



Model FD-383SV Operational Description

This remote control device (Handset) Circuitry consists of three major portions.

One is the Power ON/OFF control.

Second is a Encoder, it provide a 4 data (1111) encodes into a serial coded waveform for RF modulation.

Third is a 320MHz (+/- 5MHz) Frequency generator and modulator.

The frequency signal will radiated sent by the circuit coil L3 and Q1's collector hot line paths for transmission. There are no any exactly antenna to provided for this unit (such as a rod antenna or pigtail wire antennaetc). Also no any Grounding to be provided for this unit. The stray capacitors that between the circuit PC board and the cabinet of the unit, also will passing signals to the ground they are through any objects.

When that portable type remote control handset's ON/OFF key was presses, power will be ON. (Note: The power of the unit is always at the OFF mode if the ON/OFF key is unpressed). A consecutive coded words will carried out by a 320MHZ frequency and transmitted. The Receiver frequency 320MHz were also tuned to catch TX signals, if both data matched for coded words, the decode will be worked, then the lamp will go ON or OFF of the RX unit. Usually taken a one second (or less) time to control and pressing the ON/OFF key and released that was enough. Press once to let the lamp on, and press once again for lamp off..

*Bit rate: 2 data words (one bit waveform consists 2 pulse cycles)

*Chipping rate: (Please see the attached specification)

*Spreading rate: (Please see the attached specification)

A. General Description

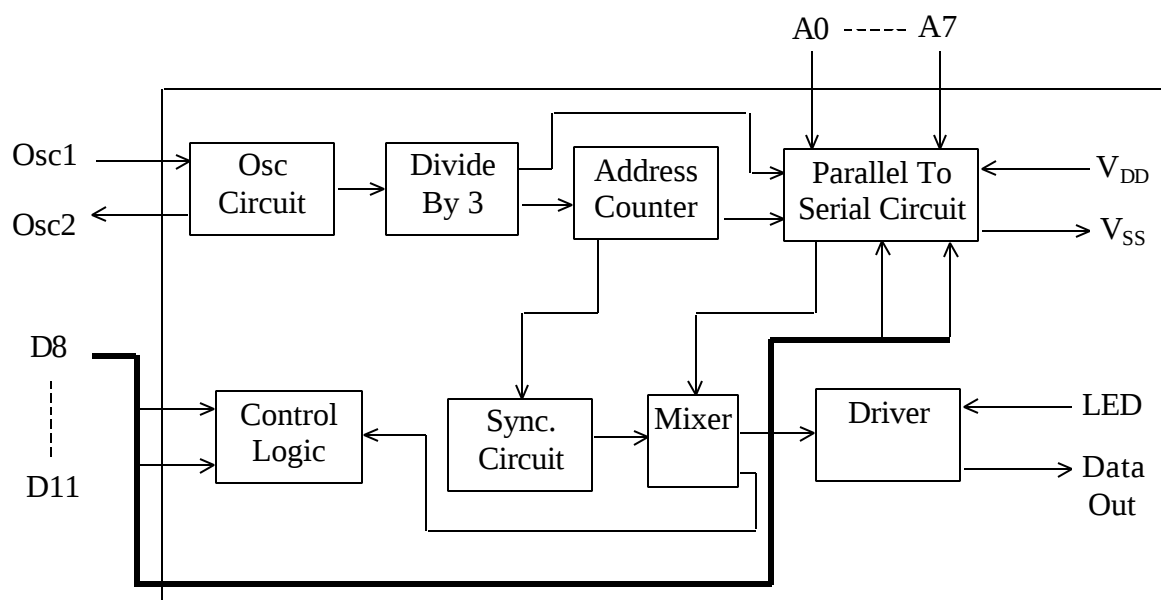
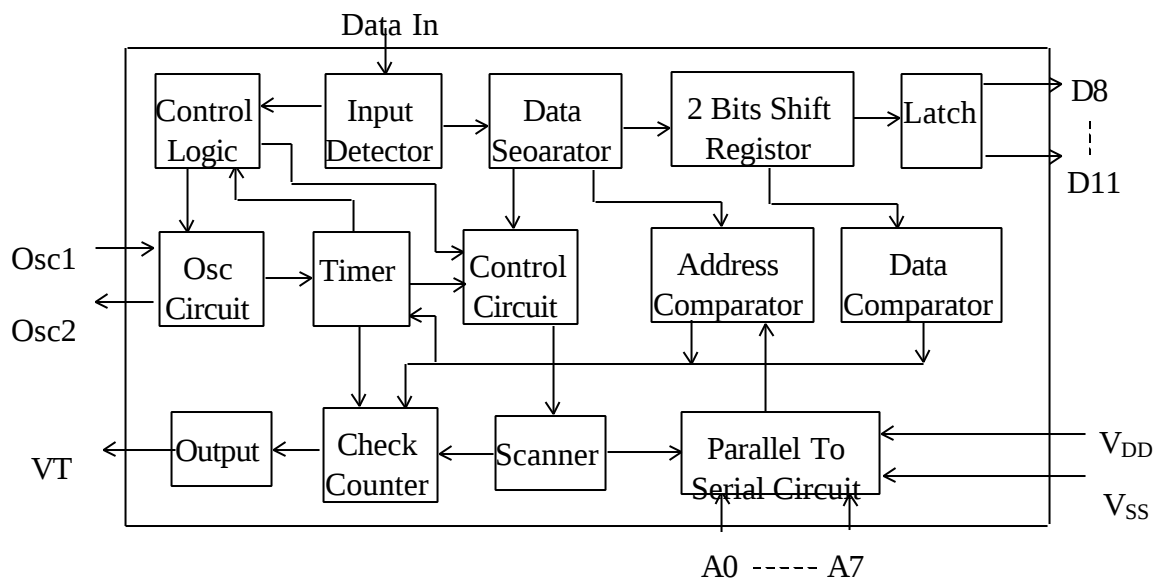
The A5882 / A5883 are the Encoder / Decoder CMOS LSI used in the Remote Control System. The A5882 encodes 12 bits of trinary information (8 address bits, 4 data bits) and serially transmits this information upon receipt of a “LOW” input signal on any one of 4 data pins, a LED indicator will on while data transmission. The A5882 is capable of encoding 3^8 different address code and 4 data code. The A5883 receives the 12 bit word and interprets the first 8 bits as address and the last 4 bits as data. When the encoder sends data with address matching what of the decoder, the Valid Transmission (VT) pin of decoder goes high and the 4 bits data are latched to the data output pins.

