

# QUICK USER GUIDE



**EQ V.3–V.6**

# TABLE OF CONTENTS

<a href="#">Specification</a>	3
<a href="#">System Controls</a>	4
<a href="#">Device Setup</a>	5
<a href="#">Practical setup</a>	6
<a href="#">Specification</a>	7
<a href="#">System Controls</a>	8
<a href="#">Device Setup</a>	9
<a href="#">Practical setup</a>	10
<a href="#">Specification</a>	11
<a href="#">System Controls</a>	12
<a href="#">Device Setup</a>	14
<a href="#">Practical setup</a>	15
<a href="#">Troubleshooting</a>	16
<a href="#">Specification</a>	17
<a href="#">System Controls</a>	18
<a href="#">Device Setup</a>	20
<a href="#">Practical setup</a>	21
<a href="#">Troubleshooting</a>	22

## EQ V.3



## EQ V.4



## EQ V.5



## EQ V.6



## EQ V.3 Sound 5-band EQ Comp Low Noise Amplifier

### Specification

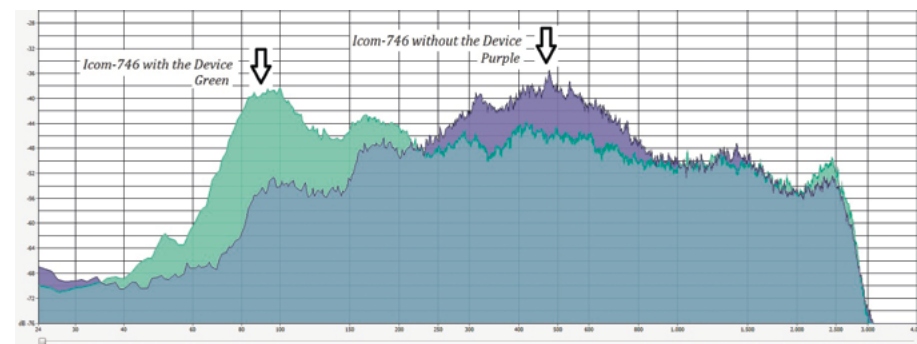
- ◊ Input voltage 8 - 16V DC
- ◊ Current consumption 8mA
- ◊ Voice 5-band Equalizer with pots on: 80 / 250 / 550 / 1200 / 3000 Hz
- ◊ Compression level with led
- ◊ Adjustable microphone low noise amplifier, range 0+20dB
- ◊ Adjustable output level
- ◊ Length of cable 30cm
- ◊ Size — 110 x 85 x 60 mm (with knobs)
- ◊ Weight 0.4 kg

5-band EQ with a compressor and an adjustable microphone amplifier is made in a metal box factory manufacturing painted in matte black color, all the inscriptions made in white silk screen printing method. At the bottom of the box rubber feet.

This device works with any type of ICOM, KENWOOD, YAESU radios with 8 pin microphone connector (and other custom-made). It is capable of changing the standard signal of your transceiver. With this small black box, you can get a sound similar to the sound of the resulting 5 big expensive mixer boards. Why? Because it is designed specifically for ham radio and signal bandwidth of 3-4kHz.

This unit is similar to the «MFJ-299», «MFJ-625» and «Icom SM-10», but it has advantages.

First - because the «MFJ-299», «MFJ-625» and «Icom SM-10» does not have a frequency of 80Hz and get it nice bass impossible. For an example, see the frequency response of the two signals on the transceiver ICOM-7800 (Green colour — with EQ, Purple color — without EQ) :

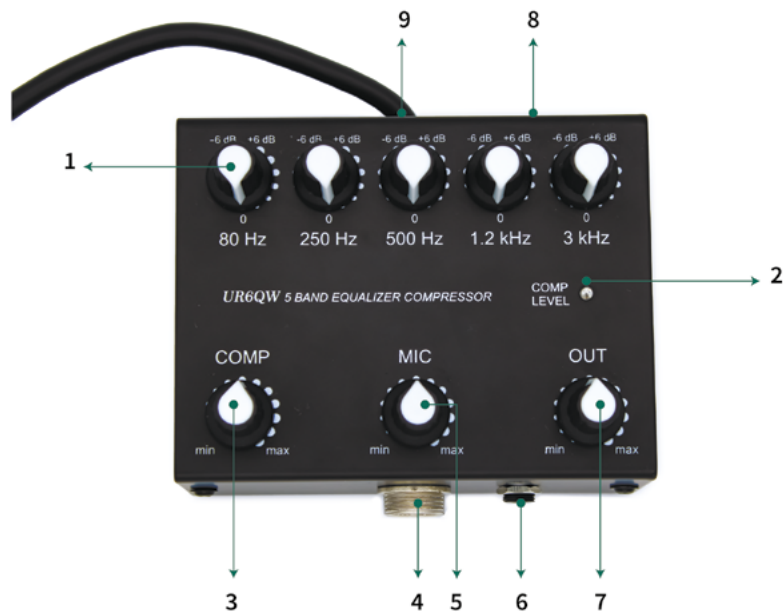


Amplitude frequency characteristic

The second — in the equalizer no extra wires, it does not need external power supply, power is taken from the microphone jack of your transceiver (only for some TRX without power on the microphone jack, an external power connection is required 8-16V DC).

