



**RANGEMASTER 1 WATT PROFESSIONAL
GRADE FM TRANSMITTER
- ADJUSTABLE FROM 0 TO 1 W -**



Package Contents:

- 1-1 W RangeMaster FM Transmitter
- 1-12V Power Adapter
- 1-Power Cord
- 1-Rubber Duck Whip Antenna

FAMILIARIZING YOURSELF WITH THE RANGEMASTER



Code Switch -

Push to confirm, adjust via rotate



Front Panel



Antenna – Rotate to Lock

(DO NOT USE A MONO PLUG-TYPE MICROPHONE, DOING SO MAY CAUSE PERMANENT DAMAGE)

*Helpful Hint: Setting volume level (PC/Mac). When using the 1 W RangeMaster FM transmitter with a PC or MAC computer the volume level will need to be optimized at all three different sources: (1) computer sound card, (2) Media player software and (3) FM receiver radio. Set audio level at about 50% and slowly increase to optimum level. Audio should also be increased at the FM radio receiver to optimum level. Failure to do so will result in a static caused by bass sounds- **IT IS NOT A TRANSMITTER PROBLEM!!!***

Eight Common Rules for All Users:

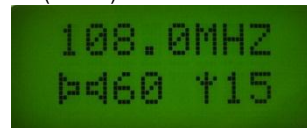
1. The AC adapter supplied is designed for dry indoor use only. DO NOT use the AC adapter outdoors or in wet conditions.
2. Make sure the supplied antenna is connected at all times when transmitter unit is powered ON. This will prevent damage to your unit.
3. For best results, try to find an open (unused) frequency to transmit on (<http://www.radio-locator.com>). Do not transmit on occupied commercial radio station frequency; for legal and ethical reasons.
4. Always follow your local regulations regarding the proper use of an FM transmitter.
5. Only use power adapters supplied with your unit. Using other types of power adapters may produce background noise with your transmitted audio and/or could damage your unit.
6. When transmitting from a microphone; only use a stereo plug microphone, using any other type of microphone such as a mono plug microphone will permanently damage your unit, see "Operating Instructions - step #4"
7. Always ensure that proper antenna tuning methods were used. Be resourceful, this Instruction Manual is only a guide...
8. FM Radio Transmission is a very tedious task and many variables factor into how clear your signal gets. DAGCO Electronics has done the best they can to make this unit as "Plug and Play" ready as possible!

OPERATORS GUIDE

1. Attach the antenna to transmitter, then the power supply, LCD will display "OFF" (PIC01).



(PIC01)



(PIC02)

2. Push the code switch knob, the transmitter will enter the main menu. It display current broadcast Frequency, Volume state, and power level (PIC02), in main menu state, User can adjust the volume by rotating the switch, the volume rang value is from 00 to 79.
3. Push the code switch knob, the transmitter will enter the main MENU.
4. 1 MENU FREQ –Transmitting Frequency adjusting (PIC03), Enter the adjusting menu by pushing the knob (PIC04), Frequency Range is from 76 to 108MHZ. Select the frequency and confirm by pushing.

Helpful hint: You should pre-scan your local FM frequencies using an FM radio or www.radio-locator.com to find an unused frequency and set the transmitter to this frequency. Ideal frequencies are found when you find 3 unused frequencies and determining which



(PIC03)



(PIC04)

5. 2 MENU MIC-VOL – MIC Volume adjusting (PIC05) , Enter the adjusting menu by pushing the knob (PIC06), Volume range is from 00 to 79.



(PIC05)



(PIC06)

6. 3 MENU POWER – RF output power adjusting (PIC07) , Enter the adjusting menu by pushing the knob (PIC08), Range is from 00 to 15. The relationship between the power and power digit is listed as Table 1.0



(PIC07)



(PIC08)

7. 4 MENU APO – Timing off adjusting (PIC09) , Adjusting Range 00: 00: 00-9: 59: 59 (H: M: S)

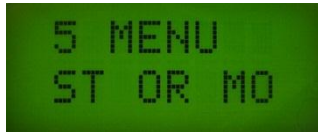


(PIC09)



(PIC10)

8. 5 MENU ST or MO –Stereo and Mono Adjusting (PIC11)



(PIC11)



(PIC12)



(PIC13)

9. 6 MENU SN: Device SN display (PIC14) , Device Unique number, Factory settings, can not be changed.



(PIC14)



(PIC15)

10. 7 EXIT For Exiting Menu (PIC16) Pushing and Exit Menu



(PIC16)

11. In the various regulatory interface, without any operation, system return to MENU automatically after 10 seconds.

In the MENU interface, without any operation, system return to the main interface automatically after 20 seconds.

