

www.Kama-Labs.com

(Assembly instructions and latest firmware you can find on my website)

SONYA v6

Made my own hands 😊

Thanks for purchase!!!

Features:

- * 6x **IN-4** Russian NIXIE tubes (made in 1982-86)
- * 4x INS-1 NIXIE separators (show am/pm and on/off of alarm)
 - * **32bit** ESP32 processor
 - * Full control of clock via Wi-Fi
 - * Wi-Fi connection to PC or smartphone
- * **Motion sensor** (no need burn tubes when nobody near)
 - * Synchronizing time and date from NTP server
 - * Over-the-air firmware update
 - * 12/24 hours mode
 - * 1 Alarm
- * Temperature / humidity / pressure sensor
 - * 8 animations for digits
- * Off clock at night by schedule* Fade leading zero
 - * Smooth PCB routing
 - * Support remote control
- * High-precision onboard time chip DS3231
- * Double **Multicolour** led glow (independent random color leds and **RGB** leds under each tube)
 - * Adjustable brightness of **RGB** and AUTO leds

- * **RGB** led (6 colors of backlight or autochange color mode)
 - * Adjustable high-voltage block. **150-190 volts**.
 - * **IN-4** tubes works in **static mode**
 - * Correction of temperature
 - * Accurate to **+/- 1 minute/year**
- * Date in format **DD.MM.YY** or **MM.DD.YY** or **YY.DD.MM**
 - * **Backup battery**. Data is not lost when power off
- * Power source - DC 12V barrel plug 5.5mm/2.1mm ("+" inside, "-" outside)
 - * Consuming current - 600mA
 - * Noiseless work

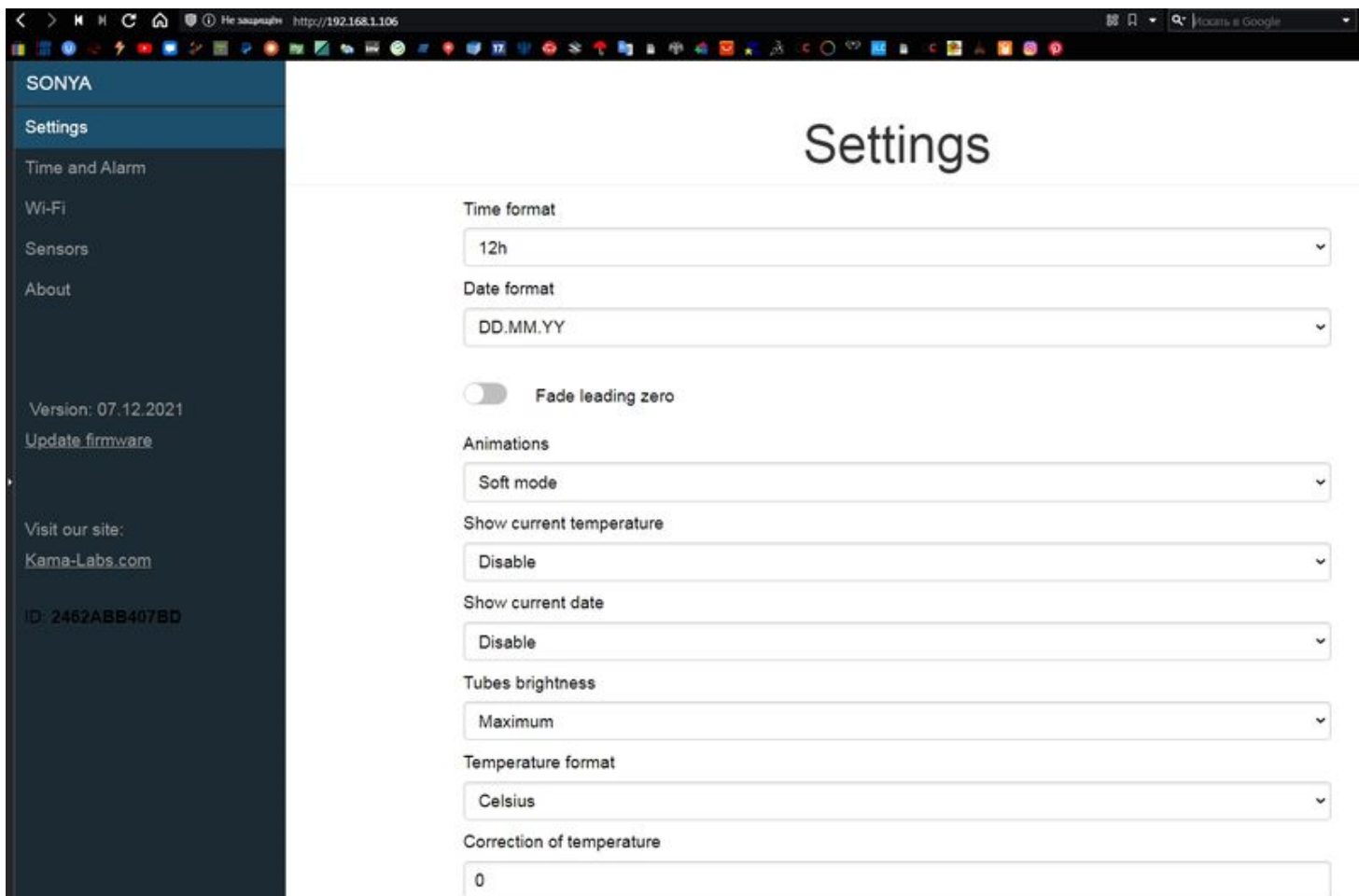
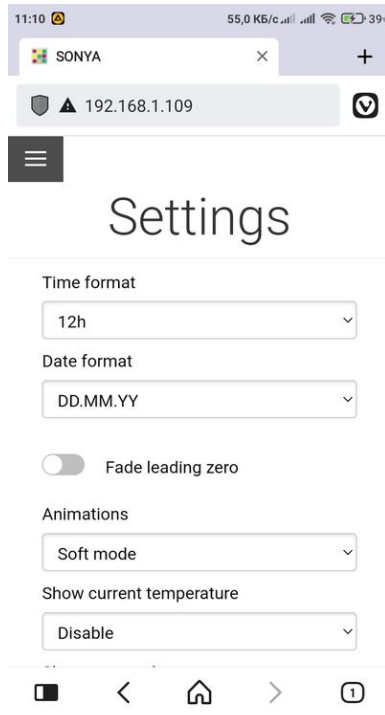
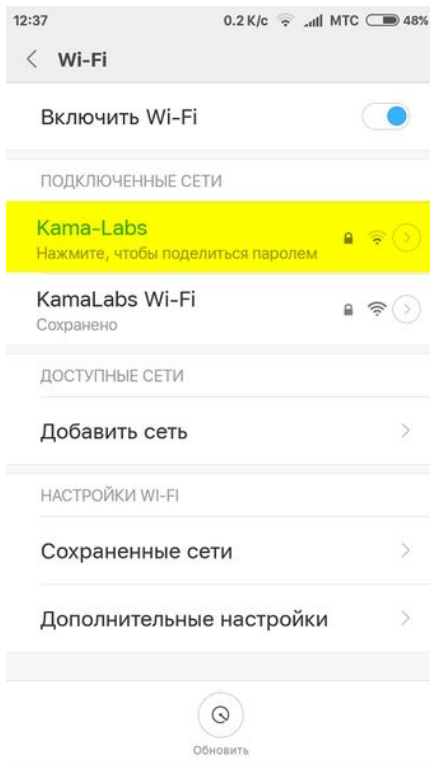
Dimensions of the clock in case - 232mm(W) x 52mm(L) x 53mm(H)