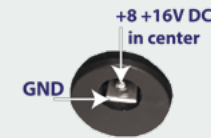
And thirdly — the front panel mounted is 3.5 mm jack for a headset type «Heil» and any other Headsets. Now you do not need additional adapters that connect to your favorite headsets.

## System Controls and Indicators



- Adjustable equalizer knobs (top 5 pieces)  $\pm 6$  db: Sets the level of the equalization stage
- Compressor led indicator: This led light up when you signal start to compress.
- Compression Level Set: Controls the Compression level.
- Input 8-pin pole jack (optional RJ45 jack for other model transceiver).
- Microphone Level Set: Sets gain low noise microphone amplifier.
- 3.5 mm microphone input for electrets and dynamic microphones. Some supported microphone model: Heil Pro 7, Heil Pro Set, Koss SB-40 and other popular microphones.
- Output Level Set: Level control output signal. Set needed level for your transceiver.
- DC jack for some models.
- Output cable. Connect this cable to transceiver, in MIC input.

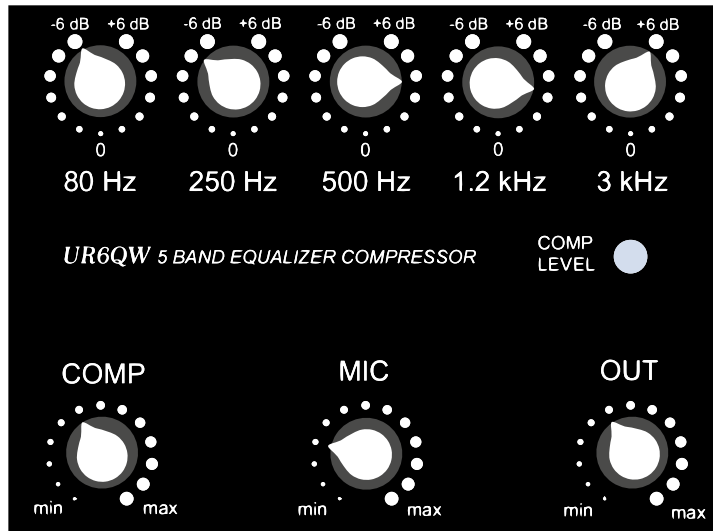
## Device Setup and Getting Started Tutorial



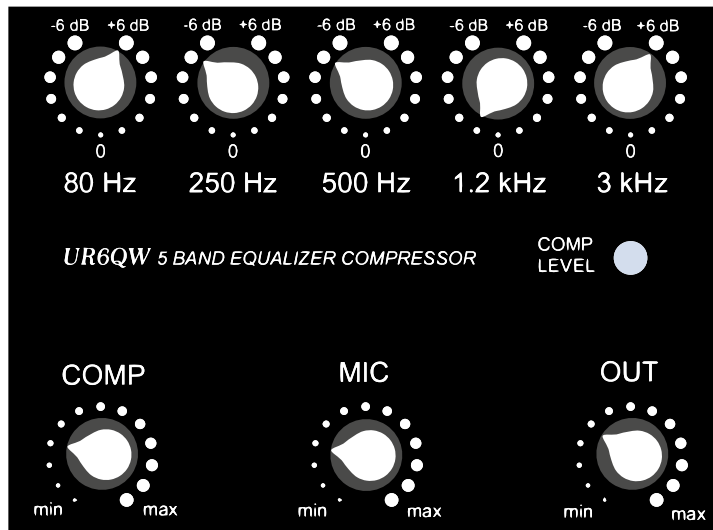
If your 5-band EQ has to DC jack for External power supply — connect 8-16V DC

- Connect cable (9) to transceiver
- Compressor led (2) must be light up then fireless — is normal work.
- If your transceiver has Compressor (COMP) set is OFF! **Is very important!**
- Set knobs Equalizer (top 5 pieces) average positions.
- Set bottom knobs (COMP/MIC/OUT) as follows:  
**COMP:** 30% (or 9 o'clock)  
**MIC:** 0% (or min)  
**OUT:** 40% (or 11 o'clock).
- Then connect your Handmic in 8-pin pole jack (can be 4/6 pin, RJ45 or etc. depends on the transceiver model). Instead Hand Mic you can also connect Heil or other Electret, Dynamic microphones in 3.5mm female jack.
- Switch ON Monitor mode in transceiver and listen to yourself. Speak in mike and turn knobs MIC until start to blink led. Speak in mike and turn knobs OUT for normal operation ALC. Then you can setup Equalizer knobs for you voice. After settings again adjust knobs MIC until start to blink led.

## Some practical setup



«DX mode» Setup MIC control for you voice! Led must blink often.



«ESSB mode» Setup MIC control for you voice! Led must blink rarely.

Knobs COMP / MIC / OUT — may have other values, depending on your hardware

## EQ V.4

# Sound 8-band Equalizer Compressor Low noise Preamp and Echo effect Processor

### Specification

- ◊ Input voltage 8 - 16 V DC
- ◊ Power Consumption 40mA
- ◊ Protection from reversal polarity
- ◊ Voice 8-band Equalizer with pots on: 80 / 160 / 250 / 500 / 900 / 1500 / 2500 / 3200 Hz
- ◊ Compression level led
- ◊ Echo processor with regulation level and delay 30-150 ms
- ◊ Adjustable microphone low noise amplifier, range -6+25dB
- ◊ Mic Input 3,5mm / 8pin (4 / 5 / 6 pins or RJ45 optional)
- ◊ Working UP/DOWN control of the radio by Mic's knobs;
- ◊ Size — 180 x 100 x 50mm;
- ◊ Weight — 0.63 kg.

