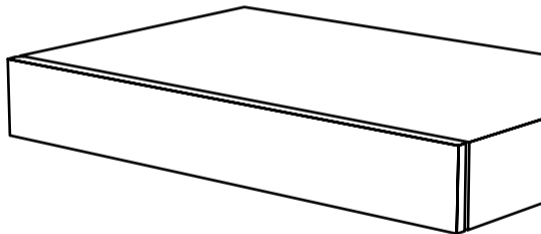




Linux based
Set-Top Box
MAG520
MAG520w3

Instruction Manual



HDMI™  **Dolby Audio**

Regulatory information

UK

This equipment has been tested and found to comply with the essential requirements of the following Regulations: The Radio Equipment Regulations 2017, The Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016. This product is in accordance with The Waste Electrical and Electronic Equipment Regulations 2013. Hereby, Telecommunication Technology LLC declares that MAG520w3 with the radio equipment type 802.11a/b/g/n/ac is in compliance with the Radio Equipment Regulations 2017. The full text of the declaration of conformity is available at the following internet address:

www.infomir.eu/eng/support/declarations

This device is certified for indoor deployment only in the 5150-5350 MHz band. Do not install or use this device outdoors in that frequency in the UK.

EU

This equipment has been tested and found to comply with the essential requirements of the following Directives: 2014/30/EU, 2014/35/EU, 2014/53/EU, 2009/125/EC, 2011/65/EU. This product is in accordance with Directive WEEE 2012/19/EU. Hereby, Telecommunication Technology LLC declares that MAG520w3 with the radio equipment type 802.11a/b/g/n/ac is in compliance with the 2014/53/EU Directive. The full text of the EU declaration of conformity is available at the following internet address: www.infomir.eu/eng/support/declarations

This device is certified for indoor deployment only in the 5150 – 5350 MHz band. Do not install or use this device outdoors in that frequency in the European Union.

FCC

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 when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 to 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.

FCC Caution:

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.

Warranty

CAUTION:

Unauthorized antennas, modifications, or attachments could damage the device and violate FCC regulations. Changes or modifications not expressly approved by responsible party could void the user's authority to operate the equipment.

FCC Radiation Exposure Compliance (only for MAG520w3):

This equipment complies with radio frequency (RF) exposure limits set forth by the Federal Communications Commission for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is certified for indoor deployment only in the 5150 – 5250 MHz band. Do not install or use this device outdoors in that frequency in the United States.

Warranty term:

Europe, MEASA and Oceania:

2 years from date of sale (but not more than 2,5 years from manufacture date).

The USA, Americas, Russia, Ukraine and other regions:

1 year from date of sale (but not more than 1,5 years from manufacture date).

See the date of manufacture at «Product Information» section. By virtue of the present Coupon, the absence of defects in manufacturing of the product and its compounds is warranted for a year-term counted since date of sale. If during the mentioned warranty term the defects of materials or operation of product will be found, the product would be repaired or its defective parts would be replaced free of charge in the warranty processing center with compliance with warranty conditions.



Warranty

Warranty Service Coupon

(to be filled in by a shop-assistant)

Date of Sale: _____

Seller: _____

Address of Seller: _____

Place of Stamp

I have no claims as to appearance and package contents. I accept the warranty conditions.

Signature of Customer: _____

Manufacturer:
Telecommunication Technologies LLC,
1 Mytna Square, Odesa, 65026, Ukraine

Warranty processing centers

Europe:

ZLS Services GmbH
Hamburger Allee 56
60486, Frankfurt am Main, Germany
Tel.: +49 6196 204 83 18
e-mail: warranty@infomir.com

The USA, Canada and Latin America:

Infomir USA
174 Bay 49th Street
Brooklyn, NY 11214 USA
Tel: +1 631 482 66 36
e-mail: sales@infomirusa.com

Russia, Belarus:

Tel.: +38 048 759 09 00
e-mail: warranty@infomir.com

MEASA and Oceania:

PROGRESSIVE TECHNOLOGY F.Z.E
Warehouse B1-40
Sheikh Rashid Bin Saeed Al Maktoum Street
Ajman Free Zone, 45573, Ajman, UAE
Tel: +971 6 740 37 55
e-mail: warranty@infomir.com

Ukraine:

Telecommunication Technologies LLC
4/D, Nebesnoi Sotni Avenue
Odesa, 65121, Ukraine
Tel: +38 048 759 09 00
e-mail: warranty@infomir.com