DANGER! HIGH VOLTAGE! (~165 volts)

How connect to Sonya clock via Wi-Fi:

- 1) Turn on the clock.
- 2) Connect to "Kama-Labs" Wi-Fi network via your smartphone or PC. Password: **nixieclock**
- 3) Open browser and go to "sonya.local" or 192.168.4.1 or scan QR-code.
- 4) You will see page with all setting of Sonya clock.



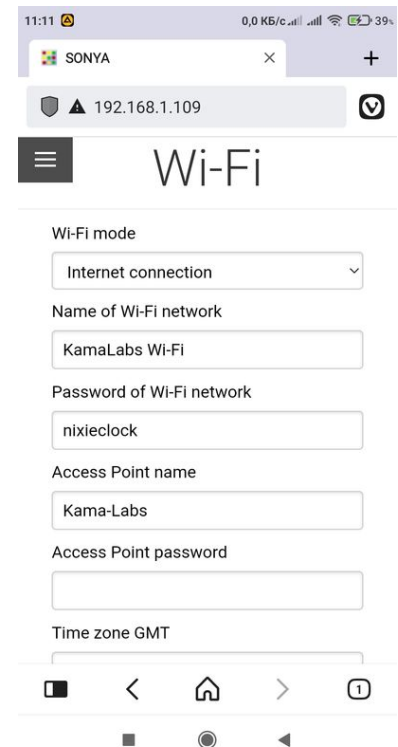


Connecting to home Wi-Fi network:

Anuta clock can connect to your home Wi-Fi network and synchronize time from NTP server. Also you will have access to clock from any device connected.

