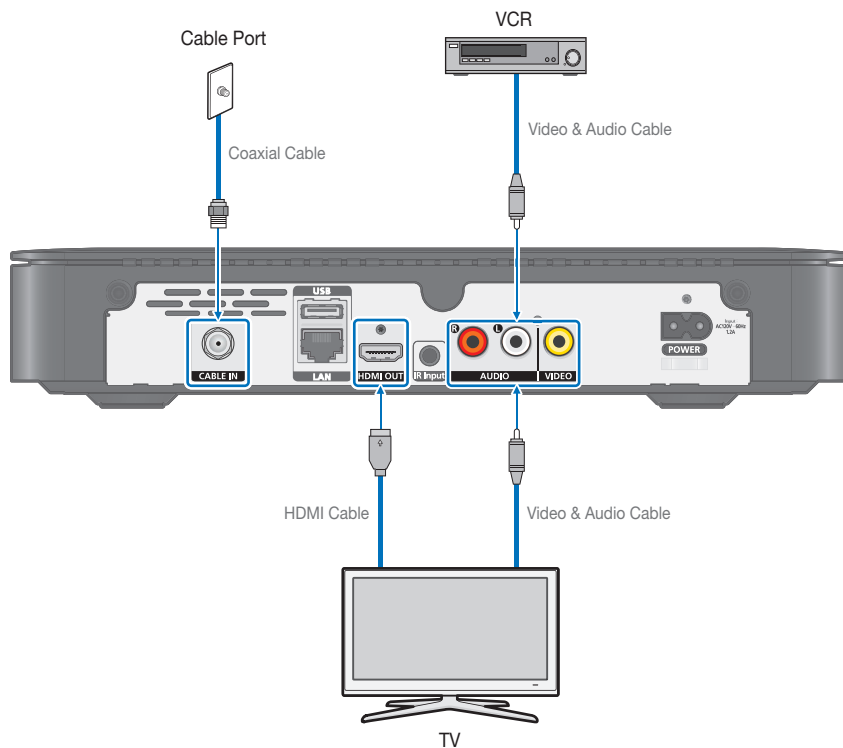
Installation Environment

The proper installation environment for the STB is as follows.

Item	Description
Operation Temperature	32~104 °F
Operation Humidity	Equal to or lower than 95% (104 °F)
Power Consumption	33 W Max.
Rated Input Voltage	AC 120 V, 60 Hz
Channel Input Frequency	54~1002 MHz

Peripheral Device Connection

The method of connecting the cable and each peripheral device to the STB is as follows:

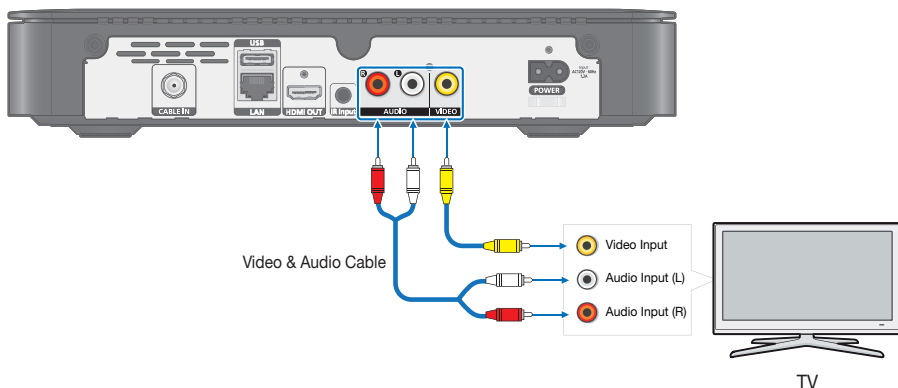


(The product image may differ from the actual product.)

★ Samsung does not supply a HDMI cable.

Connection to a TV Having a Composite Port

This section describes how to connect to a TV having a composite port.



Video Connection

Using a video connector of Video & Audio cable, connect the **VIDEO OUT** port on the rear panel of the STB to the **Video Input** port on the TV.

