

# An Introduction to Ultralight MW Radio DXing

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## What is Ultralight MW Radio DXing?

Ultralight medium wave (MW) DXing is a sub-group of the almost century-old hobby of Medium Wave DXing. Practitioners of that hobby use a wide variety of receivers and antennas to attempt to hear as many stations as possible from as far away as possible. Although MW radio is, like FM radio and TV, thought of as a local or regional medium, MW DX'ers hear stations from a thousand or more miles away on a routine basis. Coastal DX'ers often hear transoceanic MW signals. Ultralight MW Radio DX'ers have all of the same goals as more "normal" MW DX'ers but intentionally limit the capabilities of their equipment to increase the challenge and to highlight DXing techniques and knowledge. The startling DX capabilities of some small "pocket" AM radios was discovered by accident by Gary DeBock of Puyallup, WA in late 2007.

After Gary shared his enthusiasm for these little radios with several friends, an active specialist hobby group rapidly developed. Formal definitions for Ultralight radios were established, reception distance records were kept and a DX Awards program was established. Two of the more important developments were the establishment of a ULR Article Library by Canadian DX'er Colin Newell at his [dxe.ca](http://dxe.ca) website and the establishment of [ultralightdx](http://ultralightdx.com), a Yahoo e-mail group

moderated by John Bryant, to foster communications about this surprisingly enjoyable new aspect of the radio hobbies. Links to these sites are found at the end of this article. In early 2019, the Yahoo group was migrated to [Groups.io](https://groups.io)



### **What is an Ultralight Receiver?**

The ULR Definition Committee has come up with the following guidelines:

1. It is a simple shirt pocket-sized radio of not more than approximately 20 cubic inches.
2. It is an entertainment-grade radio, as opposed to enthusiast's radio. As such, it will usually not have selectable filters, AM synchronous detection or SSB clarification.
3. It is readily available to the hobby in new or used markets at the time of its approval.
4. It costs no more than \$100 retail at the time of approval.
5. It is primarily a radio. While it may have other features as well (MP3 recorder, etc.), the design and function should have radio reception as its focus.
6. It is not a "novelty radio" such as Coca Cola Can radio, Mr Potato Head, etc.

Receivers are reviewed and approved on an individual basis, and new models are coming out of Asia every year. A full list of those models currently recognized as Ultralights can be found in the Ultralight Gallery and Compendium which is found in the extensive Ultralight DXing Library at both [dxer.ca](http://dxer.ca) and [groups.io](https://groups.io) Ultralightdx.

### **Why DX with an Ultralight Radio?**

What makes ULR DXing both unique and rewarding is the fact that the DX'er is only using a small, modest receiver. In general, the receiver will have lesser sensitivity and selectivity than larger portables, and modern communications receivers with advanced features and external antennae are in a completely different class. The Ultralight receiver therefore presents an artificial handicap, which emphasizes knowledge, skill, luck and persistence. With this added set of challenges, the rewards of hearing a distant station are even greater, and many long-time DX'ers have discovered a renewed interest in the DX hobby through

Ultralight DXing. An added benefit is that the cost of a typical ULR receiver can be literally orders of magnitude less than a top-of-the-line communications receiver.



### **Which ULR Model Should I Use?**

There are several good ULR models available today. Rest assured, these are NOT the transistor radios of years gone by. There are many examples to choose from which offer excellent sensitivity, selectivity, nulling ability and other important attributes. They are generally manufactured overseas, and are available through on-line mega-retailers (eBay, Amazon, etc.) and electronics outlets, as well as at brick and-mortar stores.

To help determine the one that is right for you, Gary DeBock holds regular “Shoot-Outs” in which he compares and contrasts the top models, evaluating new models as they hit the market and making clear which are “Turkeys” that should be avoided. All of the Shoot-out Results are available for download, and will provide you with detailed information on the performance of difference receivers. You can also download the Ultralight Gallery and Compendium, which is a pictorial gallery and compilation of the features and comparative performance of all the popular ULR receivers.