Warranty conditions

1. The present warranty is only valid if the defective product is provided with property filled in Warranty Service Coupon. If date of sale is not pointed, the warranty term is counted since date of the product manufacturing which is defined under serial number. Warranty processing center reserves the right to refuse free warranty service and parts replacement in case the mentioned above documents are not presented or the filled in it information is not complete or unreadable.
 2. The present warranty does not enable the right for compensation and cover of loss received as a result of rearrangement of the product.
 3. The present warranty is invalid if model or serial number of the product is altered, erased, removed or unreadable, or warranty seal is broken.
 4. The present warranty does not cover the following:
 - 4.1. Any adaptations and alterations with the aim of perfection and widening of the common scope of the product application specified in the Manual.
 - 4.2. Devices and accessories not specified in the "Product Information" section.
 - 4.3. The batteries for the remote control included with the Set-Top Box.
 - 4.4. Damage caused in result of:
 - a) Improper maintenance including but not limited by following:
 - (1) use of the product not according to its intended purpose or Manual;
 - (2) mounting and maintenance of the product in conditions not corresponding to safety standards and regulations valid in the country of use;
 - (3) incorrect software installation provided by service operator.
 - 4.5. Repair performed by not authorized service centers or dealers;
 - 4.6. Accidents, lightning stroke, flood, fire, incorrect ventilation;
 - 4.7. Transporting excluding cases when it is carried out by warranty processing centers;
 - 4.8. Faults of system in which the present product had been using.
 5. These warranty conditions do not intend to restrict or limit in any way statutory rights of customers which may not be altered in some jurisdictions and other customers' rights which may arise out of any agreements with third parties, provided that nothing contained in such agreements states or implies that the manufacturer or manufacturer affiliates assume any obligations or liabilities other than those expressly stipulated in this Warranty Service Coupon.
- While maintaining warranty liabilities on product repair or replacement, Manufacturer takes no responsibilities for personal data safety, including logins, passwords, paid or free subscriptions, settings, portals, media files, content and software installed or set up by Customer or other third parties.

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Software Use Agreement

IMPORTANT: READ CAREFULLY: WHEN USING THE SOFTWARE WITH YOUR DEVICE, YOU AGREE THEREBY WITH EVERY CLAUSES OF THE SOFTWARE USE AGREEMENT. IF YOU DO NOT AGREE WITH THE TERMS AND CONDITIONS OF THE SOFTWARE USE AGREEMENT, YOU SHOULD IMMEDIATELY STOP USING THE DEVICE AND RETURN IT TO YOUR SERVICES PROVIDER COMPLETELY.

License provision. Limitations

According to this Agreement, Telecommunication Technologies LLC and your services provider are jointly to provide you with non-exclusive and non- transferrable license, without the right to sublicense, for use of all software and documents with the product only. You recognize and acknowledge that Telecommunication Technologies LLC and

your services' provider may regularly renew, change or extend the product software abilities. You confirm that:

- a) You will not take attempts to change, extend, or decompile, disassembly, or redesign, nor otherwise get access to the software source code.
- b) You will not take attempts to delete or upload the product software. Any sale or transfer of the product will be ruled hereby.

Ownership

The Manufacturer and the Manufacturer's own licensors keep all the rights constituting ownership, including patent, copyright trademark, and other intellectual property for the Software; and any improvement and modification of the Software. You recognize and acknowledge that the license according hereof does not grant you ownership for the Software but only restricted right of use It according to provisions of this Agreement.

Warranty for the Software

To the maximum extent according to applicable law, the Company does not make any submission and declines any and all warranties, whether express or implied, as to the Software, including, with no limitations, any implied demand warranties, correspondence to target destination, abuse of rights of third parties, neither those being result of interrelations or result of commerce. The Company does not guarantee the Software will be free of defects or errors; that any defects or errors will be corrected, or any function abilities of the Software will meet all your requirements.

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Terms of using

Safe and Efficient Using

Device does not contain harmful or hazardous substances.

Accessories

Use the accessories supplied with your arrangement or recommended by the manufacturer only. Using of the accessories which are not supplied or not sanctioned by the manufacturer may be dangerous for the User or do harm to the arrangement operation. Using of the not appropriate accessories eliminates guarantees of the product therewith.

Water and Moisture

To avoid damage that can cause ignition of the present product or lesion to the User with electrical current, the product and its accessories should not be undergone with any liquids, rain or high moisture. Do not use the present product in the places where it may be exposed to the contact with a liquid or vapor.

The Product Unpacking and Installation

After the product extraction out of the package it is necessary to handle it with care, do not drop, shake it and afford other influence. The product is designed for horizontal allocation onto flat surface. The product is intended for use indoors.

