DOLBY

Digital Broadcast Products

Guidelines for Electronic Program Guide Software Developers

These guidelines are provided to assist development of electronic program guide (EPG) software. Without proper implementation, EPG software can hinder delivery of Dolby technologies. Please read this document to ensure that proper use of Dolby technologies is maintained.

This document covers:

- Interaction between EPG software and broadcast products approved by Dolby Laboratories Licensing Corporation
- On-screen display operation and software menu functions
- Use of Dolby Laboratories logos and trademarks through a no-cost Trademark and Standardization Agreement (TSA)

Interaction Between the EPG and Hardware

Interference with Required Features

Guide software must never alter product operation in ways that cause problems with audio performance. For example, the EPG must not disable the required S/PDIF digital audio output, nor should it affect the Line and RF operating modes. Hardware designs are expected to keep audio available at both the digital and analog outputs at all times.

The EPG developer should make every effort to avoid interfering with the required functions of the product. In some cases, EPG software may be developed for a product after the product design has been approved by Dolby Laboratories Licensing Corporation. The EPG developer and the Dolby licensee should work together to ensure that all approved product functions remain intact.

Please consult Dolby Laboratories during the development of the EPG.

On-Screen Display Operation and Software Menu Functions

User Access to Audio Information and Control

Menu control of audio should be no more than two menu layers from any screen or programming view that indicates decoding of Dolby Digital. Default access to Dolby Digital decoding is recommended. When the design requires the user to choose Dolby Digital decoding through a menu option, a simple prompt that lets the user know Dolby Digital information is available can avoid customer confusion caused by searching through layers of menus. At the prompt, the user makes a "Yes/No" selection by remote control or front panel to enable or continue disabling Dolby Digital decoding.

Dolby Digital decoders operate in two modes: Line mode operation is used for left and right line-level audio outputs; RF mode is for proper output on the RF-modulated channel 3/4 output. One way to handle operating mode changes in the EPG is to simply instruct the user to choose which output they have connected to the television set. Alternatively, users can be instructed to choose the output they expect to use most for audio reproduction. The EPG then associates the proper operating mode with the output chosen. In cases where line and RF outputs are used simultaneously, products should default to RF mode.

For example, the line-level left/right audio outputs and baseband video outputs can collectively be called "Output #1." The user then selects "Output #1" based on a user-manual diagram or product labeling, which would in turn place the product in Line mode operation. "Output #2" is usually the RF-modulated ouput and when selected, it places the product in RF mode. Similar methods can be used for products using Scart or other output connection standards. In light of the fact that there is no need for the user to have any knowledge of the operating modes, a setup such as this can be useful for averting potential confusion.

Use of Dolby Laboratories Logos and Trademarks Through a No-Cost Trademark and Standardization Agreement (TSA)

Indicating the Use of Dolby Digital in Broadcast

Developers using Dolby trademarks in guide software must obtain a no-cost TSA. Use of the trademarks should be consistent with the guidelines below. Graphics must be obtained from Dolby Laboratories Licensing Corporation.

It is recommended that the presence of Dolby Digital audio be displayed, regardless of how many audio channels are present in a program encoded in Dolby Digital.

Menus, on-screen help, or other displays should instruct the user that both Dolby Digital and PCM digital audio may be available when switching between analog and digital channels. Additionally, satellite guide systems should display whether the channel includes Dolby Digital or MPEG audio.

Some broadcasters use both Dolby Digital and MPEG audio on their services. In these cases it is beneficial to acknowledge whether the channel includes Dolby Digital.

Use of Dolby Logos in the Electronic Program Guide

It may be desirable for the EPG to provide information regarding the number of audio channels present in a given program, and whether the program is encoded in Dolby Surround or Dolby Digital. Sound mode icons were developed so that viewers could easily recognize soundtrack configuration. They have been adopted for use on DVD, and Dolby Laboratories believes that the icons are equally beneficial for broadcast applications.

The sound mode icons are based on the 5.1-channel speaker configuration, as shown in Figure 1. The top three blocks depict the left, center, and right speakers, and the two bottom blocks depict the left surround and right surround speakers. The center block represents the subwoofer for the LFE channel.
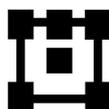
Figure 1 Sound Mode Icon

A variety of icons exist to represent various channel configurations, as shown in Figure 2.

Icon	Sound Mode
⬚	Mono
⬚	Stereo
⬚	Dolby Surround
⬚	Four-channel surround
⬚	4.1-channel surround
⬚	Five-channel surround
⬚	5.1-channel surround

Figure 2 Common Sound Mode Icons

Channel configurations may also be indicated using only text. When using text to indicate the sound format, please use a combination of "Dolby Digital" or "Dolby Surround," along with the soundtrack format, such as "5.1."

Figure 3 shows acceptable variations of how these markings may be used to indicate the soundtrack format of broadcasts containing Dolby Digital audio.

Logo with Icon	Logo with Text	Text Only
▮▮ DOLBY DIGITAL ⬚	▮▮ DOLBY DIGITAL 5.1	**Dolby Digital 5.1**

Figure 3 On-Screen Indication Formats for Digital Broadcasts.

Acceptable forms for "Dolby Digital" are shown below (in order of preference), and may be used as necessary to reduce space or improve legibility.

1. ▮▮ DOLBY DIGITAL

2. Dolby Digital

The following indicators are to be used only in case of extremely tight space. Consult Dolby Laboratories before using any of the following:

3. Dolby D

4. ▮▮ Digital

5. ▮▮ D

The Sound Mode icons are available at no charge from Dolby Laboratories in the form of TrueType and Adobe® Type Manager® (ATM) fonts.

Dolby Laboratories is always available to provide assistance with trademark usage. Trademark Standardization Agreements are available at no cost for broadcasters

wishing to place the appropriate Dolby logo on a program containing soundtracks encoded in either Dolby Surround or Dolby Digital. For more information on the use of Dolby Laboratories' licensed technologies or trademarks in broadcast applications, please contact Dolby Laboratories Licensing Corporation.

If you are concerned that customers might be confused by the appearance of Dolby Digital indicators on every program when Dolby Digital is used exclusively in that broadcast environment (as is the case with North American digital cable), you may indicate Dolby Digital programming only when it makes use of four or more channels. While this is sufficient, we encourage you to educate viewers on Dolby Digital and its ability to be used on everything from mono to 5.1-channel programming. We also encourage you to provide additional information on Dolby Surround and Dolby Digital in a help or information section of the electronic program guide. This information could include letting the consumer know that the appearance of a "double-D," "Digital," and "5.1" means the program contains audio in four, five, or 5.1 channels.