The 8-band EQ with Compressor, adjustable microphone amplifier and Echo Processor was designed with the serious operator in mind. Is specifically designed for SSB audio with a bandwidth of 3-4 kHz (and bit more).

The 8-band EQ has a good-looking matte black metal box, slanted front panel with silk-screened scales that doesn't rub off. At the bottom of the box are rubber feet.

This EQ has flexible input, compression and output level controls equalizer, works with any type of transceivers.

Device testing and works with High Output Power up to 2kWt, because implemented all the requirements of high-frequency screening.

Create that full range Hi-Fi sound with emphasis on the low end, or bust pileups with a higher pitched sound and more compression, with the 8-band Equalizer the choice is yours.

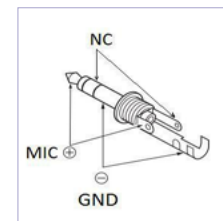


photo 1

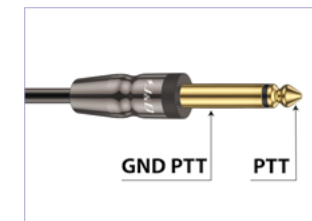
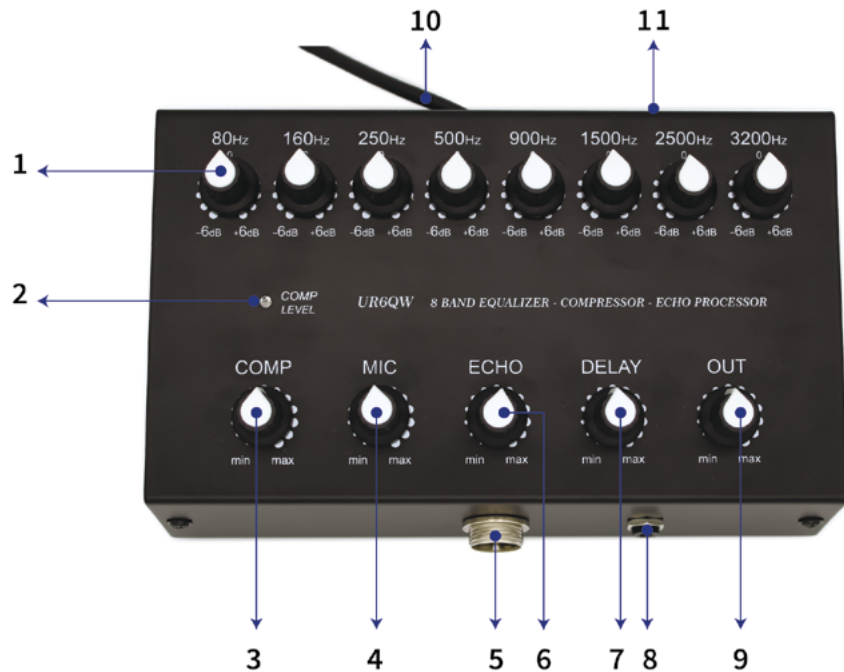


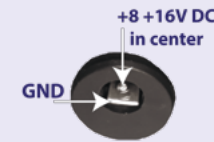
photo 2

## System Controls and Indicators



- Adjustable equalizer knobs (top 8 pieces)  $\pm 6$  db: Sets the level of the equalization stage.
- Compressor led indicator: This led light up when you signal start to compress.
- Compression Level Set: Controls the Compression level.
- Microphone Level Set: Sets gain low noise microphone amplifier.
- Input 8-pin pole jack (optional RJ45 jack for other model transceiver).
- Echo level set: Echo level to output signal. If turn to «min» – Echo is off.
- Delay level set: Controls the delay time 30-300 ms.
- Microphone input 3.5mm female jack. Work with electrets and dynamic microphones. Some supported microphone model: Heil Pro 7, Heil Pro Set, Koss SB-40 and other popular microphones. Pin outs female jack in EQ like reply part on **photo 1**
- Output Level Set: Level control output signal. Set needed level for your transceiver.
- Output cable. Connect this cable to transceiver, in MIC input.
- PTT female jack (optional). Connect here foot switch with 6.3mm jack. Wiring shown in the **photo 2**

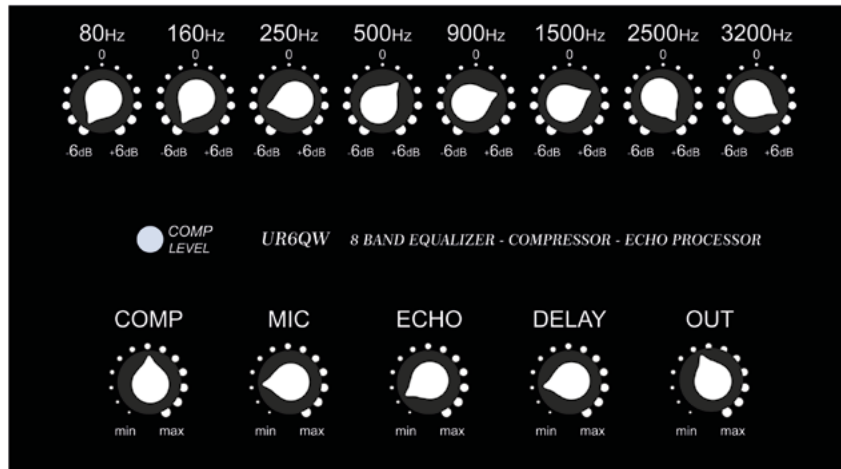
## Device Setup and Getting Started Tutorial



