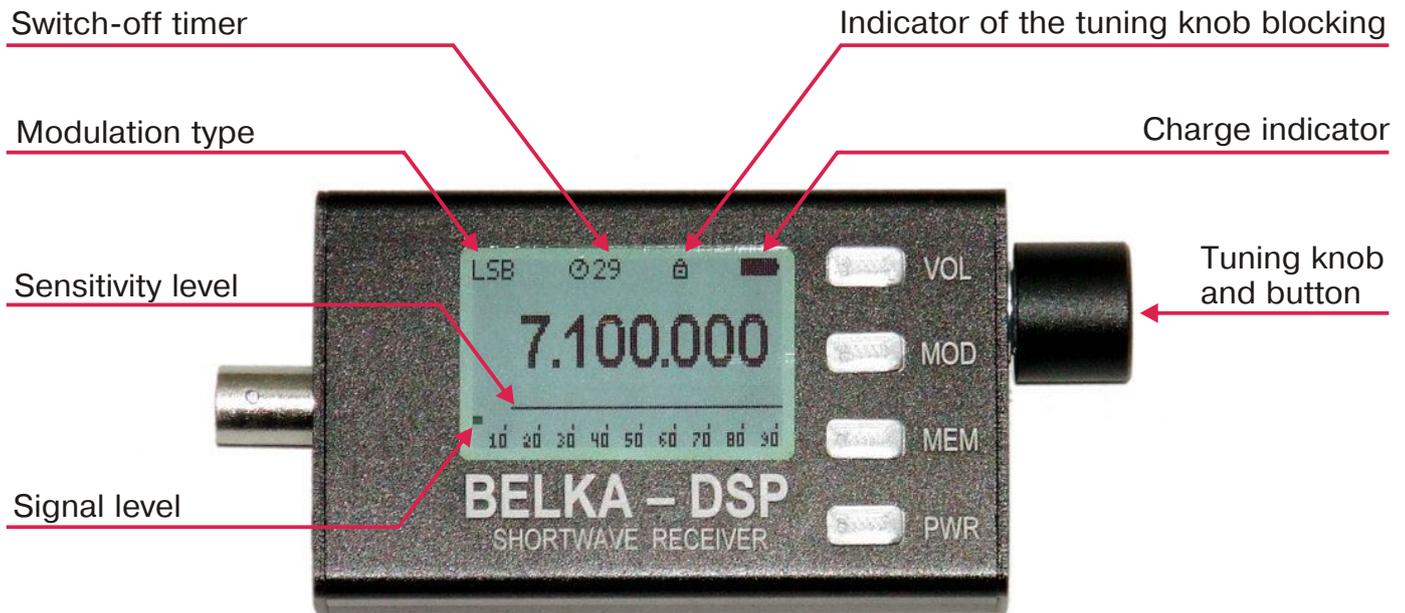


# Shortwave Receiver "Belka-DSP"

## User Manual



Radio receiver works in the frequency range 3.5-30 MHz. Input circuits of the radio receiver operate best with telescopic antenna of approximately 80 cm length.

You should hook up the "counterpoise" in the form of headphones or loudspeaker wire of approximately 1 m length in order to get higher sensitivity while working with telescopic antenna.

**Switching on the power:** Press and hold down "**PWR**" within 2 seconds.

**Switching off the power:** Press and hold down "**PWR**" within 2 seconds or press shortly "**PWR**", and then "**MOD**".

Tuning knob works not only as a frequency adjusting knob. It may also function as a button when pressing it in the direction of the axis.

**Tune step selection:** Press the tuning knob then choose the tune step by rotating the tuning knob. Press the tuning knob again.

**Quick tuning:** Press and hold the tuning knob at the pressed position while rotating the tuning knob. In this case if the tune step is 10-100 Hz, the tuning of the receiver is carried out with 10 kHz step. If the tune step is 1-50 kHz, then the tuning will be carried out with 200 kHz step.

**Writing of the current frequency, modulation type and sensitivity level to the memory cell:** Press "**MEM**", and choose the desired memory cell by rotating the tuning knob. Press "**MEM**".

**Loading of the frequency, modulation type and sensitivity level from the memory cell:** Press "**MEM**", and choose the desired memory cell by rotating the tuning knob. Press "**VOL**" or tuning knob.

