

A Users Guide for Amateur Radio Operators &
Dyslexic Amateur Radio Operators ©
Updated: 1626 hrs, 16 OCT 2012

Motorola MAXTRAC 300

This does NOT cover other similar models of Motorola Transceivers. It is up to the operator to determine if this information is useful on other models such as the **Radius 200**.



Preface / History

This manual is designed for the use of licensed amateur operators who have bought and are now using the MaxTrac 300 radio as an amateur radio transceiver. This radio was previously used by police officers.

A recent ruling by the F. C. C. makes it illegal to use this and other wide band radios after 31 December 2012. All the new radios are narrow banded making the MaxTrac obsolete, except for the amateur radio service.

This entry level document has been written as a “layman’s term” technician class, to help the users in the programming of channels, an explanation of the features, how to set scannable channels and set up priority channels.

The writers and editors of this document have made a good faith effort to make the document easily read by anyone in the amateur radio service. It is our hope that you will find this document to be a functional and useful manual during your use of this radio.

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We are not professional technical writers or journalists. Therefore, we welcome constructive comments that will help us improve this document and thereby its usability. We reserve the right to modify the document as it seems to be appropriate. Comments and questions may be sent to Ross WØRCT, WØRCT@arrl.net, or Larry, (larryslist.info) Larry Staples, WØAIB lstaples@kc.rr.com.

We would like to thank several amateur radio operators, Bill KXØB, Bill WAØCBW, Rod, K6TJB, and others who wish to remain anonymous, for their help in creating this document. Some of the graphics were copied from, but are not limited to, various Motorola web sites.

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MUST READ FOR ALL AMATEUR RADIO OPERATORS WHO INTEND TO USE THIS RADIO AS AN AMATEUR RADIO TRANSCEIVER

The radio listed in this document was originally designed and used for public safety. In this function or environment, the transceiver was NOT designed to scan in the way that ham operators think of scanning. For example, in the LEO (law enforcement officer) environment, the transceiver will only scan when the microphone is sitting / attached to the [microphone holder](#).

In the LEO environment, if the mic is off the mic holder hook or being held in the hand, the radio will NOT scan.

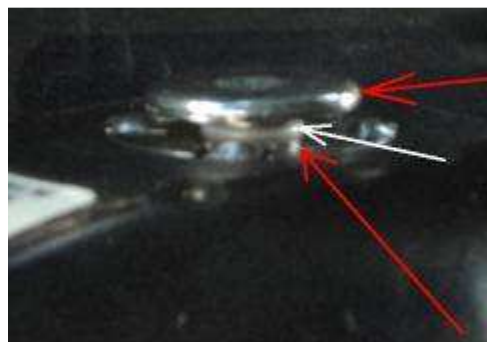


Why was the radio designed this way? When an LEO is listening to this radio, the officer must be able to respond to the dispatcher quickly. While other channels (frequencies) may be monitored, when the dispatcher [calls](#) on the radio, the LEO must have a radio that immediately switches back to the dispatcher's frequency / channel. As an amateur radio operator, that non-scanner feature needs to be changed unless you are satisfied to leave the transceiver's "mic hook" on the "mic holder" most of the time.

This is a top view of the “mic hook” as it is called.



The 2 red arrows point to the metal parts of the hook that are conductive.



The white arrow points to a plastic circle that insulates the two conductive surfaces.

If the 2 conductive surfaces are NOT connected, such as when you are holding the mic, the unit will NOT scan.

This is a photo of the mike hook and holder together. In my case, WØRCT, I leave the mic holder in place all the time.



In many environments the user might hang up the mic on the holder. In my case, I have a plastic dash board so the mic gets hung up as shown to the right.