In addition, there are reviews focused on a particular receiver, such as the Sony SRF-59 Sourcebook and others. No single ULR receiver is the best in every category, but there is ample information available to evaluate which one (or two...) would work best in your situation. Making These Receivers Even Better In addition to using the receiver “barefoot” (i.e., just as it came from the manufacturer), many DX’ers have done strange and wonderful things to stock units, and these experiments are also documented in the Ultralight DXing Library at both [dxer.ca](http://dxer.ca) and the [Groups.io](http://Groups.io) “ultralightdx” group.

Once certain types of modifications are done to an ULR, it enters the “Unlimited Class”, and the resulting performance enhancements can be truly amazing. For instance, “The Slider,” a popular modification to the Eton e100 (right), adds a large “slider” ferrite loop stick antenna and, optionally, a narrow IF filter, making it the hottest portable receiver around, far better than even the vaunted Sony ICD-2010. To improve the selectivity of models such as the Sangean DT-400W, inexpensive filters are available that keeps the same footprint of the receiver but significantly increase its ability to separate closely-spaced signals. Guides to these and other modifications are available for download.

Other Gear and Techniques for The ULR DX'er in addition to the basic ULR receiver, there are several other types of equipment that may prove valuable. Articles in the ULR Library include:

- Using Passive Loop Antennas to improve the sensitivity and selectivity of an ULR receiver, or any other portable receiver for that matter. Examples of passive loops you can easily build at home may be found in Building a Passive Loop stick for your Ultralight Radio and The Crate Loop.
- Ultralight – Adding an Antenna Port illustrates direct attachment methods which allow a ULR to be used with a variety of external antennas, much like a communications receiver.
- As with all DXing, a recorder is a good accessory to have to verify that you heard a given station, and Recording Audio from Ultralights is now available.

### **What Other Opportunities Are There for ULR DX'ers?**

To share information and encourage each other, we strongly recommend becoming an active member of our group: <https://groups.io/g/UltralightDX>

Like many groups, Ultralightdx has daily posts from many DX'ers with equipment news, reception tips and general discussion of ULR-related topics. The discussion forum at dxer.ca also has several venues in which ULR and other DX'ers share information. As DX'ers hear more and more stations, their logs continue to grow, and the Ultralight Awards Program recognizes the many different milestones a DX'er might reach. These awards, all given for “Stations Heard” in many categories are available to any Ultralighter world-wide, via the Internet and free of charge.

The Ultralight Records files memorialize the firsts and farthest received stations that are achieved in various categories and are kept separately for North American and World-Wide records. Information about each of these programs is available in the ULR Library files at both locations.

There are also periodic DXing Contests which are organized by a standing committee of Ultralighter. Information about these Contests is widely available in many MW DX club bulletins and through dxer.ca and Ultralightdx a more personal level, there are periodic get-togethers of DX'ers in various locations, as well as groups of individuals in particular parts of the country or world who combine their loggings into a regional master log.

There are also frequent DXpeditions in which DX'ers head out to the ocean beaches or open countryside to hear targets that would otherwise be impossible in urban areas; ULR receivers are ideally suited to this activity, since the gear fits into the glove compartment!



### **Where Can I Go for Further Information?**

For those who have not been involved in MW DXing in recent years, the websites of Medium Wave Circle of the UK (<http://www.mwcircle.org>) and the Ontario DX Association of Canada (<http://www.odxa.on.ca>) both have excellent introductory reviews of the increasingly sophisticated MW DXing hobby.

To help identify what you're hearing and determine what to shoot for next, lists of North American AM radio stations may be found at <http://topazdesigns.com/ambc/>, <http://www.radio-locator.com/>, and <http://www.am-dx.com/fcclist.htm>

More detailed information on individual stations throughout the Western hemisphere, including antenna patterns and other information, is available through the FCC AM Database at <http://www.fcc.gov/mb/audio/amq.html>

AM stations in East Asia and the Pacific are available in the highly regarded Pacific Asia Log (PAL) available at <http://www.radioheritage.net/PAL.asp> and a similar log of European, African and Mid-East AM stations is available at <http://www.emwg.info/>