

# **Armbian pe tv box, un dispozitiv configurat în scop educațional**



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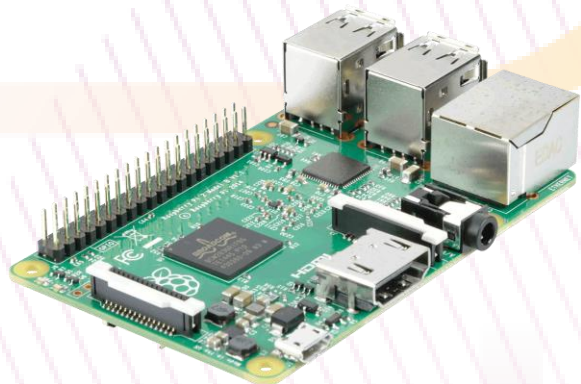
<https://www.dualstore.ro/mediaplayere-9/tv-box-h96-max-v12-smart-media-player-4k-ram-4gb-ddr3-rom-32gb-android-12-rk3318-quad-core-airplay-miracast-dlna-wifi-dual-band.html>

# Consum curent...



40-70W

<https://i.dell.com>



4-7W

<https://banner2.cleanpng.com>



10-20W

<https://png2.cleanpng.com/>



4-7W

<https://r7.hiclipart.com>

## Armbian...

Armbian este o distribuție de Linux destinată în special plăcilor de dezvoltare construite în jurul unor procesoare ARM, microprocesoare de tip RISC (Reduced Instruction Set Computer)

Nu este singurul sistem de operare care rulează pe astfel de mini calculatoare, are interfață grafică intuitivă, dispune de documentație bună și este ușor de configurat pentru servere, IoT, programare, bun de folosit în scop educațional.



<https://raw.githubusercontent.com/armbian/build/master/.github/armbian-logo.png>

## Tv-Box...

Este un mini pc pe care rulează sistemul de operare Android. Acest dispozitiv a apărut pe piață ca alternativă al televizoarele smart, fiind în special orientat spre redare conținut multimedia, jocuri și nu numai.

Datorită faptului că modelele mai vechi nu mai primesc suport, rămân cu versiuni învechite de Android, devin lente și deoarece configurația lor permite utilizarea acestora în alt scop decât cel construit, putem **reutiliza** aceste dispozitive!



