**Channel Mode**

This parameter defines the number of full bandwidth audio channels being encoded. Available modes depend upon the selected Data Rate and Sample Rate parameters. The Data Rate parameter can be manually adjusted from 56 to 640 kbps, or if Automatic is selected, the appropriate data rate for the desired channel mode is automatically set.

- 1+1 Dual Mono (Ch. 1, Ch. 2 encoded)
- 3/2 (L, C, R, Ls, Rs; Auto = 256 kbps)
- 2/1 (L, R, Ls, Rs, Auto = 256 kbps, or even 320 kbps)
- 3/2 C, L, R, Rs, Auto = 320 kbps
- 3/2 C, L, R, Li, Rs, Auto = 384 kbps (448 kbps)

**Dynamic Range Control (DRC)**

DRC parameters allow the user to select the compression characteristics that are applied to the Dolby Digital bitstream during decoding. These compression presets add playback flexibility in a variety of listening environments. The DP569 includes five compression presets that correspond to common use compression settings. The proper setting of the dialnorm value depends upon the playback environment. Null Band where the signal is neither boosted nor attenuated.

- **Music Light** (No early cut range)
  - Max Boost: 12 dB (below -65 dB)
  - Boost Range: -90 to -41 dB (2:1 ratio)
  - Null Band Width: 20 dB (-41 to -21 dB)
  - Cut Range: -21 to +9 dB (2:1 ratio)
- **Music Standard**
  - Max Boost: 12 dB (below -55 dB)
  - Boost Range: 55 to -31 dB (2:1 ratio)
  - Null Band Width: 5 dB (-31 to -26 dB)
  - Early Cut: -26 to -21 dB (2:1 ratio)
  - Cut Range: -16 to +4 dB (20:1 ratio)
- **Film Light**
  - Max Boost: 6 dB (below -53 dB)
  - Boost Range: -53 to -41 dB (2:1 ratio)
  - Null Band Width: 20 dB (-41 to -21 dB)
  - Early Cut: -26 to -21 dB (2:1 ratio)
  - Cut Range: -11 to +4 dB (20:1 ratio)
- **Film Standard**
  - Max Boost: 6 dB (below -43 dB)
  - Boost Range: -43 to -31 dB (2:1 ratio)
  - Null Band Width: 5 dB (-31 to -26 dB)
  - Early Cut: -26 to -21 dB (2:1 ratio)
  - Cut Range: -16 to +4 dB (20:1 ratio)
- **Speech**
  - Max Boost: 15 dB (below -65 dB)
  - Boost Range: -50 to -31 dB (5:1 ratio)
  - Null Band Width: 5 dB (-31 to -26 dB)
  - Early Cut: -26 to -21 dB (2:1 ratio)
  - Cut Range: -16 to +4 dB (20:1 ratio)

**Timecode**

This parameter controls the use of the SMPTE timecode for DVD applications, working through the following steps:

- **Encoder Control** must be set to Timecode Ctrl in Encoder Ctrl Menu (2/1 or 2/3 Channel mode)
- Enter a start time as hours:minutes:seconds:frames (samples).
- Enter a stop time.

Note: Timecode parameter controls only the start time, an SMPTE system uses the timestamp for setting AV sync. Not all systems utilize the (samples) field. The first valid timestamp is the first frame completely recognized.

**Timecode Ctrl**

This parameter allows the user to select a downstream device through the use of a Time Stamp Delay Word. This information is entered in milliseconds, where a positive value indicates additional delay from the reference, while a negative value indicates a delay.

**Clock Source**

Clock Source selects the reference clock source for the Dolby Digital processing as well as the clock reference for the output signal. The DP569 will not encode without a valid AES reference clock signal.

The available clock sources are:

- **Digital Input**: A valid AES/EBU signal must be present at the Digital input 1/2.
- **Ref In**: A valid AES/EBU signal must be present at the Ref In input.
- **Internal**: (48 kHz, 44.1 kHz, or 32 kHz) always valid when selected.

Refer to the DP569 User’s Manual, page 4-13 for more detailed information. Note: Digital input 1/2 is the only input that functions as both an input source and a clock source.

**Surround Channel Processing**

A 99F phase shift can be applied to the surround channels during encoding. This is useful for generating multichannel bitstreams when, when downmixed, can create a true Dolby Surround compatible output (LRL). The effect of this parameter can be heard during decoding of a two-channel LRL signal and then with a Pro Logic decoder. Default setting is ON.

- -3 dB attenuation can be used to reduce the levels of the surround channels to compensate for the calibration of film dubbing stages and consumer replay environments. The surround channels in film studios are set 3 dB lower than the front channels (except consumer applications of 5.1), leading to the levels on tape being higher. Applying the -3 dB attenuation when using a master mixed in a film room.

**Center/ Surround Downmix Levels**

These parameters define the downmix level shift for the surround and center channels during downmixing to stereo (L/R or L/Ro/Ro) or mono. These parameters should be adjusted while decoding and monitoring between full and stereo modes.

The optional Extended Bitstream parameters provide a method to indicate a preferred stereo downmix mode as well as the downmix parameter sets. The values below adjust the stereo and surround downmix level shifts. Refer to the Dolby Digital Professional Encoding Manual for more information.

**AC-3 Bitstream Basics**

At the heart of the Dolby Digital (AC-3) bitstream is the synchronization frame. Each single sync frame is self-contained (that is, all data necessary to decode each frame is present within the frame), and it is the smallest component of the Dolby Digital bitstream capable of being decoded. Each sync frame is made up of a sync information header, a block of bitstream information blocks of audio data, a block of optional auxillary data, and a redundancy check word. Each audio block represents 256 new PCM samples, thus each AC-3 sync frame represents 1,536 samples.

