Provision of Station Logos to Automotive Receivers

How broadcasters with services on FM or DAB can supply and update brand logo, and how automotive manufacturers can use them

Summary

As modern automotive devices evolve, users are more accustomed to interacting with larger format screens, able to show richer visual information. With automotive manufacturers looking to improve the user experience of such devices, the use of brand logos to enhance radio service navigation becomes more commonplace.

Devices need to source brand logos for display, and broadcasters have an interest in being able to ensure this is always the correct one, and there is a mechanism for them to provide updates.

This paper explains how broadcasters with services on FM or DAB can supply and update these brand logos, and how automotive manufacturers can use them.

Broadcasters produce logos to a set of defined sizes and make them available publicly over IP for IP-connected devices and for broadcasters on DAB, transmit the logos over DAB for devices without an IP connection.

Automotive manufacturers acquire those logos either through the broadcast signal, or through an IP connection periodically and use them to update an internal cache of logos on the receiver.

In both cases, the logos are signalled to devices using the Service and Programme Information standard (ETSI TS 102 818 v.3.1.1), to create a Service Information (SI) file containing a list of radio services alongside their logos. This open standard works equally for signalling of logos over DAB and/or IP, meaning that making logos available once can work for both connected and non-connected devices.
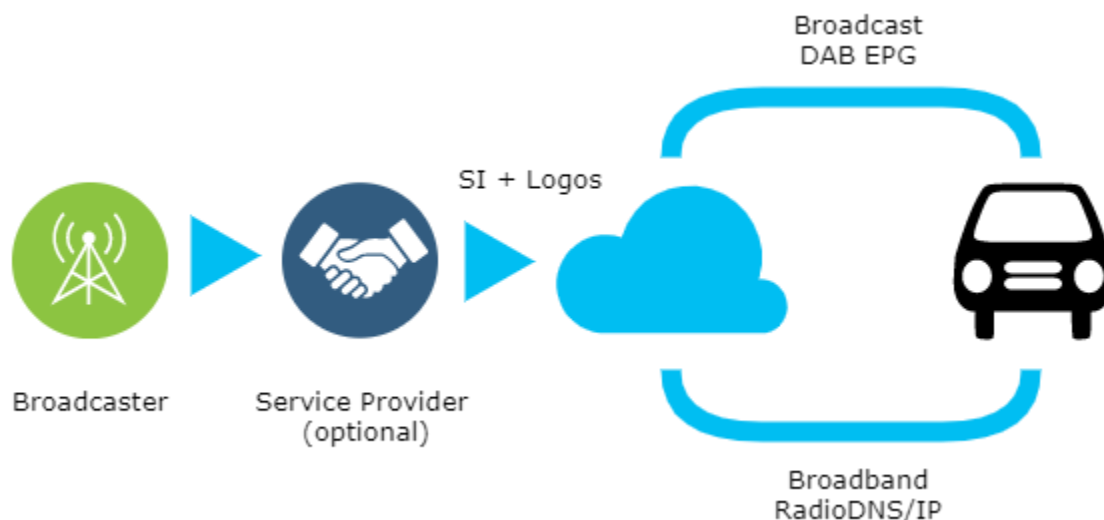
For Broadcasters

For all broadcasters

☐ You **must** produce versions of your station logos in 5 sizes and put them on a web server

☐ You **must** create a Service Information (SI) file which describes your stations and web links to their brand logos, and put it on a web server

☐ You **must** register with RadioDNS to be able to link your broadcasts to your SI file

☐ You **should** provide a license to allow manufacturers to use your logos

☐ You **should** indicate how long manufacturers can cache your logos (usually 30 days).

If you are broadcasting on DAB/DAB+

☐ You **should** transmit 4 of your logos and your SI file over DAB

How to Create Logos

For each of your stations, you must create versions of logos in the following sizes (width x height in pixels):

32 x 32	112 x 32	128 x 128	320 x 240	600 x 600

You should create them using the PNG image format.

Save these logos on a web server so that they can be reached publicly using a web link (URL).

How to Create Your SI File

An SI file is simply a text file containing your station information in a standardised format (XML).

If you rely on a third-party service provider to manage your information and data, ask them to support and supply your data in this format.