12. If No action within 30 seconds, System shut down LCD backlight automatically.

13. Long Pushing the Knob for 3 seconds and system will shut down , LCD display "OFF"

INTRODUCTION

A brief introduction to the rules of the FCC and your FM Transmitter

It is the policy of DAGCO Electronics, that knowing and observing the lawful use of all transmitters is a first responsibility of our end users. We do not endorse any unlawful use of any of our transmitters, and we try to give you as much common sense help about normal and lawful use as we can. Further, it is the policy of DAGCO Electronics to cooperate with all applicable federal regulations in the design and marketing of our electronic devices. Finally, we urge all of our overseas customers to observe the regulations of their own national telecommunications authorities. In all instances, compliance with FCC rules in the operation of what the FCC terms an "intentional radiator" is always the responsibility of the user of such an "intentional radiator".

DAGCO Electronics only offers this information to make the user aware of the full impact a transmitter can have. In no way should this brief discussion be construed as a definition of the FCC rules, it is the users obligation to obtain a copy of the rules and operate legally according to them. DAGCO Electronics makes no representation as to the following discussion being legally correct - it is simply offered as an introduction to the responsibilities that a user must realize. To order your copy of the FCC rules part 15, call the US Government, Superintendent of Documents, at 202-512-1800, or fax at 202-512-2250. To order the correct document, ask for "CFR Title 17: Parts 1 to 199." The cost is \$24.00. Master Card and Visa are accepted.

The present edition of Part 15 of the FCC rules provides detailed guidance on ALL aspects of using a low-power transmitter. The main points to consider are; to remain within the field strength limitations, that you may not cause any interference whatsoever to licensed broadcast services, and that you must be willing to put up with any interference that you may experience. Remember, the FCC doesn't need to be bothered by policing a privilege given to unlicensed operators. If the rules are flagrantly violated, they might just revoke the privilege altogether!

If you become further fascinated with the service rendered by low-power broadcasting, other FCC regulations explain how to apply for a license or other authorization which may permit you to upgrade your equipment to accomplish any objective which the FCC sees to be in the public interest and not interfering with other authorized uses of the radio spectrum.

Lawful use suggestions:

- Follow instructions.
- Use the stock antenna supplied within the case.
- Do not modify your transmitter in any way.
- Check your intended operating frequency very carefully, to ensure you will not cause interference to reception of licensed broadcasting. (<http://www.radiolocator.com>)
- If you receive ANY complaint about your transmissions interfering with broadcast reception, stop or change your operation IMMEDIATELY.
- If you are contacted by the FCC regarding use of this device, cooperate fully and promptly.
- Do your own homework and research to understand and comply with present and future FCC rulings concerning devices of this kind. Do not rely only upon this short discussion.
- Do not use made-up "station call signs" to identify your transmissions. Only the FCC has the authority to issue such call signs. Use some other way to identify your transmitting activity, such as "This is Stereo 90.5, Seabreeze School Student Music Radio," and so forth.
- Identify the location and purpose of your transmissions from time to time. This is common courtesy toward other persons who may hear your signal. The FCC is toughest about clandestine transmission which cost time and money to track down.
- Do not assume that the mere fact that you purchased this transmitter gives you any specific right to use it for any purpose beyond generating a low-level RF signal which is barely detectable beyond the perimeter of your personal dwelling space.

Finally, the FCC Rules call for the posting of printed notices on devices intended for non-licensed operation under Part 15 Rules. You will find such notices written up for the front or back of the instruction manual for nearly any computer or video accessory that you have seen in recent months. Consult the Part 15 Rules for the exact wording of such notices.

NOTICE:

The individual users of this device assume responsibility for lawful uses conforming to FCC Part 15 Rules. Operation is subject to the following:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Final comment:

A well-informed person will see today's FCC Rules to be evolving and progressively less restrictive. Even though today's technology is far more complex than what was possible at the time of the Communications Act of 1934, the FCC rules are becoming more relaxed, giving radio experimenters more and more opportunities to explore many frequency bands, using many communications modes, with no need for a formal license of any kind. A thorough study of Part 15 of the FCC Rules, which is completely beyond the purpose of this brief discussion, will show you many legal uses of radio transmitting devices which do not require licensing, either amateur or commercial. To provide more personal and club radio learning opportunities, and to cut down on administrative costs, today's FCC permits far more non-licensed activity than at any time in previous history. On the other hand, today's FCC enforcement actions get bigger fines and real prison terms for scofflaws! From CB radio to easy entry-level Amateur Radio with long-term licensing, to numerous unlicensed Part 15 operations, the FCC is beginning to look out for the interest and good plans and intentions of private citizens and school-community groups as never before in radio communications history.