- Do not place the product onto slippery surface, in place where it may be exposed to vibration or hazard to drop and other possible risks to the product to be damaged which may cause invalidation the product warranty.
- Do not leave the product on soft surfaces such as rugs, beds, etc. The absence of an air gap between the body of the set-top box and the surface can lead to overheating and void the warranty.
- Do not locate the product into the furniture in case of vacant clearance around the product is not provided for the sufficient product ventilation.
- Do not place the product in place where it may be exposed to influence of direct sunlight, next to the sources of open fire and convectors.
- Do not dispose the product on surfaces which in operating process may get warm, for instance, video record player or intensifier and do not put anything on the top of the shell as well.
- Do not cover the product with anything.
- Containing liquids objects, such as vase, plant pot are not to be placed next to or on the product.
- Do not touch or move the product during its operation.
- Switch off the product if you need to shift it.

The power supply cord is to be put to prevent its deformation and jamming and touching it well. The power supply cord

is not to be laid under the carpets or blocked with anything where any damage may not be noticed.

Power supply unit

The product should be used with power supply unit provided by the manufacturer only. The power supply unit is fitted out with plug which is intended for connecting to socket in your country usage. In case of the necessity in the product connecting in other country or in the region with other data of electric circuit the power supply unit adopted for use in the specified area should be received from the manufacturer. For AC/DC Adapter, the socket outlet must be near the equipment and shall be easily accessible.

Operation

The outer power supply unit of the product is getting warm in operation. In case of outer power supply unit gets hot, switch off promptly and get in touch with the equipment supplier for its replacement.

Protection from atmospheric electricity or not using for a long time

On coming the thunderstorm and also in case of the product is intended to be in no use for a long time, disconnect the power supply cord out of socket, switch off Ethernet, video and audio cables. It is to protect the product from thunder discharges and power surges in the circuit.

Usage with Plasma Displays

In the product usage for watching with plasma screens do not pause the picture for more than 5 minutes, otherwise it with

other objects as may cause 'burn-out' pixels on the screen. It is not considered as a defect of the product but peculiarity of plasma screens structure. The producer does not bear the responsibility for damages had been caused in such manner.

The Arrangement Designation

The product is intended to select digital audio & video channels from transport streams, decode and display them on TV. Any other use is prohibited. It means Telecommunication Technologies LLC insists on the product usage in entirely accordant to the law of copyright. The compliance with the specified laws leaves on conscience of the user. The unauthorized copying of the protected materials or spreading of the specified copies under definite conditions may violate the law of copyright and is to be previously adopted by possessor of the rights for the further commercial use.

Updating Software

The product possesses the capability of automatic software updating. The manufacturer and your services provider reserve the right for automatic software updating to improve the product functional capability. During the software updating the product should not be used for watching and switched off until the complete software updating. During the software updating the product switching off is inadmissible. The updating takes several minutes and since then you are able to continue enjoy on all delights of digital television services.

Product Care

Maintenance of Product

The product should not be disassembled. The tries of the disassembling of the product may be dangerous for your life and for serviceability of the product. The self-supporting disassembling invalidates you the product guarantee. The maintenance should be affected by qualified specialists in the warranty processing centers only. The product possesses protective sealing. Breaking or changing of the mentioned sealing invalidates guarantee of the product.

Cleaning

The product and accessories should be rubbed with dry cloth or tissue only. To ensure safety, before shell cleaning switch the power supply off the alternative current socket. The shell may be cleaned from persistent spots with a slightly wet cloth or cleaning tissue. Do not use cleaner or polish, benzyl, solvents, abrasive items, liquid or aerosol detergent means for the product and accessories cleaning.

Specifications

Physical Parameters

Model: MAG520, MAG520w3

Weight: 110 g (3,88 oz). Dimensions (approximately): 78 mm (3.07") depth, 120 mm (4,72") width, 21 mm (0.83") height

Operation temperature and Humidity

1°C - 40°C (33,8 F - 104 F); 5% ~ 93%RH

Ethernet Interface

Ethernet Connector: RJ-45

Cable: UTP and STP 5 categories

Speed: Auto-choice, 10/100 Mbit/s

Indicators: Green – Activity, Yellow – Connection

Wi-Fi Interface

Built-in Wi-Fi module: 2T2R ac (only MAG520w3)

Operating frequency bands:

802.11 b/g/n 2400 MHz ~ 2497 MHz,

802.11 a/n/ac 4900 MHz ~ 5845 MHz

Output power (E.I.R.P.):

IEEE 802.11 a/b/g/n/ac <20 dBm (100mW)

Internal Antenna gain (max): 3,11 dBi (5GHz), 2,69 dBi (2.4GHz)

HDMI Interface

Type: HDMI 2.1

USB Interface

Type: USB 2.0 x 1 pcs., USB 3.0 x 1 pcs.