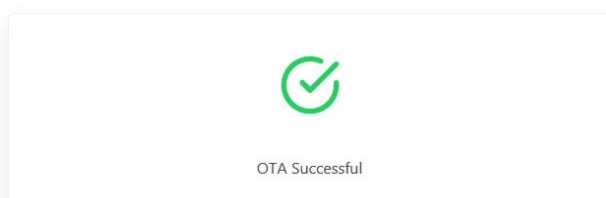
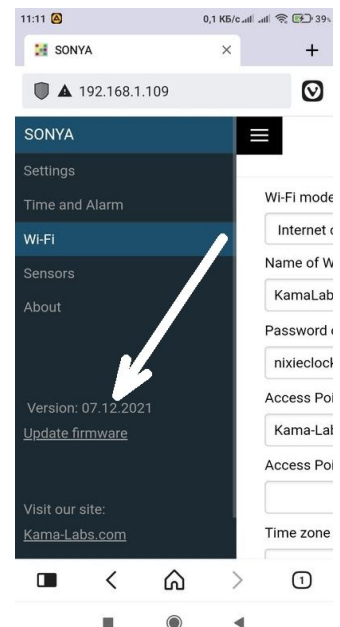
- 1) Go to “Wi-Fi” in menu
- 2) Fill fields “Name of Wi-Fi network” and “Password of Wi-Fi network” of your Wi-Fi network
- 3) In “Wi-Fi mode” choose “Internet connection”

At now clock will connected to your Wi-Fi network. If you will press “0” key on remote control clock will show status and IP-address.



How to update firmware:

- 1) Go to https://kama-labs.com/manuals_and_firmwares and check for new firmware version. Current version you can see here:
- 2) Click “Update firmware” link
- 3) Choose file with firmware
- 4) Click “Update”. Done!



How to use remote control:

Button	Action
OK	
◀ ▶	Next animation of digits
▲ ▼	Change brightness of tubes
1	
2	Show alarm
3	Show humidity
4	Show temperature
5	Show date
6	On/off alarm
7	Brightness of back LEDs
8	Turn off LEDs and tubes (clock still works)
9	Brightness of back LEDs
0	Show IP address of the clock
*	Change brightness of front LEDs
#	Change color of front LEDs
9 + 1	Set Wi-Fi mode as internet connection
9 + 2	Set Wi-Fi mode as Access point
9 + 3	Reset all settings
9 + 5	Tube test mode

Power plug for 12V
DC power adapter

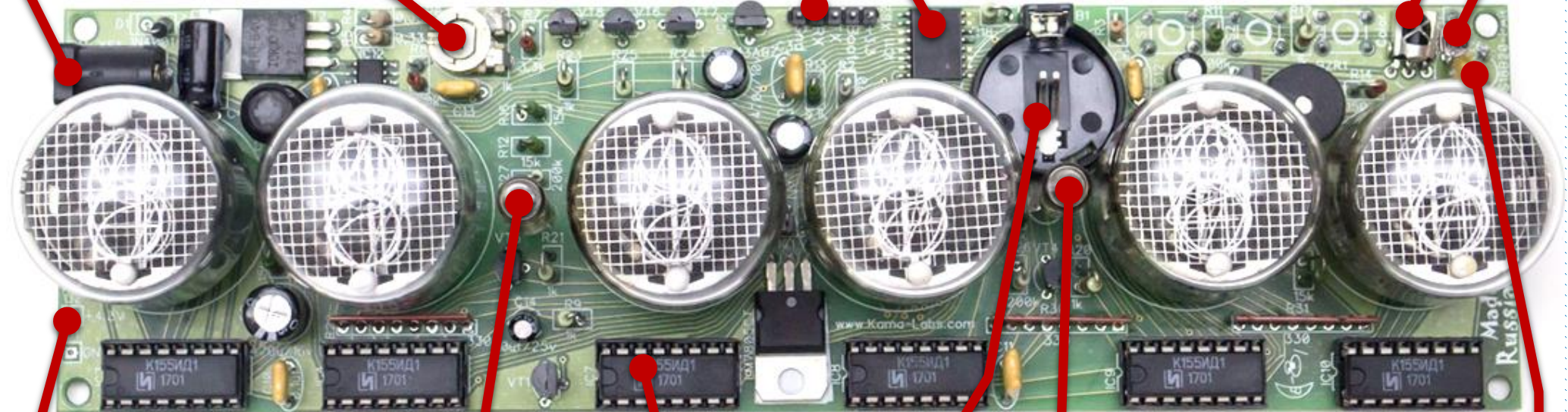
Diagnostic socket/
socket for USB-UART
converter

High precision
real-time chip

Light sensor

Infrared Receiver

High voltage
adjuster



+4.3V, +160V, GND
diagnostic points

Am/Pm separator

Nixie tube drivers

Battery holder

Alarm separator

Temperature sensor