



IEEE REFERENCE:

Wireless PC to PC secured communication using RF

Kean, T. Duncan, A.

Xilinx Dev. Corp., Edinburgh;

This paper appears in: **FPGAs for Custom Computing Machines, 1998.**

Proceedings. IEEE Symposium on

Publication Date: 15-17 Apr 1998

On page(s): 310-311

Meeting Date: 04/15/1998 - 04/17/1998

Location: Napa Valley, CA, USA

ISSN: 1082-3409

ISBN: 0-8186-8900-5

References Cited: 10

INSPEC Accession Number: 6035012

Digital Object Identifier: 10.1109/FPGA.1998.707930

Current Version Published: 2002-08-06



Title of the project	:	Secured PC-to-PC Communication using RF Communication
Domain	:	Embedded Systems Design
Software	:	Embedded C, Keil, Proload
Microcontroller	:	AT89S52
Power Supply	:	+5V, 500mA Regulated Power Supply
Transmitter Display	:	LED 5mm, 16 X 2 LCD
Receiver Display	:	LED 5mm, 16 X 2 LCD
Input Source	:	Key Pad
Crystal	:	11.0592MHz
Communication Device	:	RF Module
Applications	:	Mobile communication, Wireless Communication
Developed By	:	M/S Wine Yard Technologies
Phone	:	040-65178887, www.WineYardProjects.com



Secured PC-to-PC Communication using RF

Data Security is primary concern for every communication system. There are many ways to provide security data that is being communicated. However, what if the security is assured irrespective of the hackers are from the noise. This Project describes a design of effective security for data communication by designing standard algorithm for encryption and decryption.

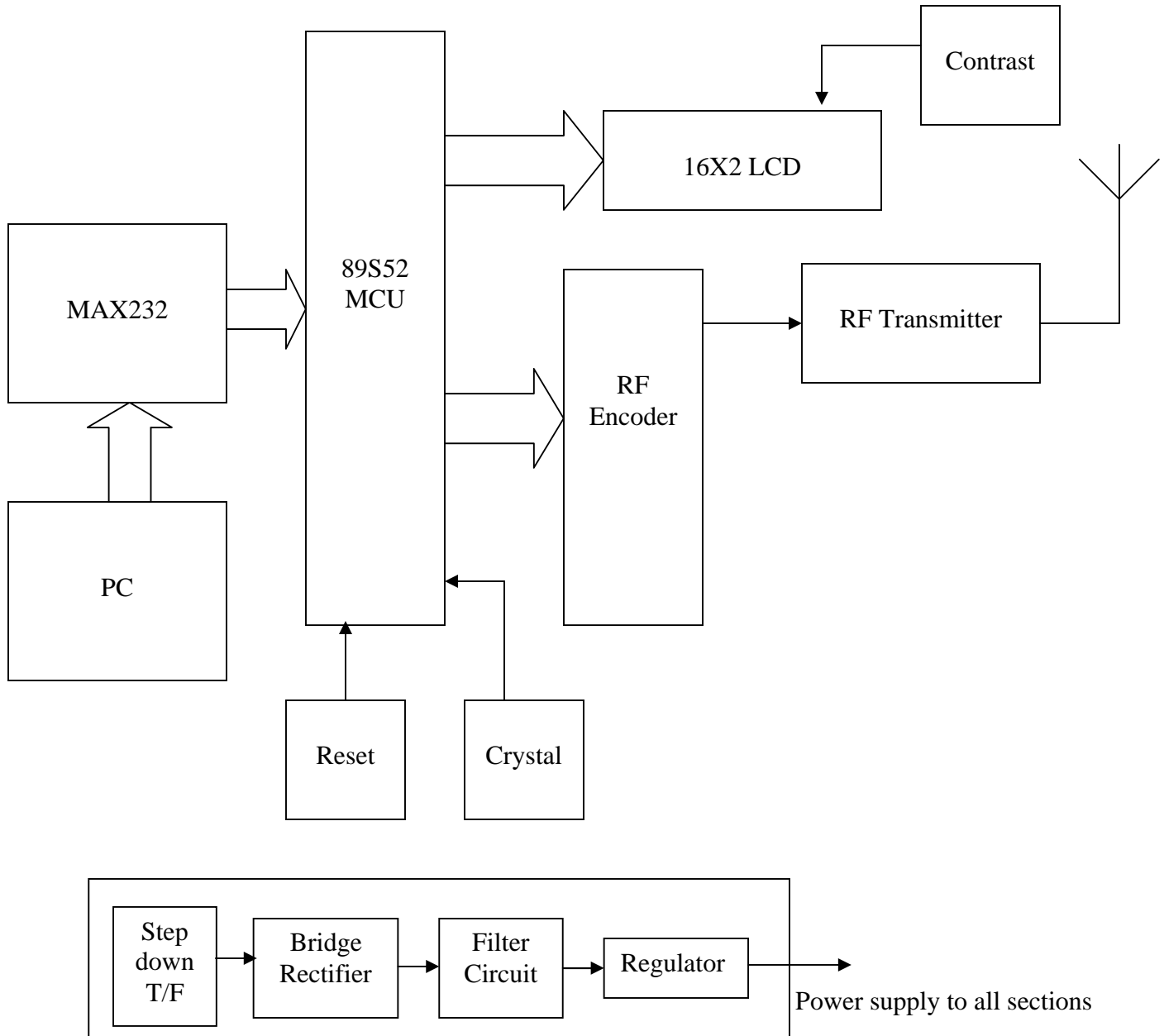
The source information is generated by a key pad and this will be encrypted and is sent to destination through RF communication. The receiving system will check the data and decrypt according to a specific algorithm and displays on the LCD.

The RF modules used here are STT-433 MHz Transmitter, STR-433 MHz Receiver, HT640 RF Encoder and HT648 RF Decoder. RF Transmitter is connected to the different sensors through RF Encoder. This encoder converts the 8-bit data into a single bit and sends it to the transmitter which will be transmitting. The data which is in the air is an analog value. At the receiving end, the receiver receives this analog value on a single data line and passes this data to the decoder. The decoder does the opposite functioning of the encoder i.e., it converts the single bit data into eight bit data and gives it to the microcontroller which does the further processing.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V step down transformer.



Block Diagram: Transmitter – PC to PC communication



Block Diagram: Receiver – PC to PC communication