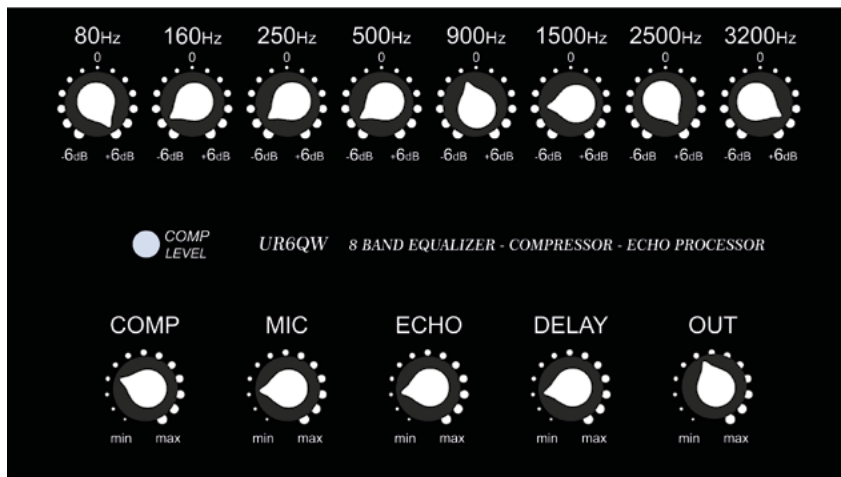
If your 8-band EQ has DC jack for External power supply — connect 8-16V DC

- Connect cable (10) to transceiver
- Compressor led (2) must be light up then fireless – is normal work.
- If your transceiver has Compressor (COMP) set is OFF! **Is very important!**
- Set knobs Equalizer (top 8 pieces) average positions.
- Set bottom knobs (COMP / MIC / ECHO / DELAY / OUT) as follows:  
**COMP:** 30% (or 9 o'clock)  
**MIC/ECHO/DELAY:** 0% (or min)  
**OUT:** 40% (or 11 o'clock).
- Then connect your Handmic to 8-pin pole jack (5) or Heil (or other Electret/Dynamic), microphone in 3.5mm female jack (8).
- Switch ON Monitor mode in transceiver and listen to yourself. Speak in mike and turn knobs MIC until start to blink led. Speak in mike and turn knobs OUT for normal operation ALC. Then you can setup Equalizer knobs for you voice. After settings again adjust knobs MIC until start to blink led
- Turn Echo knob 50% (or 12 o'clock). While speaking into the Microphone Slowly rotate the Delay Control (set what you wish, best effects on practices 10 - 20%).

## Some practical setup



«DX mode» Setup MIC control for you voice! Led must blink often.



«ESSB mode» Setup MIC control for you voice! Led must blink rarely.

Knobs COMP / MIC / OUT — may have other values, depending on your hardware

## EQ V.5 Sound 8-band Equalizer Compressor Low noise Preamp Echo effect Processor and Noise Gate

### Specification

- ◇ Input voltage 8 - 16 V DC
- ◇ Power Consumption 40mA
- ◇ Protection from reversal polarity
- ◇ Voice 8-band Equalizer with pots on: 80 / 160 / 250 / 500 / 900 / 1500 / 2500 / 3200 Hz
- ◇ Overload level led
- ◇ Echo processor with regulation level and delay 30 - 150 ms
- ◇ Adjustable microphone low noise amplifier, range -6+25dB
- ◇ Compression level — 6:1
- ◇ Noise Gate Threshold — adjustable
- ◇ Averaging time constant — adjustable 3 position
- ◇ Mic Input mini-jack 3.5mm / 8pin (4 / 5 / 6 pins or RJ45 optional)
- ◇ Working UP/DOWN control of the radio by Mic's knobs
- ◇ Size — 180 x 100 x 50 mm
- ◇ Weight — 0.65 kg

We always listen to our users, many of them love the EQ V.4, but they lacked the Noise Gate function. Therefore, EQ V.5 was developed, which differs from the previous one by the presence of a Noise Gate function and a faster Compressor with adjustable response time. Now the audio has become even better.

EQ V.5 is 8-band EQ with Compressor, adjustable microphone amplifier, Echo Processor and Noise Gate was designed with the serious operator in mind. Is specifically designed for SSB audio with a bandwidth of 3-4 kHz (and bit more).

