

## WM8804 and WM8805 S/PDIF Transceivers

### New Wolfson S/PDIF transceivers offer exceptional jitter suppression in the audio band.

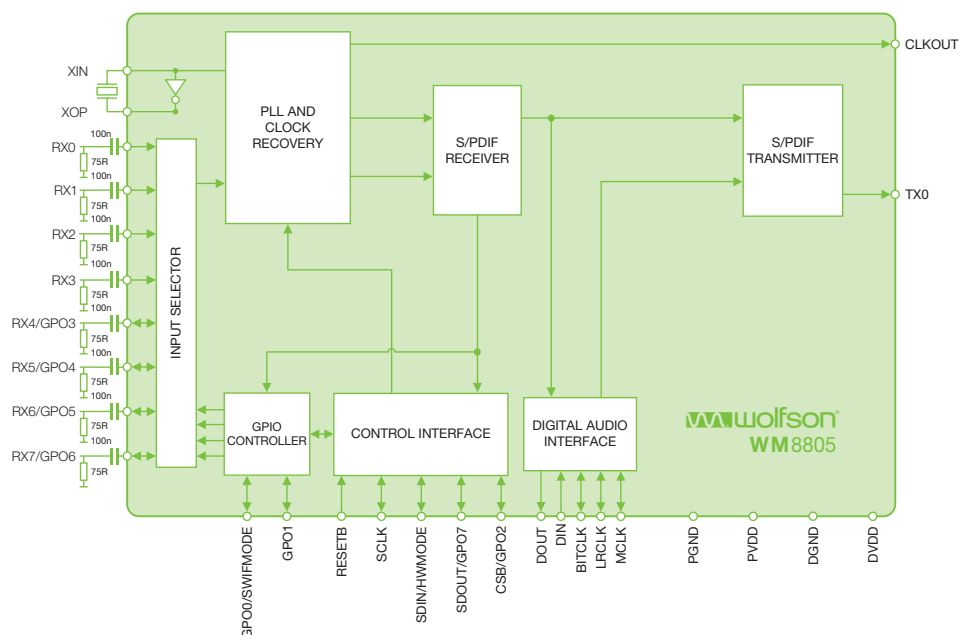
The WM8804 and WM8805 are high performance solutions for S/PDIF data recovery, routing and data transfer.

Simple and flexible to use, the devices deliver exceptional S/PDIF functionality based on Wolfson's proprietary PLL technology. The WM8804 and WM8805 reduce the impact of a range of problems caused by jitter – one of the most common and serious issues in S/PDIF systems.

As an interconnection standard, designers and users have no control over the quality of the S/PDIF inputs. The unique Wolfson technology allows recovery of highly degraded input data and attenuates the unwanted jitter.

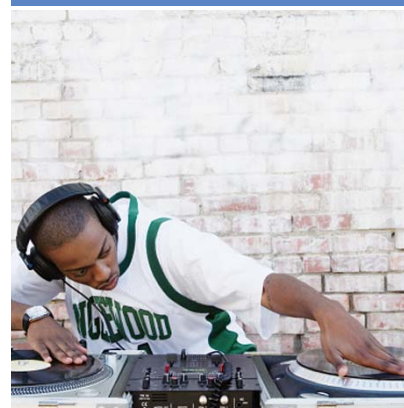
Added features including a 'with flags' mode for enhanced status reporting and GPIO functionality make these parts both flexible and extremely easy to use.

The WM8805 is an 8 input, 1 output version. The WM8804 is a 1 input, 1 output version.