Supported Audio-Video Formats

Video codecs: MPEG1/2 MP@HL, MPEG4 part 2 (ASP), H.265

Main/Main 10@L5.1 High 2160p@60 fps (optional),

H.264 AVC High@L5.1 2160p@30 fps, XviD, 3D video support
Video containers: TS, AVI, MPEG, MP4, MOV, MKV, M2TS, VOB
Audio Codecs: MPEG L1/L2/L3, AAC-LC, HE AAC V1/V2, APE, FLAC

This product supports Dolby Digital Plus™

Video modes: PAL, NTSC, 576p, 720p, 1080p, 1080i, 4K

Subtitles: DVB, PGS, SRT, SSA/ASS, SUB, Teletext subs, WebVtt, Closed captions

Power supply Interface

Connector: DC cylindrical 1.35 mm x 3.5 mm

Type: center plus

Input: 5 V

Power Consumption: max 5W in typical conditions

External Power Supply Unit

Type: Pulse with universal inlet

Input: 90-264 V AC, 50-60Hz, 0.4A max

Output: 5 V DC, 2A, 10W

Package

Type: cardboard box.

Dimensions (approx.): 225 mm (8.86") width, 95 mm (3.74")

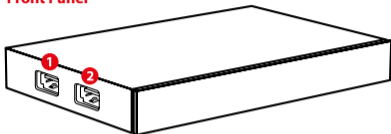
depth, 60 mm (2.36") height

Shipping weight: 432 g (15.24 oz)

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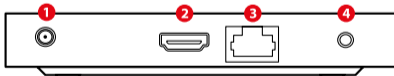
About your MAG520, MAG520w3

Front Panel



1. USB 2.0
2. USB 3.0

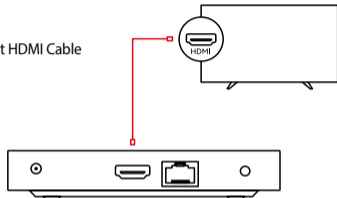
Back Panel



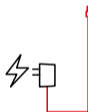
1. Power Supply 5V
2. HDMI 2.1
3. Ethernet LAN port
4. Fn – Reset to factory settings/ Load from the first U-boot/ “Emergency” – Load the basic software from USB/DHCP

Connecting to MAG520, MAG520w3

Step 1 Connect HDMI Cable



Step 2 Connect Power Supply Unit



Step 3 Connect to the Internet (via Ethernet or Wi-Fi *)

WARNING! SWITCH OFF ALL THE DEVICES (TV, AMPLIFIER, ETC.) AND TAKE THE POWER SUPPLY UNIT OUT OF THE SOCKET BEFORE CONNECTING OR DISCONNECTING ANY CABLE.

* ONLY IN MAG520W3

Using Remote Control to control the Device

Remote Control SRC-4015



This section explains how to unpack Remote Control (RC) and prepare it for work. Your service provider can supply the product with an alternative RC. In that case please refer to the manual supplied by your service provider. Remote Control requires two batteries type AAA, UM-4.

Code page alteration

The SRC-4015 remote control is designed with the ability to switch over three different Infra-Red systems or Code Pages (CP). The need to change the code page may arise if the STB remote control interferes with other devices, a TV for example. Initially, the RC and STB are both set to the default CP #14.

How to change the SRC-4015 code page




Step1

Changing the CP on the RC. Simultaneously press and hold the «App»  and «TV»  buttons for 3+ seconds to change the current CP to the next one. By doing this, you can switch it to 2 alternative CPs or return to the default CP option. For each CP option, the RC LED flashes in different ways:

- First time pressing «App+TV» - the second CP option #11 is selected. The LED blinks once.
- Second time pressing «App+TV» - the third CP option #24 is selected. The LED blinks twice.
- Third time pressing «App+TV» - it returns back to the (default) CP option #14. The LED blinks three times.

