



Mobile Internet Radio – an Expensive Proposition

Wi-fi based wireless Internet radio appliances abound these days, giving listeners with Internet service in the home a convenient and cost-effective way to listen to streaming audio (including local radio stations)! Taking Internet radio on the road is another matter, however, and when the data channel becomes a 3G data service from a cellular carrier, the costs can quickly mount.

An example of this can be seen with a new device called the Dension Web Radio (see photo), a USB flash-drive sized appliance that allows listeners to access Internet radio from a 3G-capable mobile phone, via the USB music port of a car or home audio system. Developed by Dension Audio Systems (Budapest, Hungary, www.dension.com), the Webradio enables anyone with a free RadioTime.com account to load their RadioTime Presets, pair the device with a 3G-enabled mobile phone and plug it directly into a radio's USB port. Each station will appear on the car or home system as an MP3 file, enabling the user to browse, select and listen to the stations by name, and view that information on the radio's display.



To use the Webradio, listeners need to first register their product on the RadioTime homepage. RadioTime provides an easy means of finding local, national or global radio programming airing on stations in 140 countries and broadcasting in 55 different languages. It provides an Open Application Programming Interface (API) to enable hardware manufacturers and software developers to add the RadioTime guide to their devices and applications. Other ways to access RadioTime in the auto (besides the Dension device) are discussed on the RadioTime Web page at <http://inside.radiotime.com/powered-by-products?cat=auto>.

Once registered with RadioTime, the listener adds desired stations to a "preset" folder, and each preset folder will then appear as a folder in the root directory of the Webradio. Presently, MP3-formatted radio stations are supported but WMA and AAC-formatted stations are not. However, the Webradio has the ability to be updated by the user with new firmware from Dension so this situation may change in the future.

Next, the Webradio needs to be paired with a Bluetooth and Internet tethering-capable mobile phone that supports 3G or 4G data service. According to Dension, in an area with good 3G coverage the set-up time for the Webradio (once plugged in to the car radio and paired with the phone) is typically less than a minute.

Webradio data traffic in MB

Bitrate kbps	Usage (hours)		
	1	10	30
32	16	155	465
64	31	310	929
128	62	619	1 857
192	93	929	2 785

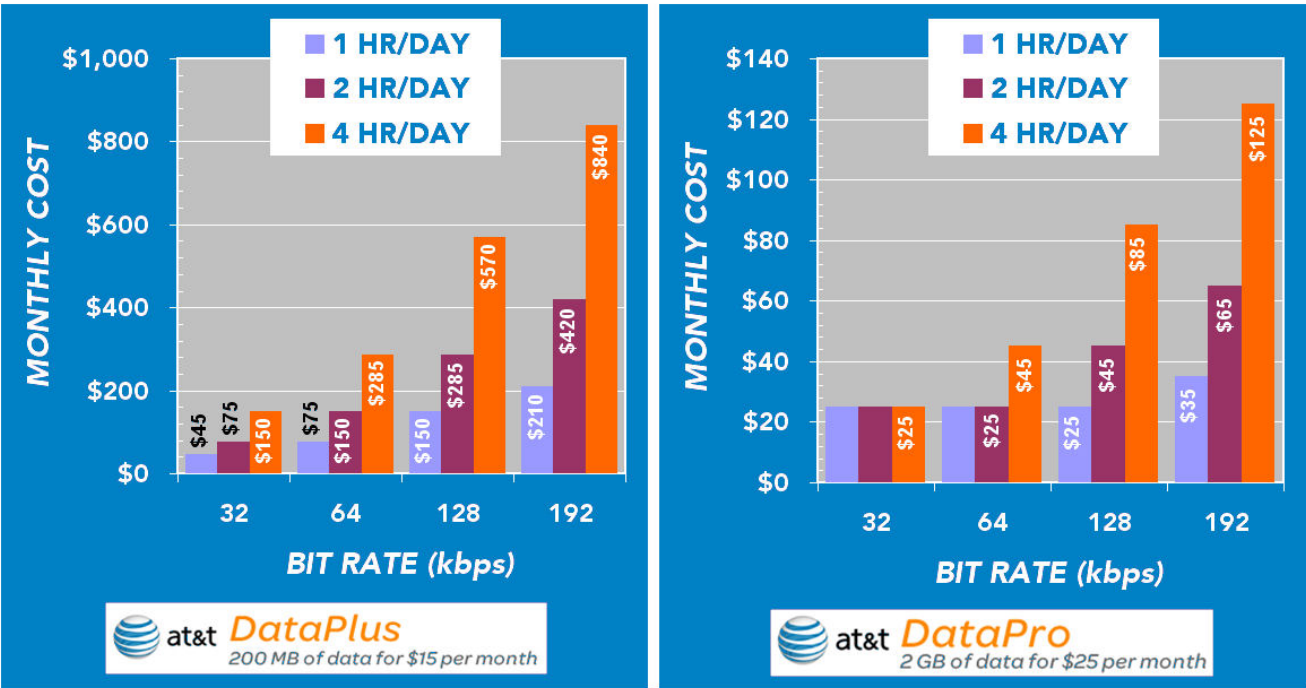
SOURCE: DENSION

Using an estimate of the megabytes (MB) of data required to listen to the Webradio available on the Dension Web page (given in the table above), an estimate of the monthly cost of operation has been made based upon data service packages currently being offered by cellular carrier AT&T (www.att.com). AT&T offers two different packages—"DataPlus" which includes 200 MB of data for \$15 per month, with each additional 200 MB costing \$15, and "DataPro" including 2 GB of data for \$25 per month, with each additional 1 GB costing \$10. (Additional information about the AT&T data plans is available on the Internet at www.att.com/shop/wireless/plans/data-plans.jsp, including a link to a "data usage calculator" that allows users to estimate their daily or monthly usage based upon the number of emails sent and received, Web pages viewed, social media posts and the amount of streaming audio and/or video consumed.)

For the purposes of these estimates, a month is assumed to consist of 30 days, and any additional data usage (of the 3G data plan) by the listener for purposes of sending and receiving emails, web browsing, etc., is not included (nor are service fees and taxes). With these assumptions, the estimated monthly costs of listening to the Webradio for each of

the AT&T plans is shown in the graphs below, for the cases of 1, 2 and 4 hours of listening per day, as a function of the bit rate used for the streaming audio (the higher the bit rate, the better the audio quality). For example, at a bit rate of 128 kbps and 2 hours of listening a day, the cost under the DataPlus and Data Pro plans would be approximately \$285 and \$45 per month, respectively.

The Dension Webradio is now available in the U.S. with a suggested MSRP of \$120. For more information, visit the Dension website at www.dension.com/index.php?pageID=299.



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