- **Sync Information**: Contains a sync word, the sampling frequency, and the frame size. These are needed to acquire and maintain bitstream sync.
- **Bit Stream Information**: Data includes the number of channels, bit rate, level and service type information.
- **Audio Block**: (AB) portion of the frame consists of the six blocks of audio data. Information needed to decode blocks can be shared among a number of blocks, and that information is only encoded in the first block where it is used. The decoder uses that same information again to decode later blocks. Information which is shared among a number of blocks, and that information is only encoded in the first block where it is used. The decoder omits that same information again to decode later blocks. Information which is shared among a number of blocks, and that information is only encoded in the first block where it is used. The decoder uses that same information again to decode later blocks.
- **Cyclical Redundancy Check**: (CRC) contains two CRC error check words, one for the first 5/8 of the frame, and a second for the entire frame.

Refer to the Dolby Digital Professional Encoding Manual for more information.

**Output Mode**

Output Mode is a control parameter that defines one of four output data formats of the AES/EBU bitstream.

- **Pro 32-bit professional mode**: 32-bit (using both Ch. 1 and Ch. 2) data packing. This is the Default.
- **Pro 16-bit Ch. 1: professional mode, 16-bit (using only Ch. 1) data packing.**
- **Pro 16-bit Ch. 2: professional mode, 16-bit (using Ch. 2) data packing.**
- **Consumer Mode**: Note: ‘Bit 0’ is set at ‘0’ (zero) for consumer bitstream and ‘1’ for professional. Additionally, Consumer Mode is always set in 32-bit data streams, simply set ‘Pro 32-bit Mode’.

**Dialogue Level (dialnorm)**

Dialogue Level (aka dialogue normalization or dialnorm) is the average dialogue level of a program over time, measured with a Loudness Reference Level (LRL) meter. Refer to the Dolby Digital Professional Encoding Manual for more detailed information.

**Timecode Ctrl**

This parameter allows the user to select a downstream device through the use of a Time Stamp Delay Word. This information is entered in milliseconds, where a positive value indicates additional delay from the reference, while a negative value indicates a delay.

**Coding Delay**

The Coding Delay parameter sets the internal encoding delay time to be internally or externally controlled. Any changes made to this parameter during encoding take effect immediately by deleting output frames or adding gaps to the output bitstream.

- **Internal**: The coding delay is selected internally from a minimum of 187 ms to a maximum of 450 ms.
- **External**: The coding delay is determined automatically from a signal applied to the external TTL delay input connection.

Refer to the DP569 User’s Manual, page 4-21, for more detailed information.
### DP569 Dolby Digital Encoder Quick Start Guide Version 2.0.0.1

#### Metadata Settings for Factory Presets

<table>
<thead>
<tr>
<th>Preset Name</th>
<th>External Metadata</th>
<th>Stereo Film</th>
<th>Stereo Music</th>
<th>Surround Film</th>
<th>Surround Music</th>
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<td>Film Standard</td>
<td>Main Profile</td>
<td>Music Standard</td>
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<td>RF Mode Profile</td>
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#### DP569 Status Screens—Press up/down cursor buttons to page through status screens. Example is shown below. Displays depend on the encoding parameters.

- **Main Screen**
  - GT2 L/RLE
  - Surround Mode
  - Dolby Surround Mode
  - Digital Output Stream
  - Reference Input Stream
  - Reference Output Stream
  - Digital Test Tone
  - Digital Time Stamp
  - Monitor Source
  - Metabase Version
  - Display Version
  - A/D Convertor
  - Digital De-emphasis
  - DC Filter
  - LFE Lowpass Filter
  - Surround 4 dB Attenuation
  - Surround Phase Shift

- **System Settings**
  - Remote Baud Rate
  - Unit Address
  - Last Time
  - Firmware Upgrade

- **I/O Control**
  - In/Out Control
  - Main Setup
  - Metadata Control
  - Metadata Parameter
  - User Preset
  - I/O Control
  - System Settings

- **Data and Parameters**
  - Digital De-emphasis
  - Surround 3 dB Attenuation
  - Dolby Surround EX Mode
  - Lo/Ro Surround Downmix Level
  - Lo/Ro Center Downmix Level
  - Lt/Rt Surround Downmix Level
  - Lt/Rt Center Downmix Level
  - Mode
  - Extended Bitstream
  - Mixing Level
  - Dialogue Level
  - A/D Conv
  - Dolby Surround Mode
  - Surround Downmix Level
  - Center Downmix Level
  - RF Overmodulation Protection
  - Line Mode Profile
  - Bitstream Mode
  - LFE Channel
  - Channel Mode
  - Dialogue Level
  - Preset Name
  - Operating Mode
  - Metadata Control
  - Metadata Parameter
  - User Preset
  - I/O Control
  - System Settings

- **LCD Contrast Adjust**
  - Press and release **SHIFT**
  - Press and release **↓**
  - Adjust contrast using **↑**

- **DP569 Status Screen**
  - G2 L/RLE
  - Dolby Surround Mode
  - Digital Output Stream
  - Reference Input Stream
  - Digital Test Tone
  - Digital Time Stamp
  - Monitor Source
  - Metabase Version
  - Display Version
  - A/D Convertor
  - Digital De-emphasis
  - DC Filter
  - LFE Lowpass Filter
  - Surround 4 dB Attenuation
  - Surround Phase Shift

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