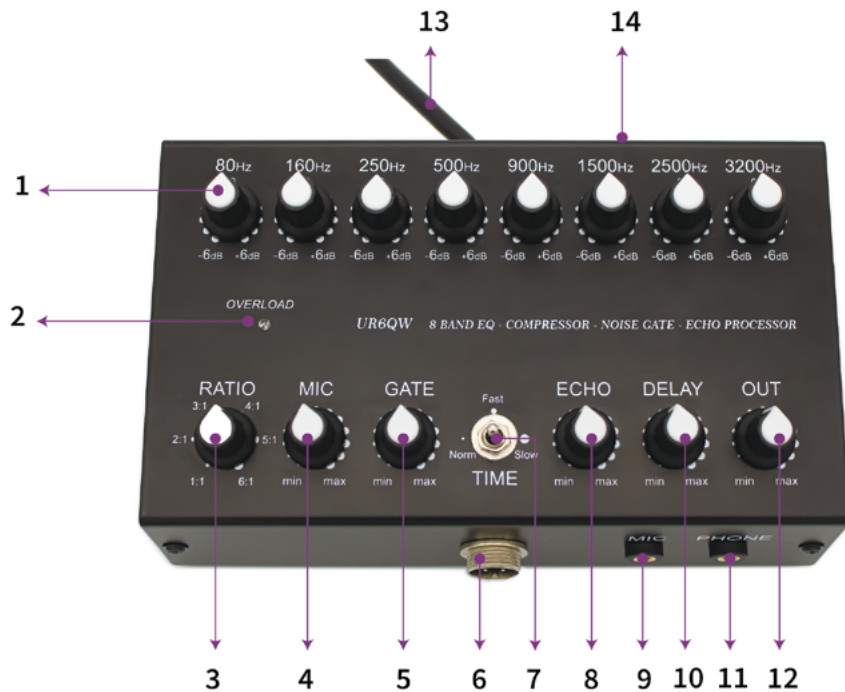
Through the ability to change the operating time of the Compressor, you can choose the optimal operating mode for your conditions and make the operation of the Noise Gate soft and not noticeable to others. Only your voice will be heard on the air, without obtrusive fan noise or other QRM.

This EQ has flexible input, compression and output level controls equalizer works with any type of transceivers.

Device testing and work with High Output Power up to 2kWt, because implemented all the requirements of high-frequency screening.

EQ V.5 help make your signal perfect, clean without noise. And thanks to the fast compressor, the peak power factor will always be at the maximum of your capabilities.

## System Controls and Indicators



- Adjustable equalizer knobs (top 8 pieces)  $\pm 6$  db: Sets the level of the equalization stage.
- Overload level led: This led light up when Microphone amplifier have overload.
- Adjustable Compression Level Set: 1:1 — compressor do not compress, 6:1 — max compression.
- Microphone Level Set: Sets gain low Noise microphone amplifier.
- Noise Gate Level Set: control sets the noise gate threshold. Turning clockwise (monitoring you signal) when your QRM reaches the week level.
- Input 8-pin pole jack (optional RJ45 jack or 4 / 6 pins etc. for other model transceiver).
- Attack Time Set: Switch establishes the level detector averaging time constant. Fast — 30ms, Normal — 60ms, Slow — 150ms.
- Echo level set: Echo level to output signal. If turn to «min» — Echo is off.
- Microphone input 3.5mm female jack. Work with electrets and dynamic microphones. Some supported microphone model: Heil Pro 7, Heil Pro Set, Koss SB-40 and other popular microphones.

Pinouts female jack in EQ like reply part on **photo 1**.

- Delay level set: Controls the delay time 30-150 ms.
- AF output 3.5mm female jack, only for **ICOM** models (Duplicate pin 8 TRX Mic jack) . Connect here your Headphones. Adjust volume in transceiver
- Output Level Set: Level control Output signal. Set needed level for your transceiver. Set with controlling ALC level in transceiver.
- Output cable. Connect this cable to transceiver, in MIC input.
- DC 5.5 x 2.1mm female jack for External Source Supply. Is optional jack, mounting for some transceiver model. If you have this jack — connect here 8-16 volt DC (no less 50mA), as shown on **photo 2**. EQ have a reverse polarity protection. Current consumption — 40mA.

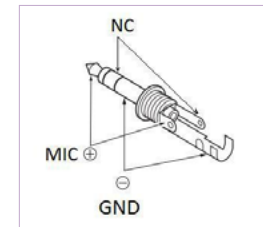


photo 1

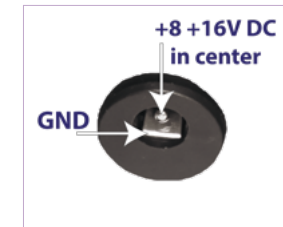


photo 2



## Device Setup and Getting Started Tutorial

If you 8-band EQ have to DC 5.5 x 2.1mm / RCA jack for External power supply — connect 8-16V DC.

1. Connect cable (13) to transceiver
2. Overload led (2) should not light up, when you speak – is normal work.
3. If you do not speak, Gate lower noise levels – is normal work.
4. If your transceiver has Compressor (COMP) set is OFF! **Is very important!**
5. Set knobs Equalizer (top 8 pieces) average positions. Set bottom knobs (RATIO / MIC / GATE / TIME / ECHO / DELAY / OUT) as follows:

**RATIO:** \_ 2:1

**MIC/GATE/ECHO/DELAY:** 0% (or min)

**TIME:** Norm

**OUT:** 40% (or 11 o'clock).

6. Then connect your Handmic in 8-pin pole jack (6) or Heil (or other Electret) microphone in 3.5mm female jack (9).

7. Switch ON Monitor mode in transceiver and listen to yourself. Speak in mike and turn knobs MIC until start to blink led, then turn a little less (led Overload should not flashing). Speak in mike and turn knobs OUT for normal operation ALC. Then you can setup Equalizer knobs for you voice (see photo below). After settings again adjust knobs MIC as described above.