## WM8804

## WM8805



FEATURE	WM8804/WM8805
S/PDIF Inputs	WM8804 – 1 WM8805 – 8
S/PDIF Outputs	1
Sampling Rate	32kHz – 192kHz
Error Reporting Visibility	Configurable GPIO or Audio Interface
Clock Generation	On-board PLL or External Clock
Ext. Crystal Frequencies	10MHz – 27MHz
Audio Interface	LJ/RJ/I <sup>2</sup> S/DSP
Control Interface	2/3 Wire SW, HW
Package	WM8804 – 20-SSOP WM8805 – 28-SSOP

### PRODUCT BENEFITS

- High jitter rejection improves audio signal quality
- Transparent de-jittering of input signal in the audio baseband
- Leading proprietary PLL technology
- Unique 'with flags' status reporting mode
- Excellent quality system clock generation – ultra low jitter 512fs, 256fs, 128fs and 64fs
- Powerful and flexible GPIO routing for system control

### TARGET APPLICATIONS

- Professional Recording
- Digital TV
- Hi-Fi
- AV and DVD Receivers
- PC and IPTV
- Automotive

## WM8804 and WM8805 S/PDIF Transceivers

# WM8804

# WM8805

### PRODUCT FEATURES

- S/PDIF (IEC60958-3) compliant
- Advanced jitter attenuating PLL with low intrinsic period jitter of 50ps RMS
- PLL clock recovery or crystal derived clock generation
- Supports 10MHz – 27MHz crystal clock frequencies
- I<sup>2</sup>S, Left Justified, Right Justified or DSP audio formats  
16/20/24 bit Word Lengths
- Up to 8 channels of S/PDIF input with 1 channel output
- Auto frequency detection and synchronisation
- Selectable output status data
- Non-audio detection including DOLBY™ and DTS™

### PRODUCT DETAILS

#### HIGH PERFORMANCE PLL

With an intrinsic period jitter of 50ps RMS, unlike many transceivers, the WM8804 and WM8805 contribute a negligible level of jitter to the system.

#### REMOVAL AND SUPPRESSION OF EXISTING JITTER

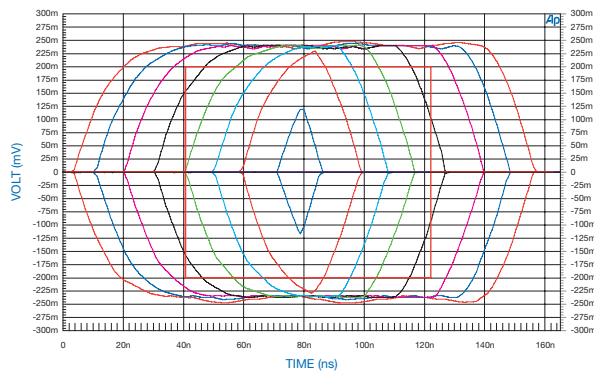
The WM8804 and WM8805 are capable of suppressing pre-existing jitter at frequencies above 100Hz. Most competitive S/PDIF transceivers only act above 10kHz, with no effect on the low and medium frequencies which have the greatest impact on audio quality. The Wolfson PLL technology enables the WM8804 and WM8805 to lock onto and recover the data and timing from poor quality input signals, allowing the transceivers to accept S/PDIF from any source, even if the input signal is severely degraded.

#### MASTER CLOCK GENERATION

The PLL can be used to synthesise crystal derived clock signals, without the requirement for any external filter, and can operate as a high quality master timing source for the audio system, reducing system cost whilst guaranteeing excellent performance.

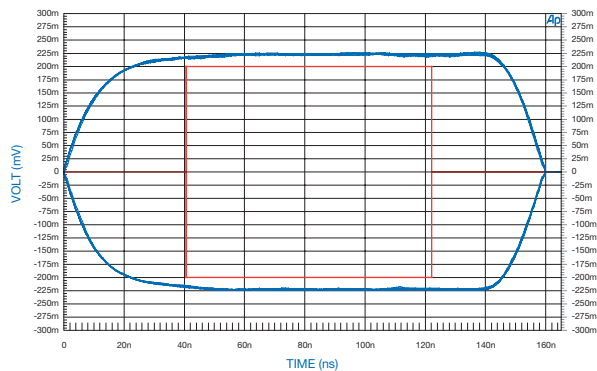
**DIAGRAM 1 – COMPETITOR'S PART**

Eye Diagram showing narrowing of output eye width as a result of jitter on input (input jitter passed to output).



**DIAGRAM 2 – WOLFSON'S WM8804 AND WM8805**

Eye diagram showing maintained eye width as input data as jittered (input jitter not passed to output).



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