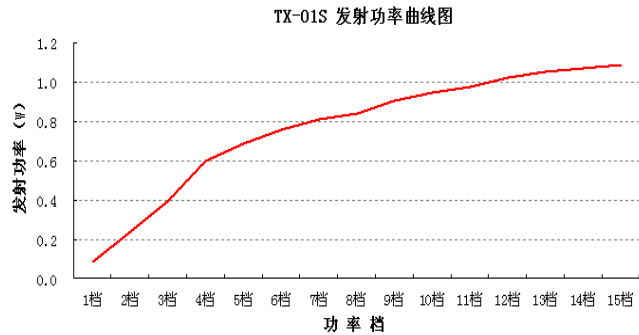
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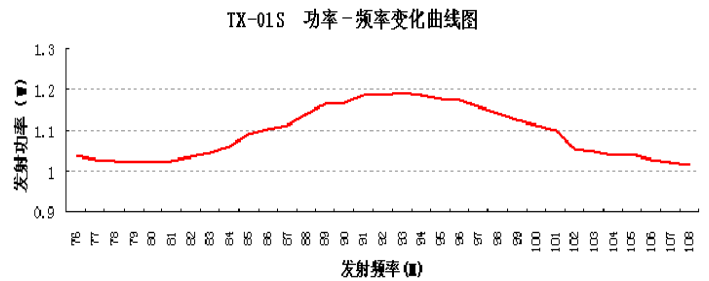
SPECIFICATIONS

1. Power supply: DC12V
2. Maximum operating current: 500mA
3. Ambient temperature: -5~40°C
4. Frequency Range: 76MHz~108MHz
5. Frequency Step: 100KHz
6. Frequency Stabilize Style: PLL
7. Pre-emphasize: Default 50μs Optional 75μs
8. Output power: 0 to 1000mW±10%
9. Output resistance: 50 OHM
10. Modulate Style: WFM
11. Maximum Deviation: ±75KHz
12. Parasitic AM: <0.2%
13. Audio Frequency Response: 50Hz~15000Hz
14. Audio input level: -15dbV (Max: -30dbV)
15. Input Jack: 3.5mm headphone connector and RCA jack
16. MIC input Level: -15dbV (Max: -45dbV)
17. MIC Jack: 3.5mm headphone connector
18. Stereo Separation: Better than 30db
19. S/N: Better than 50db
20. Antenna Connector: SMA type

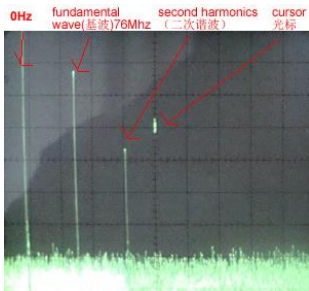
POWER CURVE DIAGRAM WHEN DIFFERENT POWER LEVEL



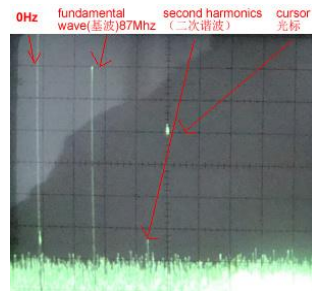
POWER CURVE DIAGRAM WHEN DIFFERENT FREQUENCY



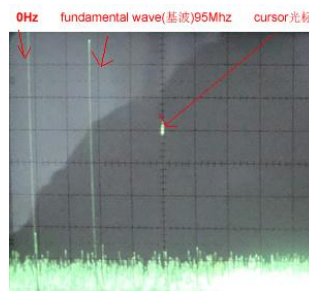
SPECTRUM TESTING PICTURES



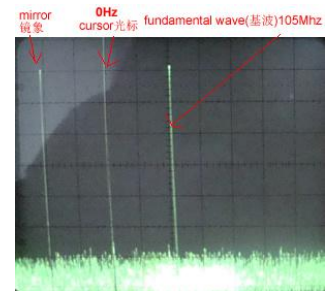
Frequency is set to 76 MHz. There is no stray radiation, but second harmonics is obviously -20db.



Frequency is set to 87 MHz. There is no stray radiation and the signal is very clear; second harmonics is -55db.



Frequency is set to 95 MHz . There is no stray radiation and the signal is very clear, second harmonics is 0db.



Frequency is set to105 MHz . There is no stray radiation and signal is very clear. Second harmonics = 0 db