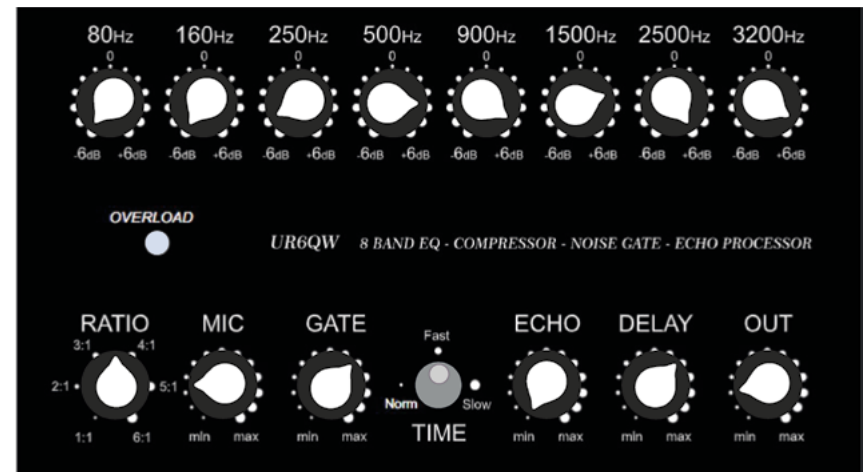
8. Turn DELAY knob 30-60% (or 10-13 o'clock).

9. While speaking into the Microphone Slowly rotate the ECHO Control (set what you wish, best effects on practices 10-20%).

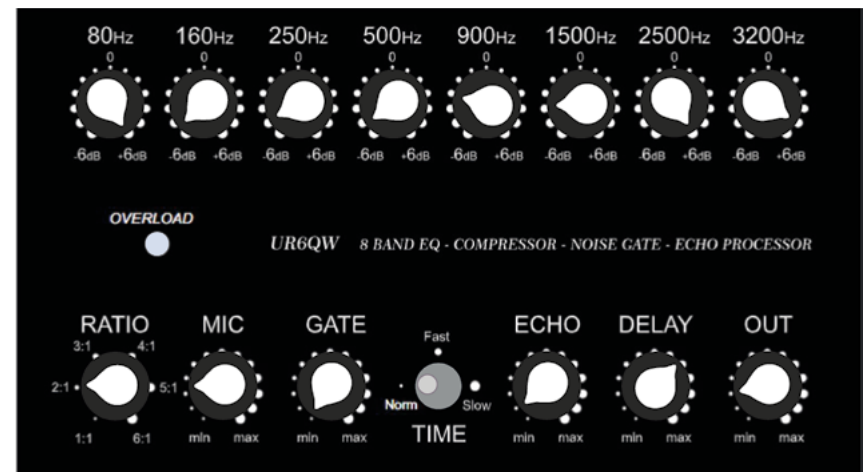
10. Set COMP level, best position on practices 3:1, 2:1.

11. Set Noise Gate if you have big home QRM. Do not speak and turn knobs GATE until you QRM level will be less. Changes switch TIME for installations delay time of the NOISE GATE function.

## Some practical setup



«DX mode» Setup MIC knob as described above.



«ESSB mode» Setup MIC knob as described above.

For «ESSB with Gate mode» change knob GATE and switch TIME like «DX mode».

Knobs MIC / GATE / OUT — may have other values, depending on your hardware, on photo setup with electret microphone.



## Troubleshooting

<b>Led not light up when I speak in microphone</b>	<ul style="list-style-type: none"> <li>• Little gain level. Adjust knobs MIC</li> <li>• Microphone not connect. Check connections and pin outs</li> </ul>
<b>Mic level to minimum, but when I speak led is blink</b>	<ul style="list-style-type: none"> <li>• You can simply keep the Microphone 2-3 cm further or talk a little quieter and the LED will not blink. You can also decrease / increase the gain by rotating the EQ knobs counter clock-wise.</li> <li>• You can also decrease / increase the gain when turn EQ knobs.</li> </ul>
<b>I have mono sound</b>	<ul style="list-style-type: none"> <li>• Is normal, because 3.5mm jack (Phones) – this AF mono output.</li> </ul>
<b>I have RF problem in my signal</b>	<ul style="list-style-type: none"> <li>• Check SWR or check with low power and load equivalent.</li> <li>• Your microphone have not shielded cable. Remove cable.</li> <li>• Check with other microphone.</li> <li>• Connect GND to device or TRX or PS.</li> <li>• Housing consists of 2 parts, check galvanic contact via this parts and potentiometers rod.</li> <li>• Check TRX Compressor, must be OFF, check general Gain (device and trx) using ALC level.</li> <li>• Try using ferrite ring on basic or DC cable.</li> </ul>

## EQ V.6

### Sound 8-band Equalizer Compressor Low noise Preamp Echo effect Processor and Noise Gate with XLR input

#### Specification

- ◊ Voice 8-band Equalizer with pots on:80 / 160 / 250 / 500 / 900 / 1500 / 2500 / 3200 Hz;
- ◊ Mic Input — 3.5mm / XLR (without Bias) / 8pin (4 / 5 / 6 pins or RJ45 optional);
- ◊ Compression level — 6:1;
- ◊ Noise Gate Threshold – adjustable;
- ◊ Averaging time constant — adjustable 3 position;
- ◊ Protection from reversal polarity;
- ◊ Echo processor with regulation level and delay 30—150 ms;
- ◊ Adjustable microphone low noise amplifier, range -6+29dB;
- ◊ Working UP / DOWN control of the radio by Mic's knobs;
- ◊ Power Supply Requirement — 8 - 16V DC;
- ◊ Size - 180 x 100 x 50 mm;
- ◊ Power Consumption — 40mA;
- ◊ Overload level led;
- ◊ Weight — 0.65 kg.

