Report Raumakustik LU - Gruppe 4

Labortag 1 - Messung der Nachhallzeit

Andreas Johann Hörmer Name 2

Institute for signal processing and speech communication Graz University of Technology



Laborbetreuung: DI Dr. techn. Franz Graf

Abstract

Main target of this laboratory was the measurement of different DACs and ADCs of the fully digital mixing panel LAWO mc^266 . Additionally preamplifiers of a high quality input compared to standard inputs were measured. Measurements were done qualitatively in terms of dynamic ranges and frequency characteristics. This report consists of 28 pages.

Contents

1	Preamble					
	1.1	Motiva	ation	4		
	1.2		se			
2	DAC measurements					
	2.1	Introd	uction	5		
		2.1.1	DAC	5		
	2.2		rements			
		2.2.1	Experimental setup			
		2.2.2	Results			
		2.2.3	Discussion			
3	ADC/preamplifier measurements					
	3.1	Introd	uction	9		
		3.1.1	ADC	9		
	3.2	Measu	rements	10		
		3.2.1	Experimental setup	10		
		3.2.2	Results			
		3.2.3				
4	Cor	Conclusion				
Α	Hig	h resol	lution diagrams	14		

List of Figures

2.1	experimental setup for DAC measurement	6
2.2	frequency responses of different DACs	7
2.3	detailed frequency responses of different DACs	7
2.4	dynamic ranges of different DACs	
2.5	FFT of line24 signal	8
3.1	analog-digital conversion of an analog signal	10
3.2	experimental setup for ADC measurement	10
3.3	LAWO ADC and preamplifier	11
3.4	LAWO ADC and preamplifier detailed view	11
3.5	dynamic range of channel AR21	11
3.6	dynamic range of high quality channel AR5	12
A.1	frequency responses of different DACs (high resolution)	14
A.2	detailed frequency responses of different DACs (high resolution)	14
A.3	dynamic ranges of different DACs (high resolution)	14
A.4	FFT of line24 signal (high resolution)	15
A.5	LAWO ADC and preamplifier (high resolution)	15
A.6	LAWO ADC and preamplifier detailed view (high resolution)	15
A.7	dynamic range of channel AR21 (high resolution)	15
	dynamic range of high quality channel AR5 (high resolution)	

Chapter 1

Messung der Nachhallzeit

- 1.1 Messung im Aufnahmeraum AR
- 1.1.1 Messung mittels Methode des abgeschalteten Rauschens
- 1.1.2 Impulsmessung
- 1.2 Messung im Hrsaal i2
- 1.2.1 Impulsmessung