<https://r7.hiclipart.com>

## Pregătirea imaginii...

### Rufus

– utilitar ce ajută la crearea drive-urilor bootabile

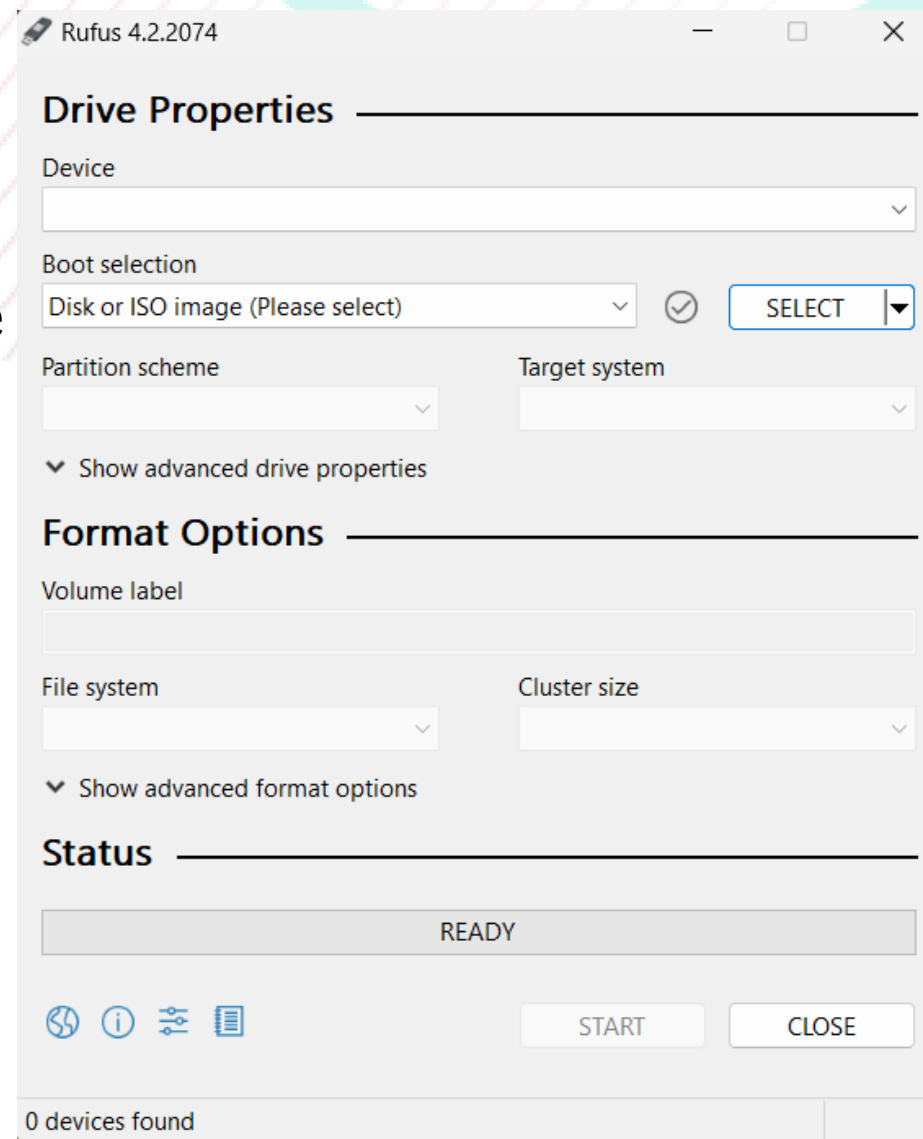
### Link imagine

– <https://github.com/armbian/community>

### Card SD



blob:https://www.pngwing.com/9f79405c-db67-4464-88bb-49b797a2f289





## Primul boot...

Unele dintre aceste dispozitive au butonul de reset situat în portul audio al dispozitivului, altele prezintă un mic orificiu.



<https://troypoint.com/how-to-reset-android-tv-box/>



<https://troypoint.com/how-to-reset-android-tv-box/>

# Boot screen...

```
U-Boot 2015.10-rc5-armsbian (Oct 14 2015 - 18:47:37 +0200) Allwinner Technology
```

```
CPU: Allwinner A20 (SUN7I)
I2C: ready
DRAM: 2 GiB
MMC: SUNXI SD/MMC: 0
HDMI connected: Setting up a 1280x720 dvi console (overscan 10x5)
In: serial
Out: vga
Err: vga
SCSI: SUNXI SCSI INIT
SATA link 0 timeout.
AHCI 0001.0100 32 slots 1 ports 3 Gbps 0x1 impl SATA mode
flags: ncq stag pm led clo only pmp pio slum part ccc apst
Net: eth0: ethernet@01c50000
starting USB...
USB0: USB EHCI 1.00
USB1: USB OHCI 1.0
USB2: USB EHCI 1.00
USB3: USB OHCI 1.0
scanning bus 0 for devices... 1 USB Device(s) found
scanning bus 2 for devices... 2 USB Device(s) found
Hit any key to stop autoboot: 0
6944 bytes read in 328 ms (20.5 KiB/s)
switch to partitions #0, OK
mmc0 is current device
Scanning mmc 0:1...
Found U-Boot script /boot/boot.scr
2065 bytes read in 363 ms (4.9 KiB/s)
## Executing script at 43100000
0 bytes read in 282 ms (0 Bytes/s)
28110 bytes read in 418 ms (65.4 KiB/s)
5468392 bytes read in 840 ms (6.2 MiB/s)
Kernel image @ 0x46000000 [ 0x000000 - 0x5370e8 ]
## Flattened Device Tree blob at 49000000
Booting using the fdt blob at 0x49000000
Using Device Tree in place at 49000000, end 49009dcd

Starting kernel ...
```

**armsbian**  
universal operating system



# Interfața... Explorare...

The screenshot displays a Linux desktop environment with a dark theme. A penguin icon is centered in the background. On the left, an application menu is open, showing categories like 'Accessories', 'Graphics', 'Multimedia', 'Office', 'Science', 'System', 'Donate', 'Help', and 'Log Out'. The 'Disks' option is highlighted. In the center, a terminal window shows system statistics and a list of running processes. On the right, a network settings menu is open, showing 'Available networks' and 'Enable Networking' options.