# Shortwave Receiver "Belka-DSP"

**Modulation type selection:** Press "**MOD**" and choose the desired modulation type by rotating the tuning knob. Press the tuning knob or press "**MOD**" twice in "**CW**" mode/press "**MOD**" three times in other modes.

**CW, LSB, USB, NFM** - operating modes.

**AM1** - amplitude modulation with envelope detector.

**AM2** - amplitude modulation with pseudosynchronous detector.

Tune step and passbands for each modulation type (CW, LSB/USB, AM1/AM2, NFM) are loaded to the memory cell separately. If, for example, the tune step for LSB and USB is set up at 50 Hz and for AM1 or AM2 at 5 kHz, then when switching over AM1 or AM2 to LSB or USB the tune step will be selected automatically at 50 Hz. When switching back to AM1 or AM2 the tune step will be selected automatically at 5 kHz. The same is relevant to the passbands.

**Selecting the central frequency (pitch) of the telegraph filter in CW mode:** Press "**MOD**" twice, then choose the central frequency of the telegraph filter by rotating the tuning knob. Press the tuning knob or "**MOD**".

**Selecting the high cutoff in other modes:** Press "**MOD**" twice, then choose the desired frequency by rotating the tuning knob. Press the tuning knob or "**MOD**" twice.

**Selecting the low cutoff in other modes:** Press "**MOD**" three times, then choose the desired frequency by rotating the tuning knob. Press the tuning knob or "**MOD**".

**Adjusting the volume:** Press "**VOL**", then rotate the tuning knob to adjust the volume. Radio receiver will automatically switch to the main screen 5 seconds after rotating the tuning knob. Press the tuning knob or "**VOL**" twice for immediate return to the main screen.

**Adjusting the sensitivity:** Press "**VOL**" twice, then adjust the sensitivity by rotating the tuning knob. Radio receiver will automatically switch to the main screen 5 seconds after rotating the tuning knob. Press the tuning knob or "**VOL**" for immediate return to the main screen.

# Shortwave Receiver "Belka-DSP"

Noise may occur at some frequencies due to the work of the display. Turn off the display to remove noise.

**Switching off the display:** Press and hold down "**MOD**" within 2 seconds. The display will be switched off.

**Switching off the tuning knob:** Press and hold down "**VOL**" within 2 seconds. Lock indicator will appear at the top of the screen.

When the tuning knob is switched off, switching on and off the display is carried out by pressing "**MOD**".

**Switching on the display and the tuning knob:** Press "**PWR**", "**MEM**" or "**VOL**".

**Settings menu:** Press shortly "**PWR**", then choose the desired menu item by rotating the tuning knob. Press the tuning knob or "**PWR**" to enter the selected item.

## Menu items:

**tmr:** Switch-off timer. Choose time when the radio receiver will be automatically switched off. When choosing "**off**" the radio receiver will not be switched off automatically. The timer starts again after the restart of the radio receiver.

**blt: backlight of the display** - 3 modes.

"**off**" - backlight is always off.

"**tch**" - backlight is switched on by pressing buttons or rotating the tuning knob.

Backlight is switched off automatically after 12 seconds.

"**on**" - backlight is always on.

**ONm:** Switching on method - 2 modes.

"**imm**" - receiver will be switched on immediately when pressing "**PWR**".

"**del**" - receiver will be switched on when pressing and holding down "**PWR**" within 2 seconds.

"**vlc**" - press and hold down the tuning knob then press "**PWR**" to switch on the receiver. This ON method may be used to avoid accidental switching on of the receiver while carrying it in a bag or pocket.

Choose the desired value or menu item by rotating the tuning knob. Enter the desired value by pressing the tuning knob or "**PWR**". Press the tuning knob or "**PWR**" to return to the main screen.

## Shortwave Receiver "Belka-DSP"

External power of the receiver and built-in battery charge are carried out via Micro-USB plug from the 5-5.5 V power source.

Current drain of the receiver is 80 mA.

Battery charging current is 450 mA.

There is a battery light indicator located near Micro-USB plug which switches off when the battery is full.

Use Mini-jack plug 3,5 mm to connect the headphones or loudspeaker with 4 Ohm or more resistance. Use headphones or loudspeaker **only with Stereo Mini-jack plug.**

**! Use of Mono Mini-jack plug may cause audio amplifier short circuit and the receiver's damage.**

To connect headphones or loudspeaker to the Mini-jack plug use the scheme as follows:

