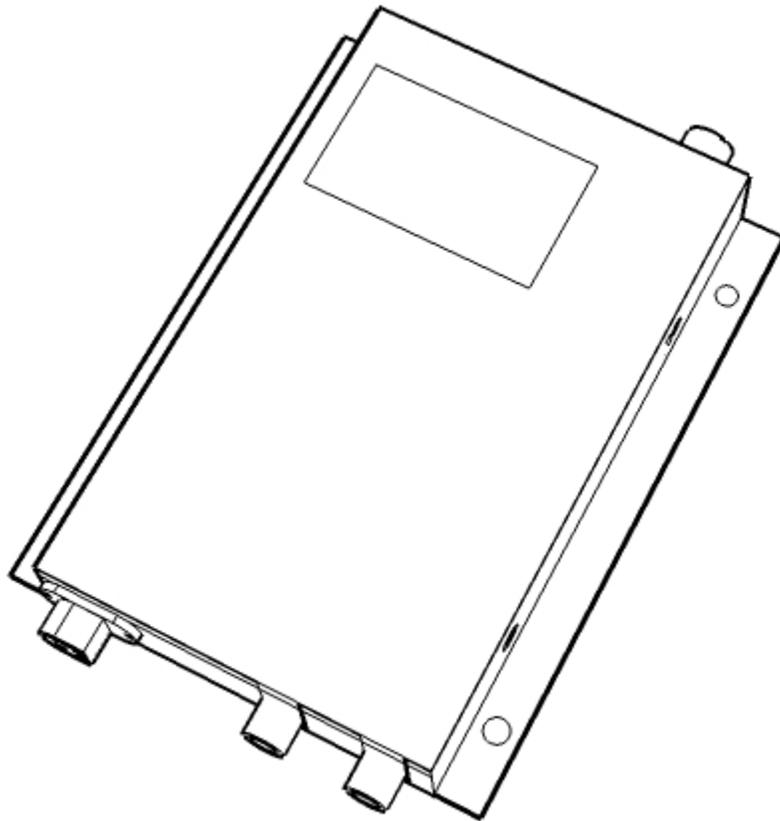


EDM-TX-1/10/100/110EP

SERIES

KIT ASSEMBLY & OPERATING INSTRUCTIONS



ASSEMBLY INSTRUCTIONS:

All components were tested before shipping for proper performance and quality.

- ❑ **Inspect your shipment** for any damage. **Notify us** if anything looks **abnormal**.
- ❑ Contents: 1 X PCB partially assembled, placed into the bottom half of the metal enclosure
1 X Top metal enclosure cover with colored display filter
1 X Packet containing, wire test antenna, microchip, 3-LED Displays, power socket, 6 screws. (2 X M2, 4 X M3)
1 X Universal 12VDC regulated power adaptor
1 X Manual
- ❑ **Choose a safe work area free of potential static electricity.** Avoid carpets and wearing woolen garments that can generate high levels of static. **Touch** a large **metal** object that is **connected to earth** to **discharge any stored static electricity on your body**, such as a **stove, fridge, cold water pipe** etc. before the next step.
- ❑ **Remove the top half of the enclosure** by un-screwing the two transportation screws and **gently** lifting it off the bottom half.
- ❑ Next **remove** the pre-programmed **microprocessor** from its protective foil.
- ❑ **Carefully plug** it, (after making sure the ident notch is aligned **in the correct direction** and all pins aligned with the holes in the socket) **into the IC socket** as indicated on the assembly drawing. Make sure it is properly **seated by** applying **gentle pressure** to the top of the part. Avoid excessive pressure.
- ❑ **Carefully plug** in the three 7 segment LED Freq **displays**, noting **correct orientation of decimal dot** and alignment as before. Make sure all are **properly seated** without applying excessive pressure.
- ❑ Next, **insert the power socket**, with the **RED** marked **terminal** pointing **upwards** into the cutout as indicated in the diagram.
- ❑ **Fasten** the socket by **using** the two **M2 screws** (small) provided.
- ❑ Using a low **wattage soldering iron** (under 100W) and **acid-free electronic-grade solder** (obtainable from your local electronic parts store), continue to **solder** the two pre-stripped and tinned **colored wire ends to the colored marked terminals**. Red to Red, Black to Black by pushing the tinned ends through the **holes in the terminals**. **Do not remove** the two **RFI-ferrite-filter beads** from the wires. Apply solder **iron tip** so to make **contact** with **BOTH the terminal and the wire** for about **1 second** before applying your **solder wire to this area**, **WHILE** holding the solder **tip in the same position**. Apply **just enough solder** to flow freely into this joint making a **good, solid** and shining **connection**. Quickly remove iron tip and solder wire and **allow** solder joint to **cool down** for about 5 seconds **WITHOUT moving** the **wire** during the cool down process. Moving the wire during this cool down period may result in a intermittent or “dry-joint”
- ❑ Basic **assembly is now finished** and you may **continue with** powering, setting up, adjusting and using your unit by following the instructions in the next section. (**Operating Instructions**)

