

DAC

The PCM2704/5/6/7 has a DAC that uses an oversampling technique with $128\text{-}f_s$ second-order multibit noise shaping. This technique provides extremely low quantization noise in the audio band, and the built-in analog low-pass filter removes the high-frequency components of the noise-shaping signal. DAC outputs through the headphone amplifier V_{OUTL} and V_{OUTR} can provide 12 mW at $32\ \Omega$ as well as 1.8 Vp-p into a 10-k Ω load.

Digital Audio Interface—S/PDIF Output

The PCM2704/5/6/7 employs S/PDIF output. Isochronous-out data from the host is encoded to S/PDIF output DOUT as well as to DAC analog outputs V_{OUTL} and V_{OUTR} . Interface format and timing follows the IEC-60958 standard. Monaural data is converted to the stereo format at the same data rate. S/PDIF output is not supported in the I²S I/F enable mode.

Channel Status Information

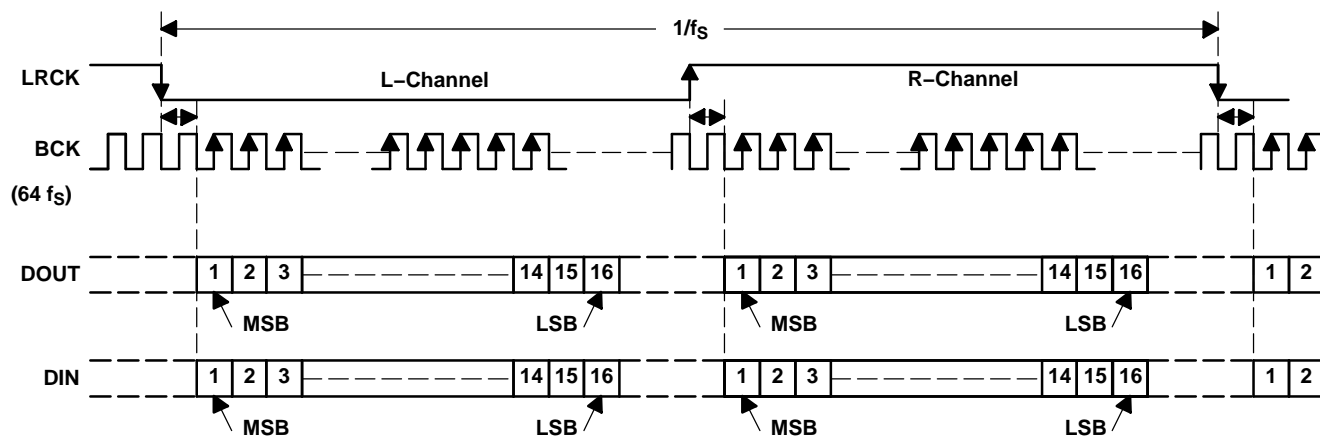
The channel status information is fixed as consumer application, PCM mode, copyright, digital/digital converter. All other bits are fixed as 0s except for the sample frequency, which is set automatically according to the data received through the USB.

Copyright Management

Digital audio data output is always encoded as original with SCMS control. Only one generation of digital duplication is allowed. The implementation of this feature is optional. Note that it is your responsibility for determining whether to implement this feature in your product or not.

Digital Audio Interface—I²S Interface Output (PCM2706/7)

The PCM2706 and PCM2707 can support the I²S interface, which is enabled by FSEL (pin 9). In the I²S interface enabled mode, pins 4, 18, 19, 5, and 17 are assigned as DIN, SYSCK, BCK, LRCK, and DOUT, respectively. They provide digital output/input data in the 16-bit I²S format, which is also accepted by the internal DAC. I²S interface format and timing are shown in Figure 22 and Figure 23.



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Figure 22. Audio Data Input Format