EQ V.6 is improved version previous model EQ V.5. What the difference:

- EQ V.6 has additional XLR input jack for Premium dynamic microphones, like Heil PR-781, Shure SM- 58, Behringer XM8500 etc.
- EQ V.6 has Noise Gate with shutdown.
- EQ V.6 has Mic Gain amplifier with increased range +4db (Because Dynamic Mic have low sensitive).

Specially designed for very high -quality studio, dynamic microphones. Dynamic microphone needs a good, high -quality amplifier with a low noise level to provide a high signal/noise ratio and get a sound close to the studio. And EQ V.6 does it great. If your fans work too loudly, then the Noise Gate will help to hide this noise on the air and the signal will look just great.

But if you do not have a dynamic XLR microphone, you can also connect any other microphones, because EQ V.6 has 3 Mic Inputs for this.

## System Controls and Indicators



- Adjustable equalizer knobs (top 8 pieces)  $\pm 6$  db: Sets the level of the equalization stage.
- Overload level led: This led light up when Microphone amplifier have overload.
- Adjustable Compression Level Set: 1:1 — compressor do not compress, 6:1 — max compression.
- Microphone Level Set: Sets gain low Noise microphone amplifier.
- Noise Gate Level Set: control sets the noise gate threshold. Turning clockwise (Monitoring you signal) when you QRM reaches the week level.
- Input 8-pin pole jack (optional RJ45 jack or 4 / 6 pins etc. for other model transceiver).
- Attack Time Set: Switch establishes the level detector averaging time constant. Fast — 30ms, Normal — 60ms, Slow — 150ms.
- Echo level set: Echo level to output signal. If turn to «min» — Echo is off.
- Microphone input 3.5mm female jack. Work with electrets and dynamic microphones. Some supported microphone model: Heil Pro 7, Heil Pro Set, Koss SB-40 and other popular microphones. Pin outs female jack in EQ like reply part on [photo 1](#).

- Delay level set: Controls the delay time 30-150 ms.
- AF output 3.5mm female jack, only for **ICOM** models (Duplicate pin 8 TRX Mic jack) . Connect here your Headphones. Adjust volume in transceiver
- Output Level Set: Level control Output signal. Set needed level for your transceiver. Set with controlling ALC level in transceiver.
- Output cable. Connect this cable to transceiver, in MIC input.
- PTT jack. Connect here foot switch with 6.3mm jack.
- Microphone input with XLR jack. Work with Studio Dynamic microphones (not work with Condenser Mic 48V DC). Some supported microphone model: like Heil PR-781, Shure SM-58, Behringer XM8500 and other popular microphones.
- DC 5.5x2.1mm female jack for External Source Supply. (16) - is optional jack, mounting for some transceiver model. If you have this jack — connect here 8 - 16 volt DC as shown on [photo 2](#).

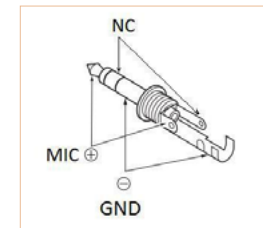


photo 1

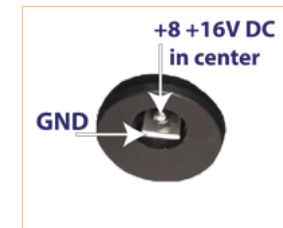
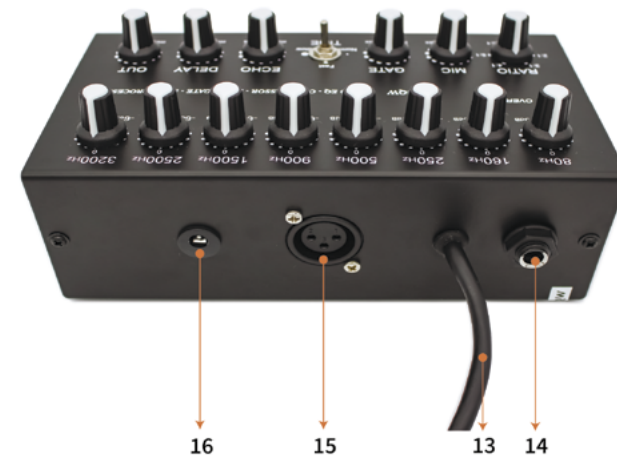


photo 2



## Device Setup and Getting Started Tutorial

1. Connect cable (13) to transceiver
2. Overload led (2) should not light up, when you speak – is normal work.
3. If you do not speak, Gate lower noise levels – is normal work.
4. If your transceiver has Compressor (COMP) set is OFF! **Is very important!**
5. Set knobs **Equalizer** (top 8 pieces) average positions. Set bottom knobs (RATIO / MIC / GATE / TIME / ECHO / DELAY / OUT) as follows:

**RATIO:** \_ 2:1

**MIC/GATE/ECHO/DELAY:** 0% (or min)

**TIME:** Norm

**OUT:** 40% (or 11 o'clock).

6. Then connect your Handmic in 8-pin pole jack (6) or Heil (or other Electret) microphone in 3.5mm female jack (9).

7. Switch ON Monitor mode in transceiver and listen to yourself. Speak in mike and turn knobs MIC until start to blink led, then turn a little less (led Overload should not flashing). Speak in mike and turn knobs OUT for normal operation ALC. Then you can setup Equalizer knobs for you voice (see photo below). After settings again adjust knobs MIC as described above.

