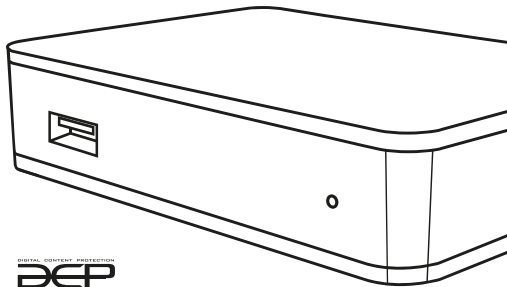




Linux based
Set-Top Box
MAG420
MAG420w1

Instruction Manual



HDMI®  **DOLBY AUDIO**™

DIGITAL CONTENT PROTECTION
DCP

Regulatory information

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 MAG420w1 with the radio equipment type 802.11b/g/n is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.infomir.eu/eng/support/declarations

FCC Compliance Statement

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.

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.

Regulatory information

FCC Radiation Exposure Compliance (only for MAG420w1):

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.

Note: Specifications are subject to change without notice. Infomir reserves the right to revise this publication and to make changes in its content from time to time by posting new specifications and other content at www.infomir.eu.



Warranty

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 Service Coupon

(to be filled in by a shop-assistant)

Date of Sale: _____

Company-Seller: _____

Address of Company-Seller: _____

Place of Stamp

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

Signature of Customer: _____

Manufacturer:

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

Warranty processing centers

Warranty Processing Centers List:

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

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

Russia, Belarus:

Tel.: +38 048 759 09 00
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 guarantee 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 coupon.
 - 4.3. 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.
 - b) Repair performed by not authorized service centers or dealers;
 - c) Accidents, lightning stroke, flood, fire, incorrect ventilation;
 - d) Transporting excluding cases when it is carried out by ASC;
 - e) 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.

Copyrights and Trademarks

Notice of Copyright

Telecommunication Technologies LLC. All rights reserved. The Information contained herein is the property of Telecommunication Technologies LLC (the Company). Not any part hereof can be copied, reprinted, transferred, retyped, saved in search engine, modified or translated into any other language, including computer one, nor sublicensed in any way, whether electronic, mechanical, magnetic, optical, chemical, manual or other one, without prior written consent by the Company Manager responsible for the Product. Any Illegal use of the materials contained herein, by any person, will lead the person to the responsibility for the Company's damages.

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 Intel factual 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

Copyrights and Trademarks

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.

Warranty

Warranty for your product is supplied via your services' provider. In the event your product requires maintenance service, you should contact the services' supplier directly.

Trademarks

Инфомир, Infomir, MAG are the trademarks of Infomir Group. HDMI is the trademark of HDMI Licensing, LLC. Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio, and the double-D symbol are trademarks of Dolby Laboratories. DCP is the trademark of Digital Content Protection LLC. Redesigning and disassembling is illegal. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries. Infomir disclaims proprietary interest in the marks and names of others.

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.

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: MAG420, MAG420w1

Weight: 128 g

Dimensions (approximately): 132 mm width,
87 mm depth, 26 mm height

Operation temperature and Humidity

1°C - 40°C; 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: b/g/n (only MAG420w1)

Operating frequency bands: 2400-2483.5 MHz

Output power (E.I.R.P.): <20 dBm (100 mW)

Internal Antenna gain: 3,38 dBi

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™

Video modes: PAL, NTSC, 576p, 720p, 1080p, 1080i, 2160p

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

Audio-Video Interfaces

Audio Connectors: TRRS (On adapter cable:
White=Left channel, Red=Right channel)

Output: 2 V RMS nominal

Loading: 10KΩ

Composite Video Interface: TRRS (Yellow connector
on adapter cable)

Output: 1Vp-p

Power supply Interface

Connector: DC cylindrical 2.1 mm x 5.5 mm

Type: plug-and-socket, DC current, center plus

Input: 12V±10%

Power consumption: less than 7.5W in typical conditions

Specifications

External Power Supply Unit

Type: Pulse with universal inlet

Input: 110-240 V AC, 50-60Hz, 0.5A max

Output: 12 V DC, 1A, 12 W

Average active efficiency: 83% (min)

Efficiency at low load (10%): 79.54% (min)

No-load power consumption: < 0.1W

Package

Type: cardboard box.

Dimensions (approx.): 225 mm width,

95 mm depth, 60 mm height

Shipping weight: 432 g

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.

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 guarantee.

Do not dispose the product onto soft surface like on the carpet, bed, etc., for such surfaces cease access to the ventilation openings and complicate air flow that may cause the product overheating and invalidate guarantee in result.

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 product is intended for use indoors.

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.

For AC/DC Adapter, the socket outlet must be near the equipment and shall be easily accessible.

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. Model: TAA0121200100HV. Manufacturer: HUIZHOU TECHLONG CO. LTD. Address: Room 829, HONGFA CENTER BUILDING BAOAN CENTER SHENZHEN CHINA. Commercial registration number: 91440300777167379F. 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.