OPERATING INSTRUCTIONS:

(Please **read completely** before operating the unit)

Remember all the responsibility is with you to operate your completed unit with courtesy to others and within the local laws and regulations of the country you are in.

Your TX-1/10/110EP kit version's RF output is factory set in the 10mW position for safety reasons.

We recommend this setting for most countries. Operating in the 100mW position is NOT recommended for North America and Canada under “Part 15” regulations.

Slide switch to **Red for 100mW** and to **Black for 10mW** (10mW and 1mW for 1/10EP version)

- ❑ **First monitor the frequency you intend to transmit on with a good quality receiver to find a clear channel, and if possible open channels on either side. Make sure this channel is clear for at least ½ mile radius from the point where your transmitter will be located. Car radios make good monitoring receivers because of their better sensitivity**
- ❑ **Apply the audio source** material. This should be line-level audio from a CD player, DVD etc.
- ❑ **Apply the regulated 12VDC** from the switching adaptor. **(It is OK to power up without antenna for short periods while setting your transmit frequency for the first time)**
- ❑ The unit should power up in the **default mode of 87.7MHz** as indicated on the digital display.
- ❑ **Tune** a suitable **radio** capable of receiving Stereo transmissions **to the same frequency, or another frequency** of your choice **previously selected**, by using the **UP** or **DOWN** preset **buttons** with the top lid of the enclosure still removed.

- ❑ **Now apply** a suitable **antenna** load 50Ohm, or the wire test antenna supplied to your unit.
- ❑ The source **material** should now be **received in full stereo**. The **stereo indicator** should also be **lit** on the receiver. **If you hear distortion**, turn the two **input level adjustments counter-clockwise** (by equal amounts) **until no more distortion** can be detected. About 50% setting is suitable for standard line-levels of 150mV rms
- ❑ **The MPX setting needs to be increased to compensate for higher transmit frequencies.**
- ❑ **Some guidelines: (MPX adjustment setting expressed as hour-clock position)**
87.7- 97.7 (9-10); 97.7- 101.7 (10-11); 101.7- 104.7 (11-12); 104.7-105.7 (12-1); 105.7-107.9 (1-5)
- ❑ **Use the settings as indicated above as a starting point. Now apply the audio inputs and adjust for desired loudness (compare with other stations on nearby channels) without noticeable distortion. For normal line-level inputs, the 50% or 12-O-clock setting should be OK. Check 1 channel up and 1 down from your set TX frequency, on your radio (radio should be separated 30~50' from the TX) for any break-through of your signal. If it is excessive, you are over-modulating. Reduce your audio input levels to minimize or eliminate this. Commercial stations will sound very loud because of the audio compression they use. Keep your loudness slightly lower otherwise you may over-modulate. **Some indication that the MPX level is set too high is your stereo light blinking to the beat of the music or distortion on loud notes.** If set too low, the stereo indicator will not come on or stay on reliably with no audio input. These settings are important for good sound quality.**
- ❑ This unit uses a PLL with **fairly long locking times** to achieve **good low frequency audio response**. This will be more **noticeable when tuning rolls over** at the ends of the band.
- ❑ Unit will **remember** (8 seconds after no button press, last frequency setting is stored in memory) the last frequency **setting** before power-down and **will reset** to that value **on a power-up**. Unit will **reduce** (mute) the **RF** signal by about 25-30dB **while tuning** with the PLL in the un-lock state. During this time the **display will show 8.8** when **tuning is from high to low** or **88.8** when **tuning is from low to high**. The **display and RF** level will return to **normal** once the **desired frequency** is reached. You will **notice the 8.8 or 88.8** when the **display rolls over** i.e. Unit is set to 107.9 (07.9 on display) and you press the UP button causing it to go to 87.7 again, or at 87.7 and pressing the DOWN button causing it to flip to 107.9
- ❑ **Best range** will be achieved making sure the wire **antenna** is positioned **vertical** and **away from any metal** surfaces. Increased range with the RF switch in the 100mW position, only where permitted.
- ❑ Any **other transmit frequency** 87.7-107.9 may be selected by **pushing the UP or DOWN** button.
- ❑ You may **close** the enclosure when satisfied, by **using** the four M3 **screws** (larger) supplied.
- ❑ If you operate the **unit near a TV** set, you **may hear** sound like a **high pitch whistle** on your signal and is **due to the 15 kHz** used to generate the high voltages **for the picture tube**. This **15 kHz** will **beat with the 19 kHz** stereo **pilot tone and produce a difference signal**. This is the **4~5 KHz** high pitch whistle often **heard**. Use longer audio leads to **operate** the unit some distance **away from TV**.
- ❑ **Do not allow static electricity to discharge into the antenna**. Keep away from TV and PC CRT screens that will have high static voltage levels.
- ❑ **Lastly, be responsible in operating your unit. If you receive any complaints, terminate your transmissions immediately and investigate.** You may need to change to another frequency. Remember **all the responsibility is with you to operate your unit with courtesy to others and within your local laws and regulations. Licensed radio stations always have priority getting their signal to their listeners.**