Hook:

The radio will only scan while "on hook", which means the mic is "shorted" or "grounded", or “connected”. The easiest way I've found to do this to is stick something small and metal like a paper clip or a mic hanger clip in the back of the mic between the metal plate and the hook itself. Here are photographs of multiple ways to accomplish this:



The operator can also use a regular mic hook as long as it's metal (conductive), it should work. If the mic is not "on hook" and the scan button is pressed, the display will flash between the current channel and the scan mode. Ross, WØRCT, leaves the hanger clip on the mic all the time and simply lays the mic down. An alternative way which may be simpler, depending the microphone, is to "ground" the metal ring sticking out of the back of the mic. How this is accomplished, is up to the operator.

Making a wire hook contact connector

By using a piece of wire, inserted into the notch, it still allows the use of the mic holder.

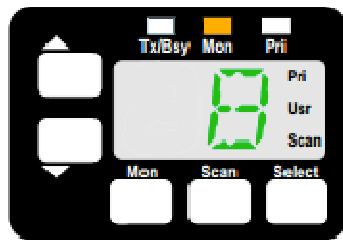


In the above case, the contact wire is not soldered. This was my first attempt. Later I soldered it, inserted it firmly into the notch and it held without falling out. This is shown below.





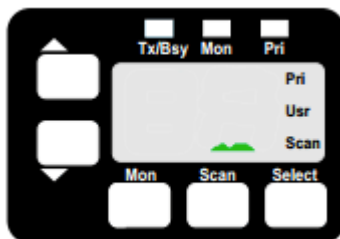
It is also possible to put a drop of superglue on either side of the soldered wire to help hold the wire in place. I prefer a drop rather than smothering the whole wire with glue, in case the wire needs to be removed at some point.



If your display looks like this, the radio is NOT scanning! The unit will NOT scan without the microphone being "on hook".

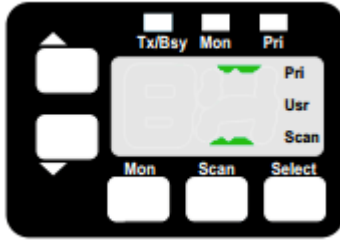
Scan Modes:

The radio has 4 different scan modes indicated by dashes next to the labels on the right of the display. If your display is changing between the scan display and the channel number, the radio is "off hook" and not currently scanning.



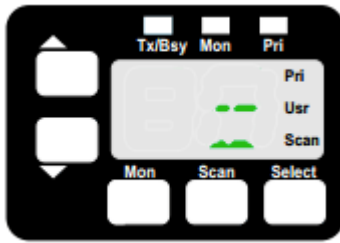
Scan

The channels in this list are set using the Motorola service software. There is no other way to change the frequencies in this list.



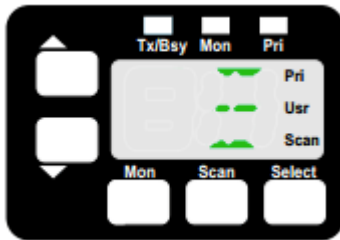
Priority Scan

Same as scan, but the priority channels are checked more often than the regular channels.



User Scan

The scan list for this mode is set from the front panel of the radio. See below.

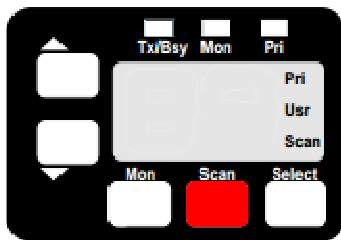


Priority User Scan

Same as user scan, but it also checks the 2 priority channels more often than the user selected channels.

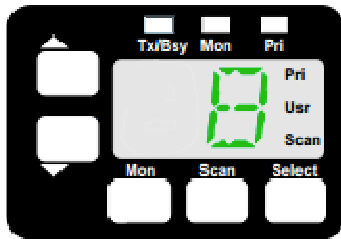
Setting up the User Scan list:

1.



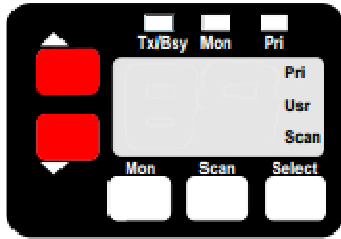
Hold the [Scan] button for 2 seconds, or until you hear the second beep.