**Terminal Output:**

```

0[ 0.0%] 4[ 0.0%]
1[ || 5.7%] 5[ 0.6%]
2[ 0.0%] 6[ 0.6%]
3[ || 1.3%] 7[ 0.0%]
Mem[ |548M/1.82G] Tasks: 76, 143 thr, 141 kthr; 1 running
Swp[ 0K/931M] Load average: 0.27 0.55 0.49
Uptime: 02:23:38
  
```

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%	TIME+	Command
7645	arm	20	0	7980	3840	2944	R	3.8	0.2	0:01.91	htop
4411	root	20	0	569M	99016	59868	S	1.3	5.2	3:58.44	/usr/lib/xorg
1	root	20	0	165M	12348	7868	S	0.0	0.6	0:36.41	/sbin/init sp
1179	root	20	0	25764	5888	4096	S	0.0	0.3	0:00.86	/lib/systemd/
1469	root	10	-10	702M	14540	9216	S	0.0	0.8	0:12.70	/bin/brl tty -
1508	root	10	-10	702M	14540	9216	S	0.0	0.8	0:00.00	/bin/brl tty -
1509	root	10	-10	702M	14540	9216	S	0.0	0.8	0:00.01	/bin/brl tty -
1510	root	10	-10	702M	14540	9216	S	0.0	0.8	0:00.00	/bin/brl tty -
1511	root	10	-10	702M	14540	9216	S	0.0	0.8	0:00.00	/bin/brl tty -
1513	root	10	-10	702M	14540	9216	S	0.0	0.8	0:00.00	/bin/brl tty -
1657	root	19	-1	29484	6784	5888	S	0.0	0.4	0:05.26	/lib/systemd/
1721	root	20	0	8068	6280	1408	S	0.0	0.3	0:01.12	/usr/sbin/hav

Terminal shortcuts: F1 Help, F2 Setup, F3 Search, F4 Filter, F5 Tree, F6 SortBy, F7 Nice, F8 Nice +, F9 Kill, F10 Quit

## Server http...



```
sudo apt install php -y
```



```
sudo apt install apache2 -y
```



```
sudo apt install mariadb-server php-mysql -y
```



```
sudo apt install phpmyadmin -y
```

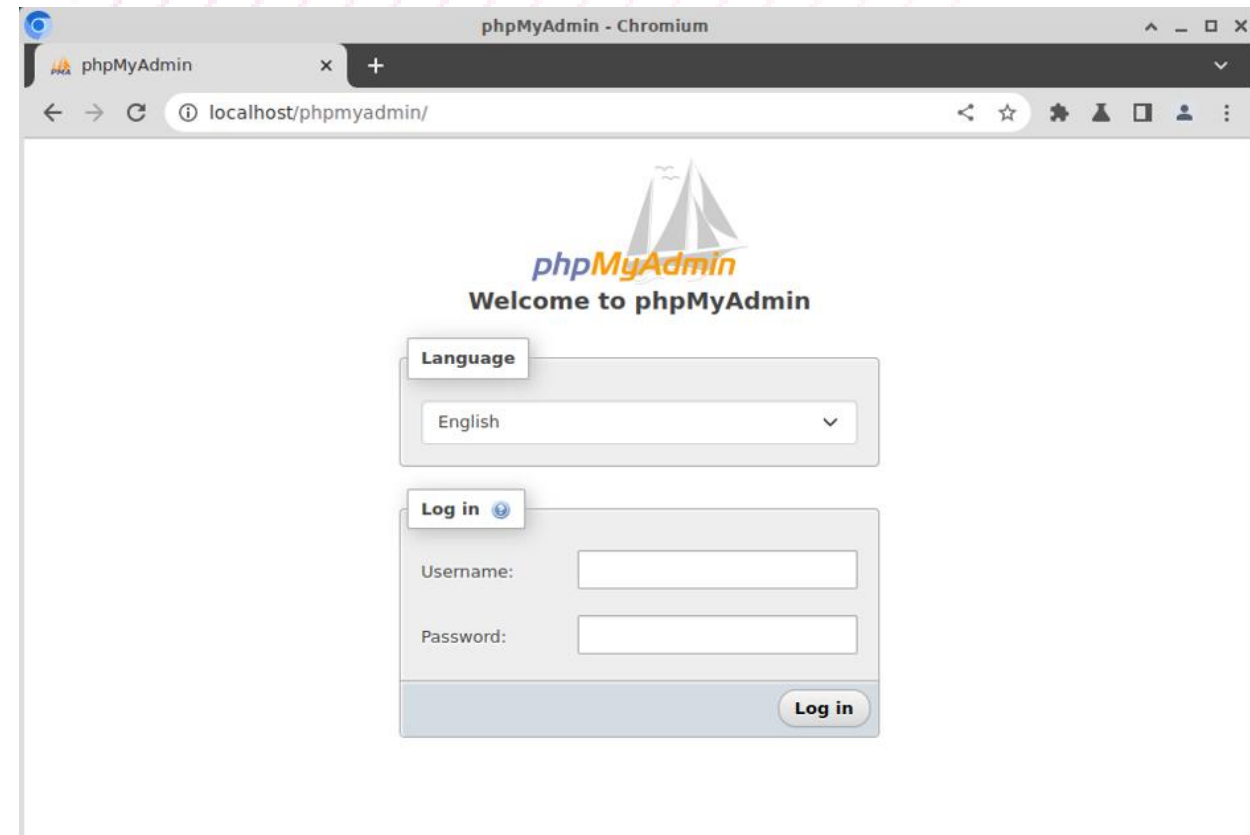
## Interfața PhpMyAdmin...