If you have a problem and need to return your shipment for service etc. DO NOT ship it back to the dispatch location where your order shipped from. Email us first and we will provide a return address if your problem can't be solved via email!

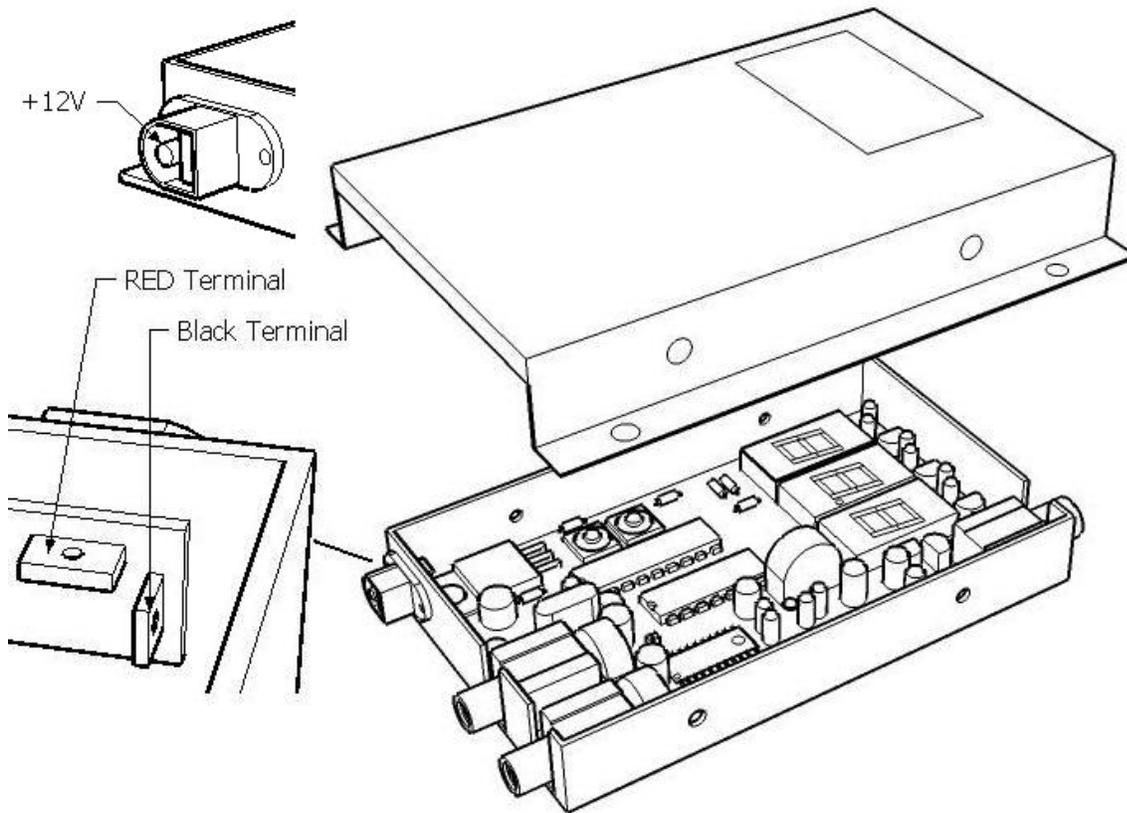
The partially populated PCB of this kit is inserted into a tamper-resistant base enclosure design and clamped down. This is to discourage any un-authorized attempts to modify the circuitry. We guarantee this product for 2 years from date of sale under certain conditions as stated in our FAQ document. To obtain an instant copy from our auto responder, send a blank email with FAQ in the subject line to the sales address below.