B. Features

- Low power, high noise immunity CMOS technology.
- Low stand-by current: 1 μ A typically.
- Wide operating voltage: 2.4V – 12V.
- LED data transmission indicator.
- 3^8 trinary address code, 4 data output.
- Built-in oscillator, only use 5% resistor.
- Two times receive check.
- VT goes high after Valid transmission.
- Easy inerface with RF or Infra-Red transmission media.
- Minimum external component.
- 18 pin plastic dual-in-line package.

C. Applications

- Burglar alarm system.
- Smoke and fire alarm system.
- Garage door controller.
- Car door controller.
- Car alarm system.
- Security system.
- Cordless telephone.
- Other remote control system.

D. Block Diagram• **A5882**• **A5883**

E. Pin Assignment**F. Absolute Maximum Ratings**

Parameter	Symbol	Minimum	Maximum	Unit
Supply Voltage	VDD	-0.3	13	V
Input Voltage	VI	VSS-0.3	VDD+0.3	V
Storage Temp.	Tstg	-50	125	°C
Operating Temp.	Top	0	70	°C

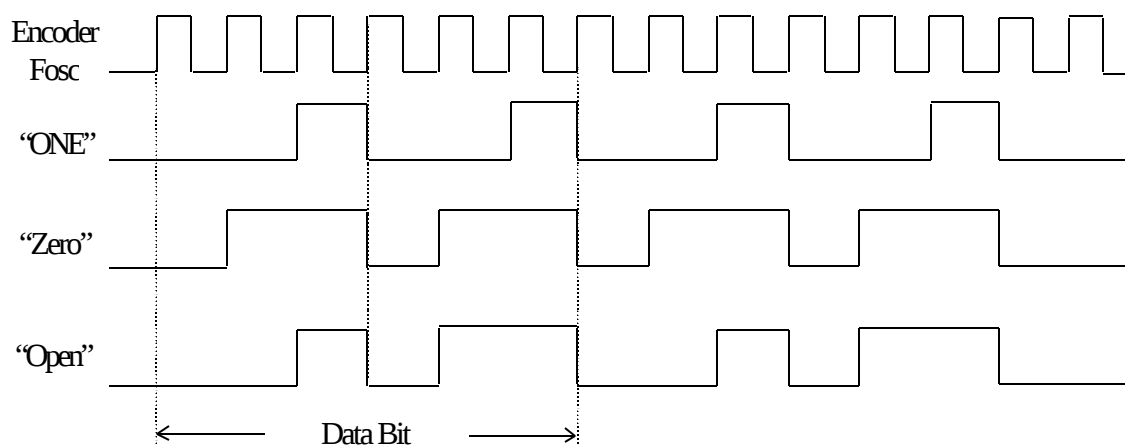
G. Recommended Oscillator Parameters (VDD = 5V - 10V)