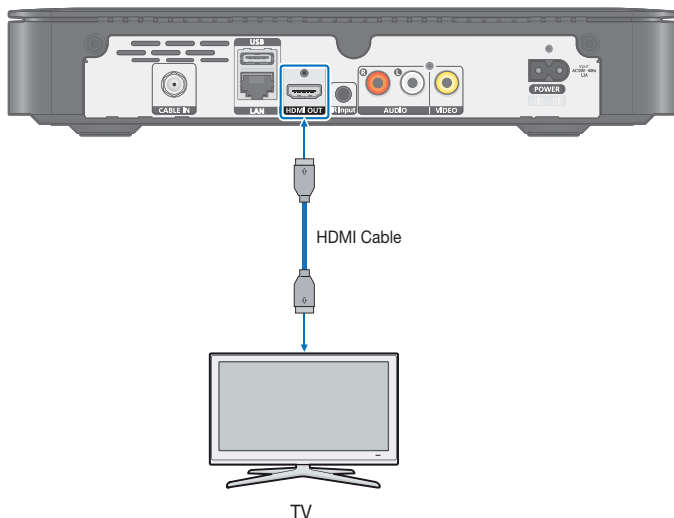
Audio Connection

Using an Audio cable or audio connectors of Video & Audio cable, connect the **AUDIO OUT (L/R)** ports on the rear panel of the STB to the **Audio Input (L/R)** ports on the TV.

Be sure to match the audio ports with the plugs of the same color.

HDMI Cable Connection

This section describes how to connect a TV to the STB by using an HDMI cable.



* Samsung does not supply a HDMI cable.

HDMI Connection

Connect the **HDMI** port on the rear panel of the STB with the **HDMI** port of your digital TV by using an HDMI cable. As an HDMI cable carries audio signals, a separate audio connection to your TV is not needed.

DVI Connection

Connect the **HDMI** port on the rear panel of the STB with the **DVI input** port of your digital TV by using the HDMI-DVI conversion cable.

If using a DVI cable, a separate audio connection must also be made.

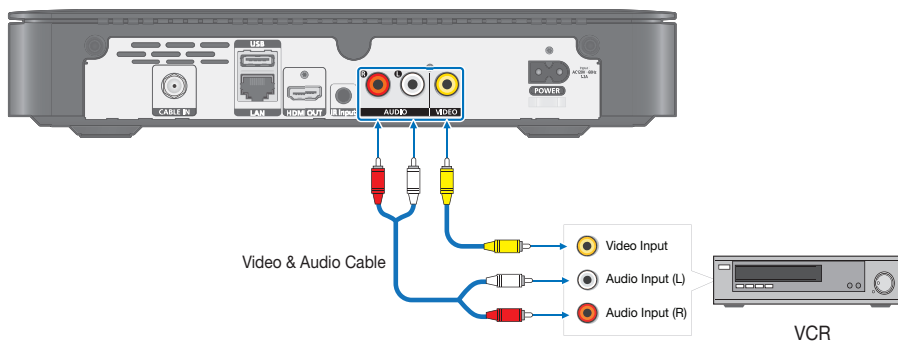


High Definition Multimedia Interface (HDMI)

The HDMI port provides high-definition video and audio, and is the highest quality video connection.

VCR Connection

This section describes how to connect a VCR to the STB.



Video Connection

Using a video connector of Video & Audio cable, connect the **VIDEO OUT** port on the rear panel of the STB to the **Video Input** port on the VCR.

Audio Connection

Using an Audio cable or audio connectors of Video & Audio cable, connect the **AUDIO OUT (L/R)** ports on the rear panel of the STB to the **Audio Input (L/R)** ports of the VCR.

Be sure to match the audio ports with the plugs of the same color.

Recommended Installation Notice

If degraded picture quality is observed while viewing copy-protected pay-per-view programs, connect the set-top box directly to the TV set. Do not connect through a VCR.

TROUBLESHOOTING

This section describes problems you may encounter while using the STB. If a problem occurs in the STB, check the following items first.



