

DEDICATION

I dedicate this thesis

To my parents.....

And

Family.....

To my

Mutaz

Acknowledgement

At first I thank ALLAH who gives me the power to complete this work.

I am so grateful to Prof. Saad Daoud who supervised this thesis. And also I thank Dr. Mubarak Almahal for his supervision and all his help and fruitful advices. My thanks falls short to his great help and kind guidance. Finally, I thank prof. Nafie AbdAlateef who helps me all the time ,His advice pointed me in the right direction on many occasions, and redirected me when I went astray. I would like to thank him very much for his advice and support.

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Enco transmission via optided voicecal fiber

In this work, the RSA (Rivest, Shamir, Adelman) cipher system was implemented by software. The data in form of speech waveform have been recorded by using a computer microphone. These digital speeches were encrypted, and sent via an optical fiber interface card (Fast Ethernet adapter card) at a bit rate of 100 Mbps to another computer, and then it was decrypted .The encrypted data were transmitted through the optical system using a light emitting diode (LED) with a wavelength of 1310 nm and power of (-14)dBm.

A multimode optical fiber was used as a channel and Positive Intrinsic Negative (PIN) photodiode was used as an optical detector.

The power budgets for distances (3, 10, 15, 20, 25) meters have been calculated by using the experimental results.

In this work, a program was written to support the RSA cipher algorithms.

الخلاصة

التشفير (RSA) هو احد الفروع المهمة في علم التشفير الذي يمكن ان ينفذ بواسطة مواد برامجه و مواد صلبه . في هذا العمل ، نفذ نظام التشفير (RSA) بواسطة مواد برامجه . سجلت البيانات بشكل موجة صوتية باستعمال لاقطة على الحاسوب . شفرت تلك البيانات . ارسل الصوت المشفر عبر كرت (Fast Ethernet) السطح البياني القياسي بمعدل ارسال 100 ميقا بت \ ثانية الى الحاسبة الاخرى، ثم حلت رموز الصوت المشفر .

ارسلت البيانات المشفرة خلال نظام بصري . استعمل الثنائي الباعث للضوء لمصدر ضوئي بقدرة خرج قدرها (-14) dBm بطول موجي 1310 نانو متر . استعمل ليف بصري من نوع متعدد الانماط كوسط ارسال واستعمل PIN ككاشف بصري . حسبت ميزانية القدرة لمسافات (3,10,15,20,25) متراً وذلك بالاستفادة من النتائج العملية .

في هذا العمل ، كتبت برامج لتساعد في توليد خوارزميات التشفير (RSA).

Contents

Dedication	.....	i
Acknowledgement	.....	ii
Abstract (English)	.....	iii
Abstract (Arabic)	.....	iv
Contents	.....	v
List of Tables	.....	ix
List of Figures	.....	x
Chapter 1: Introduction and basic concepts	.....	1

1-1 Introduction	2
1-2 Light sources	5
1-3 laser Diode	6
1-4 Optical fiber	9
1-4-1 Optical fiber types	10
1-4-1-1 Single-Mode step index	10
1-4-1-2 Multimode step index	10
1-4-1-3 Multimode graded index	11
1-5 Fiber losses	11
1-5-1 Dispersion	13
1-6 Optical detector	13
1-7 Optical fiber termination	14
1-7-1 FC connectors	15
1-7-2 SC connectors	16
1-7-3 ST connectors	16
1-7-4 LC connectors	16
1-7-5 MT-RJ connectors	17
1-7-6 MTP/MPO connectors	17
1-8 Optical power link budget	17
1-9 Audio (voice)	18

1-9-1 Audio sampling	19
1-9-2 Audio quantizing	19
1-9-3 Digital audio compression techniques	20
1-10 Cryptography	20
1-10-1 Classical Cryptography	23
1-10-2 Restricted ciphers	24
1-10-3 Key-Based ciphers	24
1-10-3-1 RSA cipher	26
1-11 Aim of the work	27
Chapter 2: Experimental part	28
2-1 Introduction	29
2-2 Design and implementation of optical communication	
System	31
2-3 The experimental setup	31
2-3-1 Transmitter	33
2-3-2 Receiver	34
2-3-3 Optical fiber link	35
2-3-4 Optical fiber connector	35
2-4 Plaintext	35
2-5 RSA Algorithms	36

2-6 WAV file format	.....	39
2-7 Software application	.....	40
2-8 Program input	.....	42
2-9 Program functionality	.....	42
2-10 Program breakdown	.....	42
2-11 Program out put	.....	43
2-12 Experimental procedures	.....	43
Chapter 3: Results and discussion	.....	45
3-1 Introduction	.....	46
3-2 Power budget	.....	46
3-3 Software development	.....	53
3-4 Conclusion	.....	53
3-5 Suggestions for future work	.....	54
References	.....	55
Appendix1	.....	57
Appendix 2	.....	63

List of Tables

Table 1.1: Comparison between LED and ILD	6
Table 1.2: Comparison of optical detectors.	14
Table 2.1: TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS	33
Table 2.2: RECEIVER ELECTRO-OPTICAL CHARACTERISTICS	34
Table 3.1: Shows the experimental results	47
Table 3.2 The power budget calculations for (3) meters.	47
Table 3.3 The power budget calculations for (10) meters.	48
Table 3.4 The power budget calculations for (15) meters	48
Table 3.5 The power budget calculations for (20) meters.	49
Table 3.6 The power budget calculations for (25) meters.	49

List of Figures

Fig.1.1: The peak output power of diode laser versus the injected Current.	8
Fig.1.2: LED and laser diode spectral width.	9
Fig.1.3: Single-Mode Step Index fiber.	10
Fig.1.4: Multimode Step Index fiber.	11
Fig.1.5: Multimode Graded Index fiber.	11
Fig.1.6: Fiber loss versus wavelength.	12
Fig.1.7: Optical fiber Connectors.	15
Fig.1.8: The general scheme of cipher system.	22
Fig.1.9: Classification of cipher systems.	26
Fig.2.1: Schematic diagram of the main parts of the used system.	29
Fig.2.2: picture of the main parts in the used system.	30

Fig.2.3: Diagrams of main parts of the Transceiver.	32
Fig.2.4: Diagram of main parts of 155Mbps Multimode Transceiver	32
Fig.2.5: Block diagram of converting the speech to the digital data.	36
Fig.2.6: Block diagram of Sequence of the software application.	41
Fig.3.1: The attenuation against lengths.	50
Fig.3.2: The received power against lengths.	51
Fig.3.3: The received power against safety margin.	52