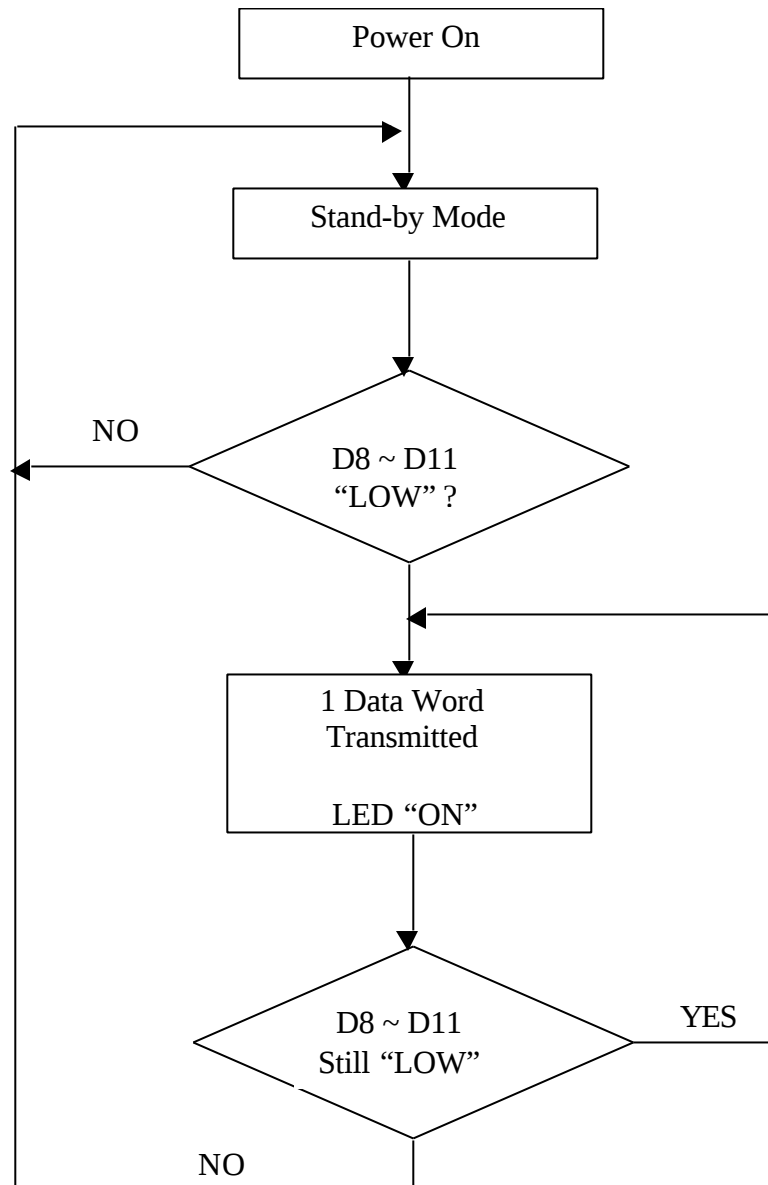
A5882		A5883	
R	Fosc	R	Fosc
1MΩ	3KHz	100KΩ	100KHz