Screen

Trouble	Solution
The TV screen does not appear.	1. Check if the power of the TV and STB are turned on. 2. Check if the cable is connected to the 'CABLE IN' port. 3. Check if the STB is selected as the TV's source.



Remote Control

Trouble	Solution
The remote control does not operate.	1. Check if the remote control is suitable for use with the STB. 2. Check if the remote control operates normally after changing the batteries. 3. Check if the batteries are inserted correctly in the remote control. 4. Check if any obstacle exists between the STB and the remote control. 5. Check if the remote control operates normally when used at a close distance.



General

Trouble	Solution
No sound in the TV.	1. Check if the audio ports of the TV are properly connected to the audio output ports of the STB. 2. If the audio cable is connected properly, check if the mute function is set. If the mute function is set, press the [Mute] button of the remote control in order to release the mute function.

Specification

The specification of SMT-H3462 as follows:

Category	Description
Video Output	Composite (VIDEO OUT)
Audio Output	Stereo L/R (AUDIO OUT)
Video/Audio Output	HDMI 1.4a
OOB (Out of Band)	FDC (Forward Data Channel) – RF Input Tuning Range: 70 to 130 MHz – RF Input Level Range: -15 to +15 dBmV (QPSK) – Format: SCTE 55-1, 55-2 RDC (Reverse Data Channel) – RF Output Frequency Range: 5 to 42 MHz – Transmit Level Range: +26 to +58 dBmV – Encoding: QPSK
DSG (DOCSIS Set-top Gateway)	Downstream – RF Input Tuning Range: 88 to 1002 MHz – RF Input Modulation: 64QAM/256QAM – RF Input Level Range: -15 to +15 dBmV Upstream – RF Output Frequency Range: 5 MHz to 42 MHz – RF Output Modulation: QPSK/16 QAM, 64QAM – Transmit Level Range: +8 to +58 dBmV

Category		Description
MoCA	Input Frequency	1125 to 1675 MHz MoCA D-Band Standard Channel Plans.
	Signal Modulation	OFDM
	Channel Bandwidth (TX/RX)	100 MHz
	Max. Number of Nodes	16
	Max. MAC Throughput	Up to 400 Mbps (baseline mode) 500 Mbps (turbo mode)
	Compatibility	Backward compatible with the MoCA 1.1
Rated Input Voltage		AC 120 V, 60 Hz
Power Consumption		33 W Max.
Operation Temperature		32~104 °F
Size (mm)		290 (W) × 200 (D) × 55 (H)
Weight (kg)		1.3
HDD		1 TB (SATA)

Cable Specifications

Category	Description
Channel Input Frequency	54 to 1002 MHz
Cable Input Signal level Range	-15 to +15 dBmV
Cable Input Signal Modulation	64/256 QAM

Rovi Product Notice

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Note to CATV System Installer

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

HDMI Product Notice



The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

FCC Class B Notice

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

User Information

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. If necessary, consult with your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This Booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office. Washington, DC 20402, Stock Number 004-000-00345-4.

The party responsible for product compliance :

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America QA Lab of Samsung
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Suite #290, Irvine, CA92612 USA

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You may also find a copy of the source at <http://opensource.samsung.com/>

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Component	License	Component	License
Stblinux / uClinux	GPL 2.0	Linux Kernel	GPL 2.0
fdisk	GPL 2.0	Busybox	GPL 2.0
xfsprogs	GPL 2.0	dhcpcd	GPL 2.0
ftptd	GPL 2.0	libuClibc.so	LGPL 2.1
ld	LGPL 2.1	libpthread.so	LGPL 2.1
libc	LGPL 2.1	OpenSSL	OpenSSL
libstdc++	LGPL 2.1	Freetype	Freetype
libm	LGPL 2.1	IJG license	IJG
zlib	zlib/libpng license	snmp	BSD
Apache Mirae	Apache license	Jakarta regexp	Apache license
hdparm	BSD license	SFL	iMatrix SFL license

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Version 2, June 1991

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