

To the University of Wyoming:

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**AN OBFUSCATED ANALYSIS AND EXPOSITION
OF REALLY COOL THINGS THAT I
UNDERSTAND AND YOU DO NOT**

by

Iman A. Student, B.S.E.E.

A thesis submitted to the
Department of Electrical and Computer Engineering
and the
University of Wyoming
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE
in
ELECTRICAL ENGINEERING

Laramie, Wyoming
May 2010

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by

Iman A. Student

I dedicate this to my parents, who had the good fortune to have me in their lives, and to my dog Spot who helped proof-read this document...

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Acknowledgments

This is where you write any paragraphs you want to show up on the Acknowledgments page. Traditionally, you use this space to thank your committee members for their help, any funding sources such as an NSF grant that helped you, and so on. This section is up to you (no page or word limit, but exercise restraint) as long as it is written in a professional manner. Be careful you don't end up with a messy page break, such as when the automatic insertion of your name, the university name, and the month and date at the end of this environment is the only thing that shows up on the next page. Write more or less text here to fix it!

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IMAN A. STUDENT

University of Wyoming

May 2010

Chapter 1

Introduction

1.1 The Need for This Research

There are many good reference sources to help you make the most out of using L^AT_EX, both on the Internet and as books. There is also a huge worldwide group of users who willingly share their expertise as needed. Take a look at the web page for the T_EX Users Group (TUG) at www.tug.org.

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1.2 Previous Research

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Chapter 2

Theoretical Background

2.1 My First Section

This first work theoretical in this area was performed by Golomb [1]. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such.

2.1.1 A Subsection

Bringing this work to practical fruition has been attributed to Dixon [2]. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such.

2.1.2 Another Subsection

Let's try out an equation. The expression for a double-sideband (with carrier) AM signal is

$$s_{\text{AM}}(t) = A_c[1 + m(t)] \cos(\omega_c t) \quad (2.1)$$

where A_c is the amplitude of the carrier, $m(t)$ is the message signal (with amplitude always ≤ 1 to prevent overmodulation), and ω_c is the carrier frequency expressed in radians/sec [3]. In order to recover the message signal from (2.1), it is necessary to extract the envelope of

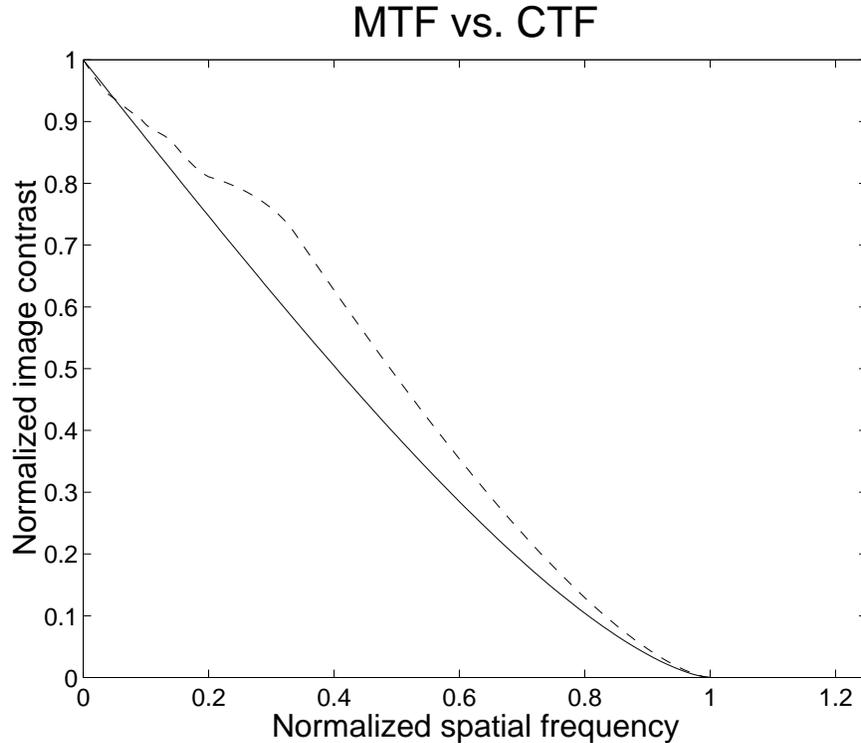


Figure 2.1: A comparison of the modulation transfer function and the contrast transfer function.

the signal $A_c[1 + m(t)]$. Once the envelope is obtained, the DC component can be removed with a DC blocking filter, leaving $A_c m(t)$, which is a scaled version of the original message signal. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such. This is meaningless text used only to test the margins and such.

2.2 My Second Section

Let's see how a floating figure is formatted. As we see in Figure 2.1, the optical measures of MTF and CTF are not equal [4]. Note that for a figure environment, the caption comes *after* the definition of the figure itself.

How about listings of computer programs? The main program (`main.c`) is very basic, as shown below. Note that unless your advisor objects, program listings should be single-

spaced, which can be controlled with the `\spacing` command as shown. If you have longer and/or many program listings, it's usually better to place them in an appendix.

Listing 2.1: Main program for simple frame-based processing using ISRs.

```
1 #include "..\Common_Code\DSK_Config.h"
  #include "frames.h"
3
  int main() {
5     // initialize all buffers to 0
     ZeroBuffers();
7
     // initialize DSK for selected codec
9     DSK_Init(CodecType, TimerDivider);
11
     // main loop here, process buffer when ready
     while(1) {
13         if(IsBufferReady()) // process buffers in background
             ProcessBuffer();
15     }
}
```

Wasn't that a nice program?

How about some MATLAB code? Note you have to specify the language since MATLAB wasn't the default language in the "listings" setup.

Listing 2.2: Simple MATLAB FIR filter example.

```
% This m-file is used to convolve x[n] and B[n]
2 %
  % Assumes that both x[n] and B[n] start at n = 0
4 %
  % written by Dr. Thad B. Welch, PE {t.b.welch@ieee.org}
6 % copyright 2001
  % completed on 13 December 2001 revision 1.0
8
  % Simulation inputs
10 x = [1 2 3 0 1 -3 4 1];           % input vector x[n]
     B = [0.25 0.25 0.25 0.25];    % FIR filter coefficients B[n]
12
  % Calculated terms
14 PaddedX = [x zeros(1,length(B)-1)]; % zeros pads x[n] to flush the
     [+ ] filter
     n = 0:(length(x) + length(B) - 2); % plotting index for the
     [+ ] output
```


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Appendix A

Supporting Topics

A.1 My First Section

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A.1.1 A Subsection

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A.1.2 Another Subsection

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Appendix B

Equipment and Setup

B.1 My First Section

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