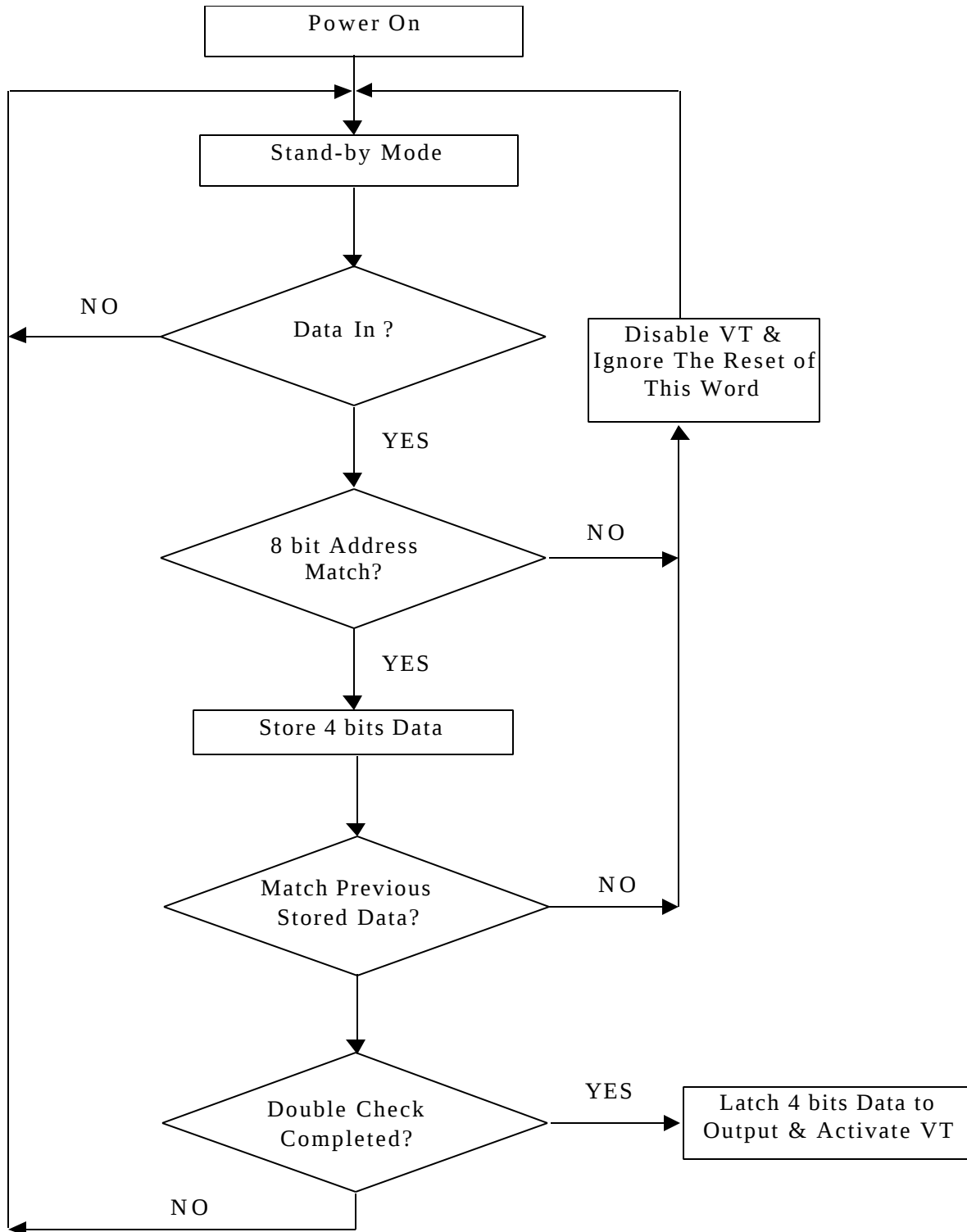
Note: Recommended Fosc (A5883) $\approx$ 33 Fosc (A5882)