Step2

Changing the STB CP. Point the RC directly at the STB and press the following 3 keys in the following order:

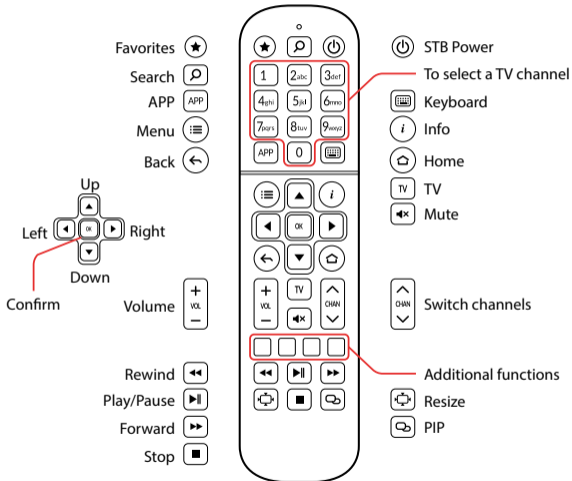
«Rewind» , «Num 0» , «Forward» . The STB's LED should blink once. If you followed these instructions, the STB should react accordingly.

Important information about using batteries

Do not mix different types of battery or old and new batteries. Do not use rechargeable batteries with the remote control. Remove the batteries from the remote control if you are not going to use it for several weeks, to avoid the risk of leakage. Please respect your environment and any local regulations and dispose of old batteries in a responsible manner.

CAUTION! DO NOT ATTEMPT TO RECHARGE THE BATTERIES. IMMEDIATELY REMOVE ANY LEAKING BATTERIES. TAKE CARE WHEN HANDLING LEAKING BATTERIES AS THEY MAY CAUSE BURNS TO THE SKIN OR EYES, OR OTHER PHYSICAL INJURIES.

Remote control SRC-4015








Using Remote Control to control the Device

Introduction to the Programmable Remote Control Unit (optional)

If MAG520, MAG520w3 package includes a remote control with a block of five programmable buttons (marked with blue print colour), then you may want to choose these buttons for controlling other devices (TV set, amplifier).

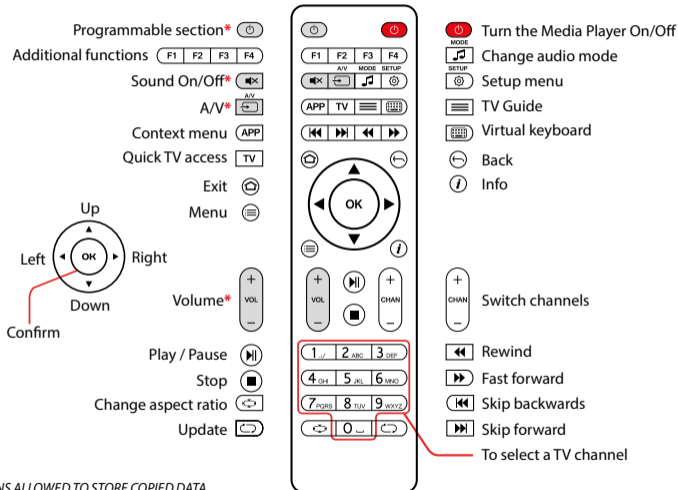
To program the buttons do the following:

1. Press the «On/Off»  and «A/V»  buttons at the same time and hold it for 2 seconds. When the green light of the «On/Off»  button will stop blinking and will light steadily, it means the RC is ready to learn.
2. Press the button you want to «teach» — the green light will start blinking.
3. Place the infrared lamps of two RCs opposite each other and press the button on the RC of the other device, the function of which you wish to copy on device RC. Hold for 2 seconds.
4. After the green light two quick blinks you may continue programming other buttons.
5. Repeat the procedure described above for all buttons you want to program for controlling external devices.
6. Press the the «On/Off»  and «A/V»  buttons to save the programmed data; the green light should fade off.

Reset

Press «SETUP»  and «OK»  buttons at same time and hold for 2 seconds red LED will flash 5 times. Reset is done.

Programmable Remote Control SRC-4513 (optional)



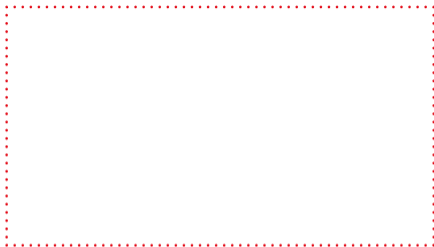
*BUTTONS ALLOWED TO STORE COPIED DATA

Product information

Product:

Serial Number:

MAC:



970634

The set includes the following:

Set-Top Box	- 1 pcs.
External Power Supply 5V	- 1 pcs.
IR Remote Control	- 1 pcs.
AAA batteries	- 2 pcs.
Instruction manual	- 1 pcs.
Package box	- 1 pcs.

Optionally the set may include the following:

HDMI cable length less than 3 m	- 1 pcs.
LAN network cable	- 1 pcs.