GENERAL

One-Touch Tune (OTT) is a custom add-on accessory for the Yaesu FT-817, FT-857, and FT897. The OTT solves the tedious and annoying tuning process that presently needs to be used to produce a carrier for tuning an antenna tuner. Installation is a snap. The OTT may be used alone with the radio, or it can be used in conjunction with most LDG autotuners. If the OTT is purchased alone, the OTT is activated by using a supplied push button. If the OTT is purchased with an autotuner, the proper connecting cable between the OTT and the autotuner should be requested.

When you want to tune your station, press the TUNE button and One-Touch Tune takes control of the radio. Regardless of the mode you are using, the OTT commands the radio to produce a carrier having the same power as previously set by the radio’s PWR function command. When you have completed adjusting the antenna tuner, release the TUNE button and the radio returns to the mode you had previously selected. If you have an LDG Electronics antenna autotuner, you can attach the connecting cable to the autotuner and plug it into the OTT Command jack. Whenever you press the autotuner’s TUNE button, the OTT jumps into action and commands the radio to produce a carrier as long as required by the autotuner. Upon completion of the tuning process by the autotuner, the radio returns to the mode configuration you had already selected!

One-Touch Tune is also transparent to any auxiliary equipment you have attached to the radio. For example, if you have a CAT controller attached to the radio, you only have to plug it into the OTT ACC input jack. Anything attached to the KEY or DATA jacks will not be interfered with at all.

The One-Touch Tune is power friendly with the radio. When the OTT is not in use, the current drain is < 25 µA. During the brief time needed for tuning, the OTT draws about 20 mA.

The One-Touch Tune can be installed or removed in just moments to match your operating requirements.

NOTICE: If the OTT is marked OTT-817, it can be used only with the FT-817. If it is marked OTT-897, it can be used with the FT817, FT-857, and FT-897.

FT-817 INSTALLATION

1. Turn the FT-817 power OFF and read these instructions completely before doing anything else.
2. Position the FT-817 so that you are viewing the rear panel with the POWER plug to your left.
3. The OTT will mount in the open space between the POWER plug and the KEY jack.
4. Take the OTT module and hold it so that the single lead is towards the POWER plug side. Place the OTT in the open space (3. above) to get a feel for how it will be positioned.
5. Turn the OTT so that you see the covered Velcro pad affixed to the bottom of the OTT.
6. Remove the backing cover.
7. Carefully position the OTT into the mounting area (open space between the POWER plug and KEY jack) with the single cable to your LEFT and the two cables to your RIGHT while being careful to get the OTT positioned not to interfere with either the POWER plug or the KEY jack.
8. Firmly press the module against the FT-817 rear panel to affix the pad. Hold firmly in position for 30 seconds.
9. DO NOT attempt to separate the OTT module from the FT-817 for 24 hours in order to allow the adhesive to achieve maximum strength.
10. If you have anything plugged into the FT-817 ACC jack, then unplug it now.
11. Plug the OTT male DIN plug into the ACC jack on the FT-817.
12. If you had something plugged into the FT-817 ACC jack (10. above), then plug it into the female DIN connector from the OTT.
13. Plug the supplied push-button cable into the remaining OTT Command cable jack. This is a standard 3.5-mm stereo jack. The push-button is connected to the tip and ground. You may attach any switch desired to satisfy your particular operating needs. DO NOT use the ring connection.
14. Turn the FT-817 power ON and set the CAT RATE (Menu #14) to 9600 bps.
15. The standard installation is now complete.
FT-857 & FT-897 INSTALLATION

1. Turn the FT-857/897 power OFF and read these instructions completely before doing anything else.
2. If you have anything plugged into the FT-857/897 CAT/Linear jack, then unplug it now.
3. Plug the OTT male DIN plug into the CAT/Linear jack on the FT-897.
4. If you had something plugged into the FT-857/897 CAT/Linear jack (2. above), then plug it into the female DIN connector from the OTT.
5. Plug the supplied push-button cable into the remaining OTT Command cable jack. This is a standard 3.5-mm stereo jack. The push-button is connected to the tip and ground. You may attach any switch desired to satisfy your particular operating needs. DO NOT use the ring connection.
6. Turn the FT-857/897 power ON and set **Menu #085 to OFF, Menu #019 to 9600, & Menu #020 to CAT.**
7. The standard installation is now complete.
8. If you want to use the OTT with a LDG AT-11MP, AT-897, RT-11, Z-100 or other like LDG autotuners in a highly integrated manner, then connect the OTT to the remote jack on the tuner (remote head if the RT-11). Cable available from W4RT or you can make it yourself.

MANUAL OPERATION

One-Touch Tune operation is very easy. Once you have OTT installed, the operating steps are as follows:

1. Press and hold the OTT Tune button (or whatever button you may be using).
2. Adjust your antenna tuner appropriately.
3. Release the OTT Tune button and return to operation of the radio.

TECHNICAL

The One-Touch Tune is a microprocessor-based device that utilizes both analog and digital surface-mount technologies. Power conservation was given significant consideration in the OTT design. When the OTT is in its monitor mode, i.e., waiting to be commanded to be turned on, it is essentially shut down. The microprocessor is off as is all of the other circuitry except for passive monitoring of the OTT inputs. This approach provides two important benefits to the radio operator. First, the OTT can not generate any “birdies” or spurious emissions during your non-tuning operation of the radio. Second, the OTT power consumption is essentially nil during the monitor mode (< 25 µA).