2.



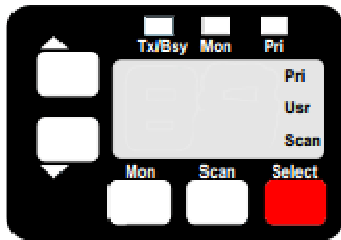
The channel number will flash letting you know it's in User Scan set mode.

3.



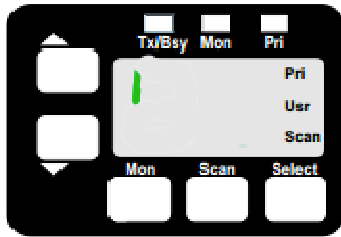
Using the [Up] or [Down] buttons, select the channel you wish to add (or remove) from the user scan list.

4.



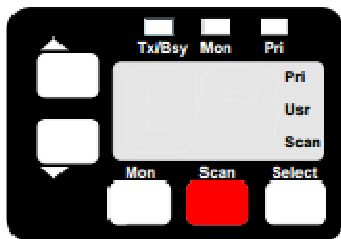
Pressing [Select] will toggle the channel on or off your scan list.

5.



The display will indicate if a channel is in the user scan list by showing a vertical segment in the upper left of the display.

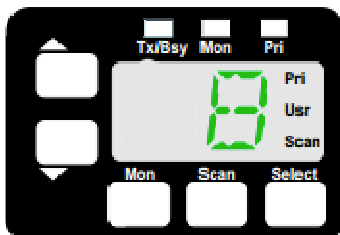
6.



Repeat steps 3 to 5. Once you have your desired channels selected just press [Scan] and the display should go back to normal. Now, you can press the [Scan] button to start scanning. Another thing to note is the User Scan channels will stay in the radio until changed. Loss of power won't clear the list.

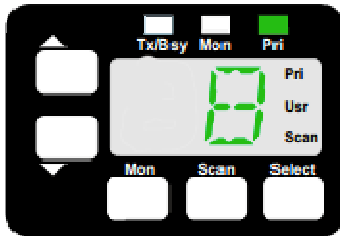
On Larry's MaxTrac 300, after programming desired channels, press the [Scan] button. To turn off the [Scan], Larry just presses the scan button again.

Optional Priority Scanning



The operator can also set Priority One and Priority Two channels for the User Scan list which will be checked more often than the other channels in the scan list. During the procedure above, press and hold [Select] for 2 seconds and the [Pri] led at the top of the display should blink. This indicates you've set Priority One as shown in the first

image. Do the same to set Priority Two, which will be indicated by a solid [Pri] led as shown in the image at the top of the next page.



Priority scan 2 with a solid green LED in the top right corner.

Temporarily skip a channel:

You can skip a busy channel without removing it from the programmed channels permanently. While the scan is stopped on a channel, press and hold the [Select] button for 2 seconds until you hear the second beep. The radio will then continue scanning and ignore that channel until you stop the scan or power off the radio. However, that won't ignore the channel you were on when the scan was initially started. In this case, you should start the scan from a different channel, then use this procedure to skip the channel.

Antenna connector:



The antenna connector on the back of this radios is called a "Mini UHF". As you can see in the image to the left, I use an adapter to allow a more standard "PL 259" connector to be used.

Additional web sites for your consideration for the MaxTrac.

<http://www.repeater-builder.com/maxtrac/maxtrac-index.html>

<http://www.batlabs.com/maxrad.html>

<http://forums.radioreference.com/motorola-forum/209465-motorola-maxtrac-programming.html>

<http://batlabs.com>

<http://g1ivg.com/motgm300.htm>

<http://www.repeater-builder.com/maxtrac/maxtrac-intro-stuff.html>

General web sites

Larry's list web site: www.larryslist.info/index.html

[Larryslist] email sign up: <http://list.k0jpr.net/mailman/listinfo/larryslist>

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Space for your notes

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