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.

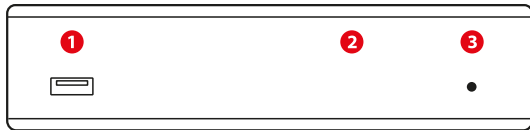
Updating Software

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.

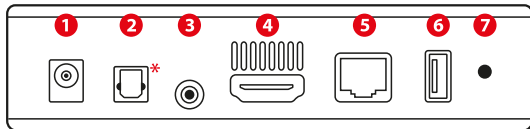
About your MAG420, MAG420w1

Front Panel



1. USB
2. IR-receiver
3. Indicator of stand-by mode/
Indicator of the Remote Unit
Buttons pushed

Back Panel

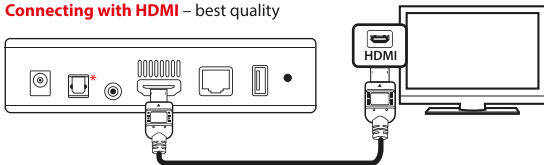


1. Power Supply
2. S/PDIF*
3. 4-pin 3,5 mm jack, Composite
video output, Stereo line output
4. HDMI
5. Ethernet LAN port
6. USB
7. Fn – Reset to factory settings/
Load from the first U-boot/
Select alternative NAND/
“Emergency” – Load the basic
software from USB/DHCP

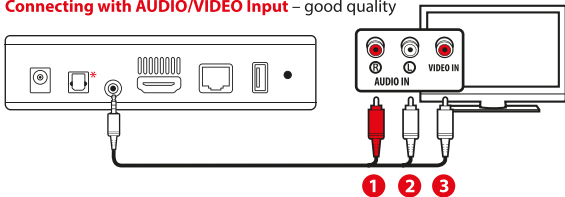
* Optional, may not be available on your device

Connecting to MAG420, MAG420w1

Connecting with HDMI – best quality



Connecting with AUDIO/VIDEO Input – good quality



1. Red
2. White
3. Yellow



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. If the amplifier is not connected leave digital audio outputs disconnected.

* Optional, may not be available on your device

Using Remote Control to control the Device

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.

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.

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

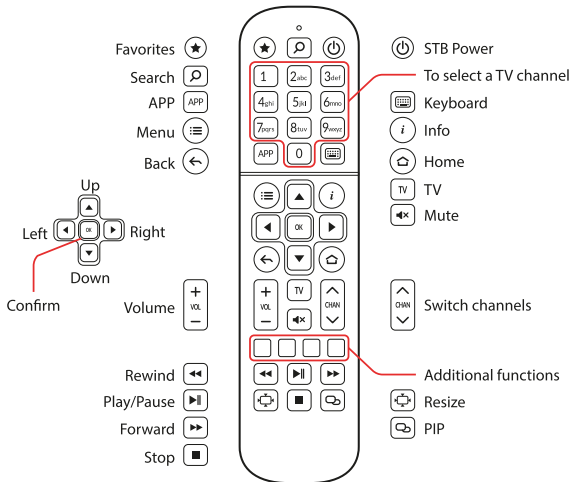
How to change the SRC-4015 code page

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.

Remote control SRC-4015



Using Remote Control to control the Device

Introduction to the Programmable Remote Control Unit (optional)

If MAG420, MAG420w1 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:

- 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.
- Press the button you want to «teach» — the green light will start blinking.
- 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.
- After the green light two quick blinks you may continue programming other buttons.
- Repeat the procedure described above for all buttons you want to program for controlling external devices.
- 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)


Programmable section* 

Additional functions    

Sound On/Off* 

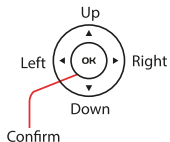
AV* 

Context menu 

Quick TV access 

Exit 

Menu 



Volume*  

Play / Pause 


Stop 

Change aspect ratio 


Update 




 Turn the Media Player On / Off

 Change audio mode


 Setup menu

 TV Guide

 Virtual keyboard


 Back

 Info


  Switch channels

 Rewind

 Fast forward

 Skip backwards

 Skip forward

 To select a TV channel

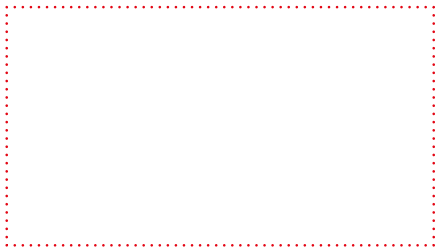
* buttons allowed to store copied data

Product information

Product:

Serial Number:

MAC:



970546

The set includes the following:

Set-Top Box	- 1 pcs.
External Power Supply 12V	- 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:

3,5 mm Jack to 3 RCA cable	- 1 pcs.
LAN network cable	- 1 pcs.
HDMI cable length less than 3 m	- 1 pcs.