Tampering or removing the circuitry or any signs of removal will void your warranty.

Any other questions just send an email to
EDM_Sales@edmdesign.com

You may also want to join our Yahoo users group
<http://groups.yahoo.com/group/edmdesign/>

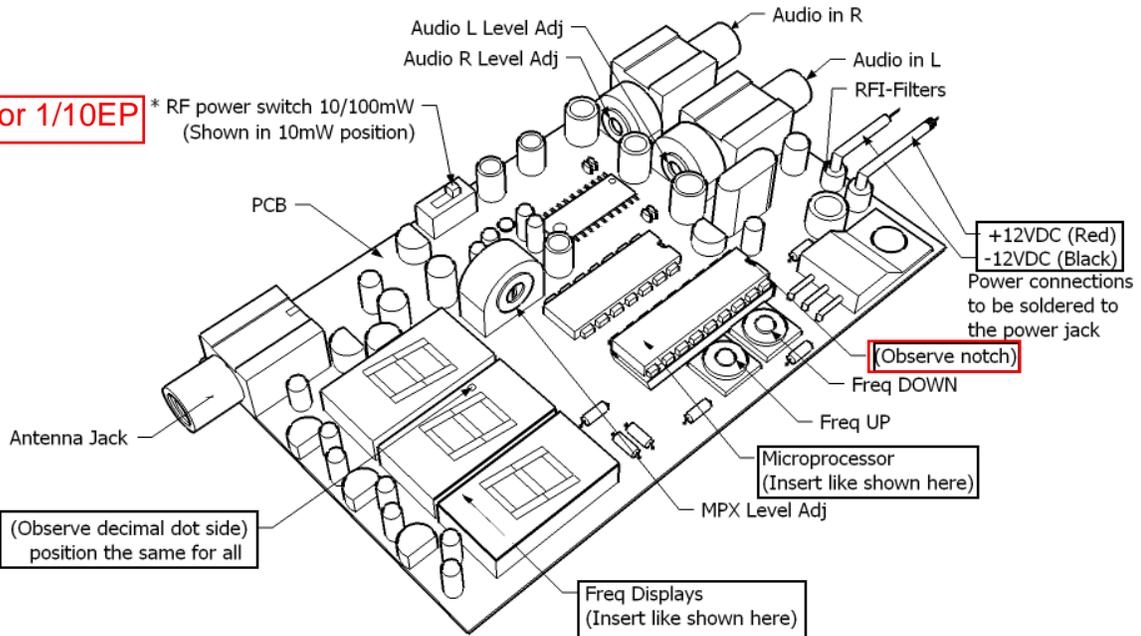
Please note that in the 100mW position you may experience “hum” on your signal from RF energy getting into your audio cables or audio equipment feeding the unit. If the hum is not there in the 10mW mode, but only when switched to 100mW, you are experiencing RF feedback problems. Use good quality, well screened cables and/or reposition the test antenna to eliminate this. Using an external antenna where allowed will eliminate this from happening in most cases.



EDM-TX Assembly and Adjustments

1/10mW for 1/10EP

* RF power switch 10/100mW (Shown in 10mW position)



*100mW model only

RF power switch only on EDM-TX-110EP and 1/10EP (1mW and 10mW)