<http://127.0.0.1/phpmyadmin>

<http://localhost/phpmyadmin>

<http://192.168.1.100/phpmyadmin/>

<http://demo.home.ro>



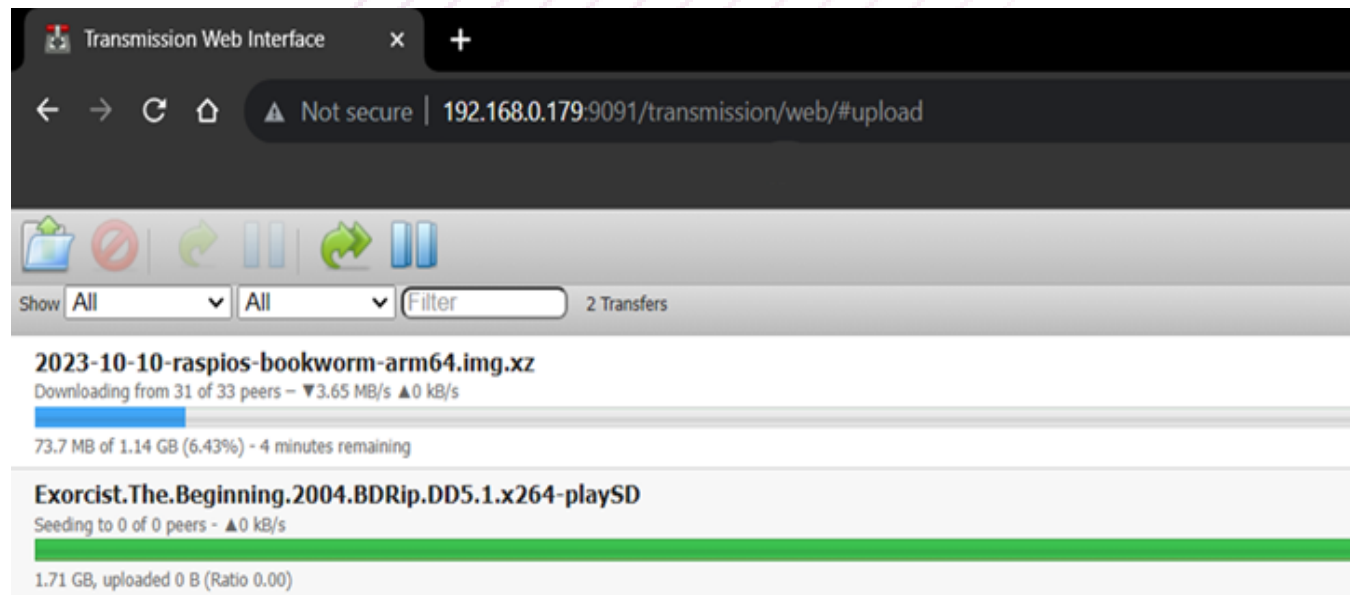
# Minidlna... transmission...



```
sudo apt-get install minidlna
```



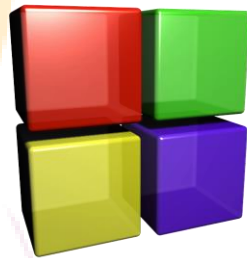
```
sudo apt install transmission
```



**Altele...**



```
sudo apt install libreoffice -y
```



```
sudo apt install codeblocks -y
```



```
sudo apt install idle3 -y
```

## Mulțumesc pentru atenție...

Tutorialul complet se află la <http://demo.home.ro> unde, puteți testa live cum rulează un server http pe un **Tv box!**



# Bibliografie

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