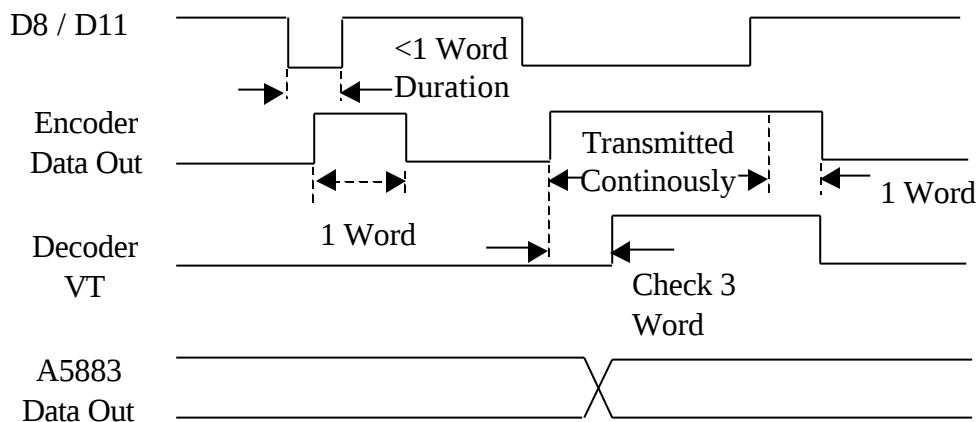
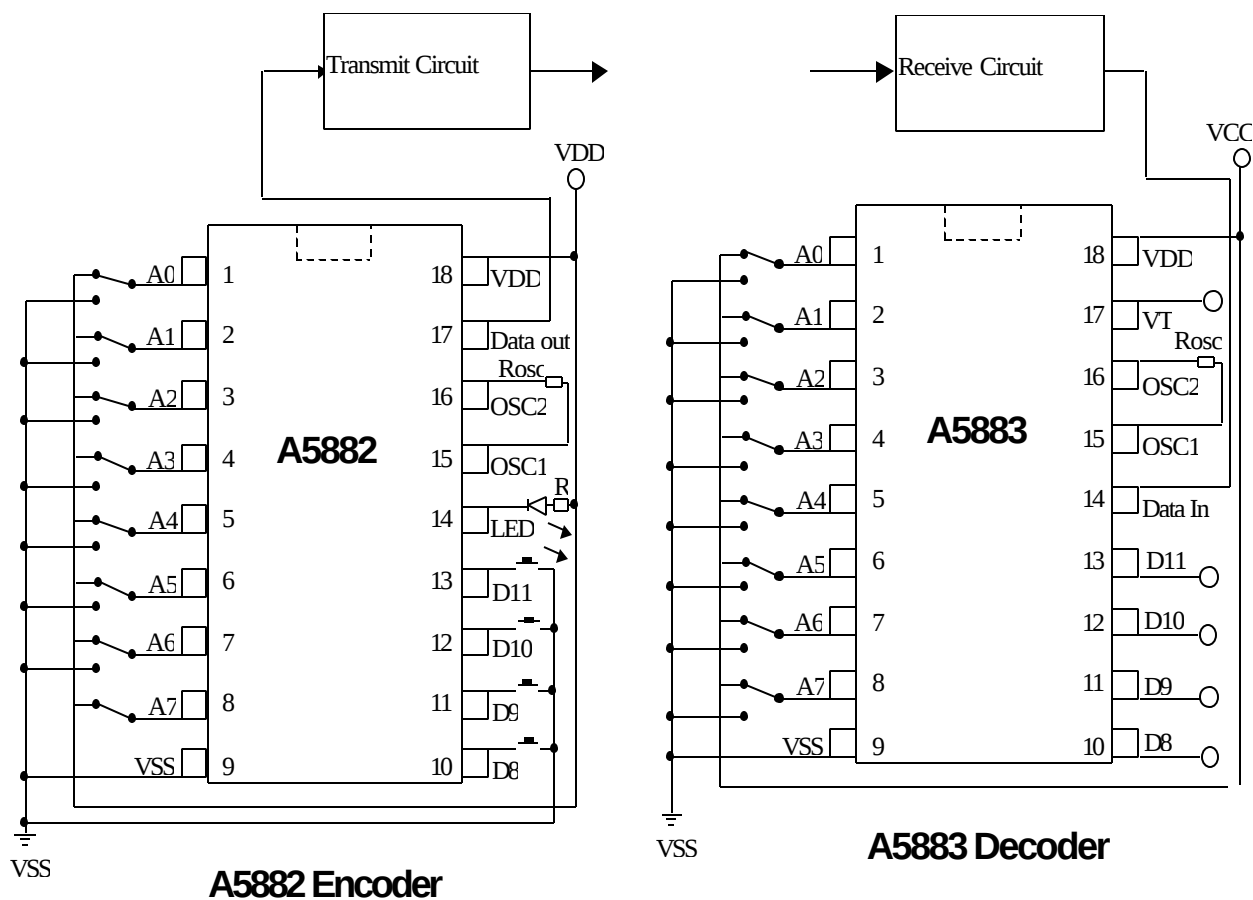
H. Electrical Characteristics (A5882 / A5883)

Characteristics	Symbol	Test Condition		Min.	Typ.	Max.	Unit
		VDD	Condition				
Output Drive Current (Sink or Source)	Io	5	VOH=0.9VDD (Source)	0.6	1.2	-	mA
		10	VOL=0.1VDD (Sink)	2	4	-	
Quiescent Current	IDD	3	Oscillator Stop	-	0.1	1	μA
		5		-	0.1	1	
		10		-	1	2	
		12		-	2	4	
Operating Current (No Load)	Iop	5	Fosc=100KHz	-	250	500	μA
		10		-	500	1000	
Operating Voltage	VDD	-	-	2.4	-	12	V

I. Data Waveform

J. A5882 Encoder Flowchart

K. A5883 Decoder Flowchart

L. Encoder / Decoder Timing Diagram**M. Application Circuit**

$R \approx 100 \sim 300 \Omega$ for $VDD=3V$
 $R \approx 1 K\Omega$ for $VDD=9V$