Another important design consideration of the One-Touch Tune was to make the OTT transparent to the operation of the radio and to the operation of any external devices attached to the radio. When the OTT has been activated, it immediately disables the communication lines to/from any external device attached to the ACC port, determines the status of the radio, commands the radio to switch to the PKT mode, activates the PTT in order that the radio transmits the desired carrier for the time you (or the autotuner) want, deactivates the PTT, restores the radio to its prior status, enables the communication lines to/from any external device attached to the ACC port, and returns itself to its monitor mode. The power output of the carrier is the same as you had set using the radio PWR setting. During operation, the OTT draws about 20 mA. The OTT derives its power from the radio and functions over the entire range of radio's power source voltages.

The One-Touch Tune can be used with both manual and certain automatic antenna tuners, viz., LDG Electronics autotuners. The OTT activation for manual antenna tuners is made by simple switch closure. The OTT Command cable jack is a standard 3.5-mm stereo jack. The switch closure is accomplished by shorting the tip and ground connections together. **DO NOT** short the ring and ground or ring and tip together. If done, the OTT will not function. Since operators use the rig in many creative arrangements, the OTT provides excellent flexibility in selecting the switch. Some operators might like the supplied push-button switch while other might prefer a foot switch, toggle switch, double action push-button switch, etc. When the OTT is requested to activate the radio, the carrier is output in approximately 80 ms. One-Touch Tune was optimized to operate the FT-817 at its maximum speed using the radio's CAT commands.

One-Touch Tune can also be used with certain automatic antenna tuners. The LDG Z-11 is an excellent match with the FT-817. You can, of course, use the OTT Tune button to activate the carrier for the Z-11 and then press the LDG Z-11 Tune button. Once the Z-11 has completed its tuning process, you simply release the OTT Tune button and start operating. However, if you install the optional OTT/Z-11 Compatibility Kit (comprising a cable that you install in the Z-11 to plug into the OTT Command jack and the connecting cable) and at least V1.4 of the Z-11 processor, then you only need to press the Z-11 Tune button (with the Z-11 in the Semi mode) for the OTT to
automatically spring into action. Once the Z-11 has completed its tuning process, the OTT returns to its dormant state. Note that the Z-11 to OTT cable has the tip of the to Z-11 end of the cable connected to the ring of the OTT end of the cable (plus shield to shield). If the Z-11 is set to the Auto mode and activates itself due to detection of the SWR exceeding 3:1, the One-Touch Tune will generally not be activated when the FT-817 is in a “key-down mode” such as SSB, FM, PSK, DIG or AM. If the PTT is active due to depression of the microphone button or closure of the PTT at the DATA port, then OTT will not activate. Of course, the Z-11 Tune button can be depressed while in the Auto mode and it will behave as it does in the Semi mode. You can use the One-Touch Tune with other appropriate automatic antenna tuners for the FT-817 if they provide a “tuning-activated” signal voltage in the range of less than 0.5 VDC when off and +2.5- 20 VDC when on. The timing delay from the start of the tune command until the FT-817 carrier is present is approximately 80 ms.

The LDG AT-11MP, AT-897, RT-11, and Z-100 are an excellent match with the FT-857/897. You can, of course, use the OTT Tune button to activate the carrier for these autotuners and then press the LDG autotuner Tune button. Once the autotuner has completed its tuning process, you simply release the OTT Tune button and start operating. However, if you install the optional cable that connects the autotuner to the OTT Command Jack and your tuner has the radio-compatible software, then you only need to press the autotuner’s Tune button (with the AT-11MP/RT-11 in the Semi mode) for the OTT to automatically spring into action. (If you need to upgrade your CPU, contact LDG directly.) Once the autotuner has completed its tuning process, the OTT returns to its dormant state. If the AT-11MP/RT-11 is set to the Auto mode and activates itself due to detection of the SWR exceeding 3:1, the One-Touch Tune will generally not be activated when the radio is in a “key-down mode” such as SSB, FM, PSK, DIG or AM. If the PTT is active due to depression of the microphone button or closure of the PTT at the DATA port, then the OTT will not activate. Of course, the autotuner's Tune button can be depressed while in the Auto mode and it will behave as it does in the Semi mode. You can use the One-Touch Tune with other appropriate automatic antenna tuners for the radio if they provide a “tuning-activated” signal voltage in the range of less than 0.5 VDC when off and +2.5- 20 VDC when on by using the ring and ground connections. The timing delay from the start of the tune command until the radio’s carrier is present is approximately 80 ms.

WARRANTY: One-Touch Tune is warranted for a period of one year from the date of purchase to be free of electrical defects in materials and workmanship. If the One-Touch Tune module and/or cables are determined to be defective, the defective item(s) will be repaired or replaced, at the sole option of W4RT Electronics, provided that the purchaser returns said item(s), postage prepaid, with proof of purchase to W4RT Electronics, ATTN: Technical Support, 3077-K Leeman Ferry Rd, Huntsville, AL 35801. Include a description of the problem, daytime phone number, email address, and return mailing information. Any modification to the One-Touch Tune or its cables by purchaser voids the warranty. The warranty applies only to the original purchaser and is not transferable. 06 JAN 2004

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