RadioDNS has a series of HOWTO files for creating your own SI files, and an online tool for generating your easily creating your own:
https://radiodns.org/developers/documentation/#howto

In either case, your SI file needs to be available on a web server so that it can be reached publicly using a web link.

How to register with RadioDNS

Send the web link to your SI file by email to registrations@radiodns.org. RadioDNS will process this request and reply.

How to transmit your logos over DAB

The DAB multiplex that your stations are transmitted on must also signal and transmit a DAB SPI service, which will require cooperation with the multiplex operator. It is recommended that this request be made with the other stations on that multiplex, as a joint request.

The DAB SPI service will need to transmit the 4 smallest logo sizes for each station on the multiplex (width x height in pixels):

32 x 32	112 x 32	128 x 128	320 x 240

Although a function of configured bandwidth and the total size of files being transmitted, the device acquisition time (the time taken for a device to receive and decode a file being transmitted) should be less than 5 minutes.

The precise implementation of the DAB SPI service will be determined by the multiplex operator and the nature of how your services are being provided, and you should ask them whether or not they support using your SI files directly.

Multiplex Operator Supports SI	Multiplex Operator Does Not Support SI
Your multiplex operator or service provider fully supports transmission of DAB SPI directly from your SI files.	Your multiplex operator or service provider does not support transmission of DAB SPI directly from your SI files.
In this case, you should send your SI file web link to your multiplex operator and instruct them to set up a DAB SPI service for your stations.	There are free, open-source tools that can be used to generate a DAB SPI service from your SI files. For more information contact either RadioDNS or WorldDAB using the details below.

How to provide a license for your Logos

You should offer your logos under a licence, so that Manufacturers know that they have explicit permission to use them. You can refer to the common licence currently being developed by RadioDNS, or you can write your own. This license must be provided as a link in your SI file ([HOWTO](#)). If you write your own, or you don't provide a licence, some manufacturers may choose not to use your logos.

How to indicate how long a device can cache your logos

You should first decide how long a device can cache your logos, before removing them from the cache. It is recommended that this be given a period of 30 days, as a balance between ensuring the logos are kept updated along with a need to consider device constraints.

Note that this is the maximum time that a device may cache a logo, and does not mean that this defines how soon a logo will update on a device, once you choose to change it. There are additional technical means by which a device can determine whether a logo needs to update its cache, before this time.

For logos available on a website, your web server can be configured to do this by setting a period of expiry on your logo files. This can then be picked up by and be used as the expiry time for logos then transmitted over DAB.

For Automotive Device Manufacturers

☐ When the vehicle has an IP connection, you **must** use RadioDNS to acquire station logos.

☐ When the vehicle can receive SPI over DAB, you **must** decode the station logos from DAB.

☐ You **must** use the station logos to update the cache in the receiver.

☐ You **must** only cache the logos for as long as the broadcaster indicates.

How to use RadioDNS to acquire station logos

The steps to do this are given in the ETSI standard for Service and Programme Information (SPI), ETSI TS 102 818 v.3.1.1. Section 10, Delivery of SPI over IP.

It involves using the parameters from the broadcast or streaming audio service to discover the location of the SI document on the broadcaster's website, and from there - links to the station logos.

If your receiver can get an IP connection, even periodically, you should implement RadioDNS to acquire logos.

How to decode station logos from DAB

The steps to do this are given in the ETSI standard for Service and Programme Information (SPI), ETSI TS 102 818 v.3.1.1. Section 9, Delivery of SPI over DAB/DRM.

It involves decoding a data service containing both the SI and the logo files themselves.

Not all multiplexes will transmit DAB SPI services and some will transmit logos for services on other multiplexes. All DAB receivers should implement decoding of SI information to get the service information and service logos. It is not required for a device to decode/display PI information.

How to use the logos

Logos supplied by the broadcaster will be consistent, so you can use the most recently acquired logo, regardless of whether it was acquired over DAB or IP.

Broadcasters should indicate a maximum time period that the logo can be cached, usually 30 days.

When examining the SI file, links to logos may be provided for both FM and DAB services. Logos aren't provided for AM because there's no accurate way to link an AM signal with a service.

You can see if the logos are being offered under a licence, as indicated in the SI file, and choose whether to use them or not. There is a common licence currently being developed by RadioDNS.

For More Help

For more advice please contact: logo@worlddab.org or logo@radiodns.org