

www.Kama-Labs.com

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

Katusha

Assembled my own hands 

Thanks for purchase!!!

Features:

- * 17x Soviet IVLM1-1/7 VFD tubes (made in 1983)
 - * 2x IV-6 VFD tubes (made in 1992)
 - * Full remote control
 - * 4mm plastic case
 - * Life time of tubes 10-15 years
 - * 32bit STM32F100C8 processor
 - * 12/24h time mode
- * Unique high effective smooth routing of PCB
 - * Fade leading zero
- * 1 Socket for control external devices (for ex. radio, bells, light and etc.)
 - * 1 Alarm
- * IVLM & IV-6 tubes work in static mode
- * Double Multicolour adjustable led glow (4x independent random color leds and 4x RGB led)
- * Automatic brightness of tubes, RGB leds and autoleds
 - * 6 modes of switch digits
 - * Thermometer
 - * OFF at night by timer
 - * Temperature C° or F°
 - * Correction of temperature
- * Accurate to +/- 1 minute/year

- * Date in format **DD.MM.YY** or **MM.DD.YY**
- * **RGB** led (6 colors of backlight)
- * Backup battery. Data is no lost when power off
 - * 3 buttons
- * Power source - DC 12V barrel plug 5.5mm/2.1mm ("+" inside, "-" outside)
 - * Consuming current - no more 600mA
 - * Noiseless work
- * Dimensions of the clock - 197mm(7.75in) x 60mm(2.36in) x 95mm(3.74in)
- * Dimensions of the clock in plastic case - 207mm(8.15in) x 69mm(2.72in) x 105mm(4.13in)

Button function:

(from left side of clock First, Second and Third buttons)

Short click = ~0.5 sec.

Long click = ~1 sec

First Button: Short click - show: date, alarm, temperature
Long click - time setup

Second Button: Short click - change brightness of tubes
Long click - parameters setup

Third Button: Short click - change effect
Long click – led color and brightness setup

How to set time? Easily!

- 1) Press and hold **First Button** ~1 sec
- 2) Hours tubes start to blink
- 3) Press **Second Button** for increment value
- 4) Press **First Button** for change digit
- 5) Seconds will reset to "00" if you will press **Second Button**
- 6) Press **First Button** for exit from setting time mode

How to set current date? Simply!

- 1) Press **First Button** shortly
- 2) You will see date in DD.MM.YY format
- 3) Press and hold **First Button** for enter into date setup mode
- 4) Similarly like you set time, set date.

If you will press **First Button** shortly and then press **Second Button**, you can change date show parameters. Date can be shown every 5 minutes or 10, or be turned off.

How to set alarm? Lightly!

Similarly like date setup. Moreover, you can turn on/off alarm here.

How to change parameters? Readily!

- 1) Press and hold **Second Button**
- 2) You will see number of parameter and value of parameter in

second tubes: **1 2 1.0 2 4**

- 3) Press **Third Button** for change value
- 4) Press **Second Button** for go to next parameter

№	Parameter	Value
1	12/24 time format	0 - 12h time format 1 - 24h time format
2	Date format	0 - DD.MM.YY 1 - MM.DD.YY
3	Hi.Hour tube fading	0 - enable fading 1 - disable fading
4	Effect of change digit influence to 1 digit or to all digits	0 - 1 digit 1 - all digits
5	Temperature units	0 - °C 1 - °F
6	Correction of temperature coefficient	Current temp. - temp.coeff. = real temperature

How to setup led backlight? Airily!

- 1) Press and hold **Third Button**
- 2) You will see **CLR** text on tubes
- 3) Press **First Button** to change brightness of bottom leds
- 4) Press **Second Button** to change brightness of top **RGB** leds
- 5) Press **Second Button** to set next color of **RGB** leds

How to change effect of time show?

Just press **Third Button** and choose effect what you like.

Long click
~1 sec.

Short click