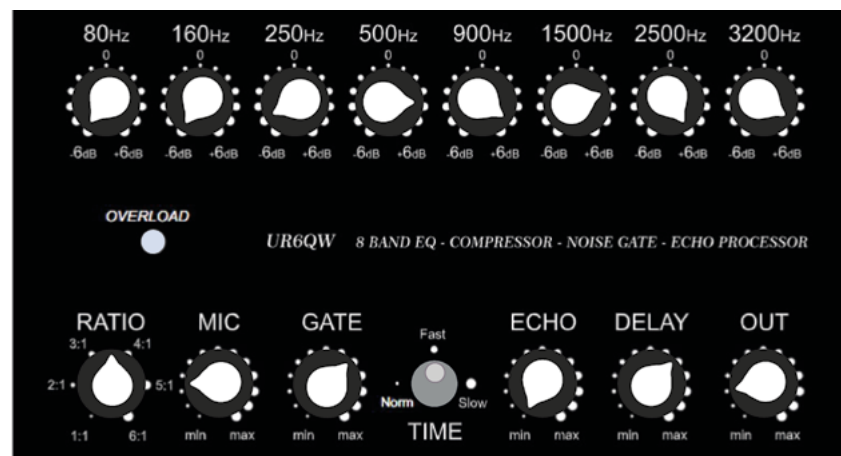
8. Turn DELAY knob 30-60% (or 10-13 o'clock).

9. While speaking into the Microphone Slowly rotate the ECHO Control (set what you wish, best effects on practices 10-20%).

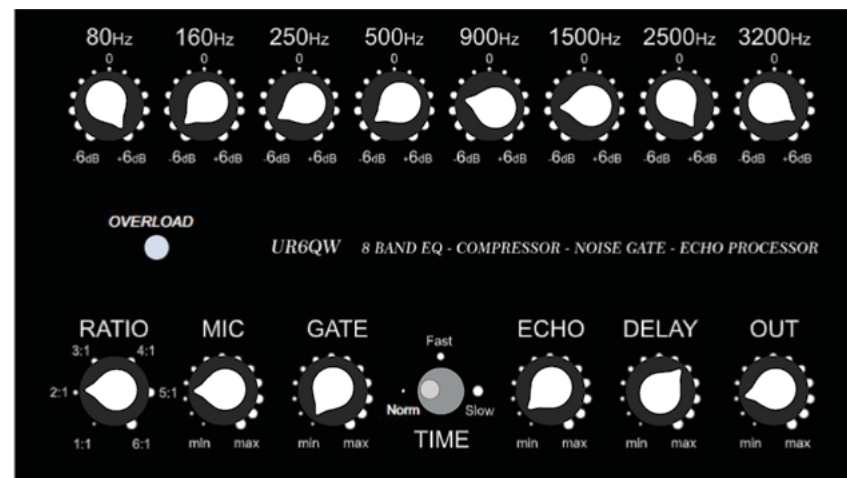
10. Set COMP level, best position on practices 3:1, 2:1.

11. Set Noise Gate if you have big home QRM. Do not speak and turn knobs GATE until you QRM level will be less. Changes switch TIME for installations delay time of the NOISE GATE function. If you do not want to use the Noise Gate, turn the knob counterclockwise until it clicks..

## Some practical setup



«DX mode» Setup MIC knob as described above.



«ESSB mode» Setup MIC knob as described above.

For «ESSB with Gate mode» change knob GATE and switch TIME like «DX mode».

Knobs MIC / GATE / OUT — may have other values, depending on your hardware, on photo setup with electret microphone.

## Troubleshooting

<b>Led not light up when I speak in microphone</b>	<ul style="list-style-type: none"> <li>• Little gain level. Adjust knobs MIC</li> <li>• Microphone not connect. Check connections and pin outs</li> </ul>
<b>Mic level to minimum, but when I speak led is blink</b>	<ul style="list-style-type: none"> <li>• You can simply keep the Microphone 2-3 cm further or talk a little quieter and the LED will not blink. You can also decrease / increase the gain by rotating the EQ knobs counter clock-wise.</li> <li>• You can also decrease / increase the gain when turn EQ knobs.</li> </ul>
<b>I have mono sound</b>	<ul style="list-style-type: none"> <li>• Is normal, because 3.5mm jack (Phones) – this AF mono output.</li> </ul>
<b>I have RF problem in my signal</b>	<ul style="list-style-type: none"> <li>• Check SWR or check with low power and load equivalent.</li> <li>• Your microphone have not shielded cable. Remove cable.</li> <li>• Check with other microphone.</li> <li>• Connect GND to device or TRX or PS.</li> <li>• Housing consists of 2 parts, check galvanic contact via this parts and potentiometers rod.</li> <li>• Check TRX Compressor, must be OFF, check general Gain (device and trx) using ALC level.</li> <li>• Try using ferrite ring on basic or DC cable.</li> </ul>

## UR6QW stores

Ukraine



## DB6QW stores

Germany



User support: [ur6qw.ua@gmail.com](mailto:ur6qw.ua@gmail.com)



## EBAY stores

hfvhfparts



XADO Store



Ebay distributor: [ux4la79@gmail.com](mailto:ux4la79@gmail.com)