1) The SRC-350 remote is intended for use with the a set top receiver box. The operation of the remote is as follows:

The SRC-350 will transmit infrared and radio frequency signals to the set top box during the following conditions:
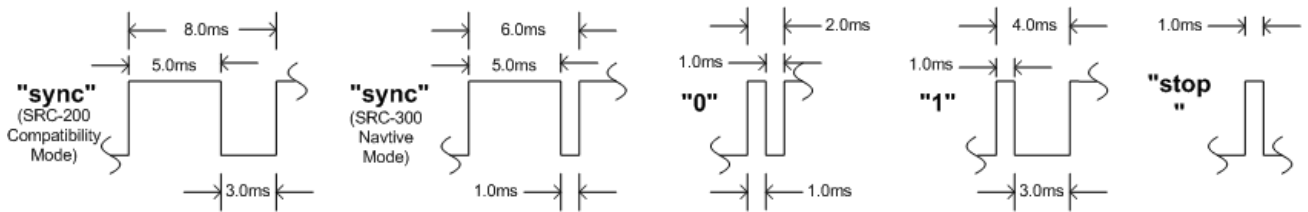
1)	Remote ID programmed in the remote is 0: Transmission is infrared only
2)	Remote ID programmed in the remote is 1, 2, 3: Transmission is RF only
3)	Remote TV functions are transmitted in Infrared only.

The RF transmission is a low-power ASK transmitter designation for UHF band (Amplitude Shift Key). RF method of this remote uses AM. Please see picture #1. This remote use pattern antenna on the pcb itself (no external antenna). This remote is not a Spread Spectrum device and therefore there is no relation with Bit rate, Chipping Rate, Data rate and Spreading rate.
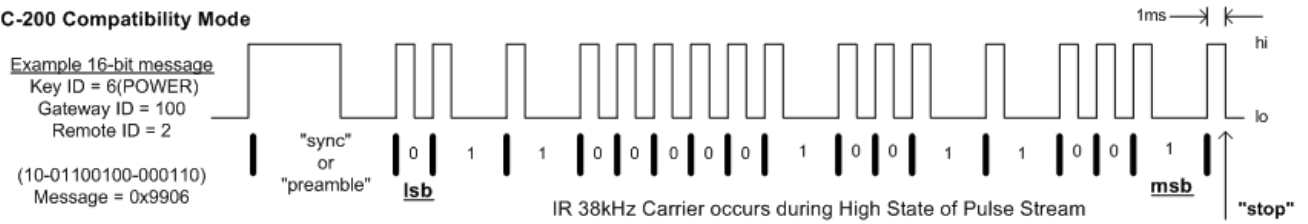
Description of RF block diagram:

1) In stand-by state, P42 (RF line) is High (Logic "1"). In case of a button pressed, Q3 is turned on if P42 $=0$V (Logic= "0").   So, 3V power is supplied to the resonator SAW R670 (433.92 MHz) and Amp Q5 by R18, R20 through Low Pass Filter (L1, C6 and C7). Therefore Q5 can be biased by R18 and R20, to create a wireless pulse in the range of UHF.   The UHF signal is amplified by Q5, C9, R21, and C10 radiating the signal to the antenna through the matching network (L3, C12, C11 and C13) which includes the pattern antenna.
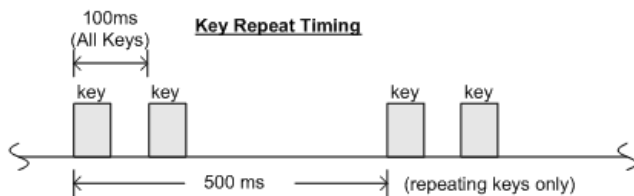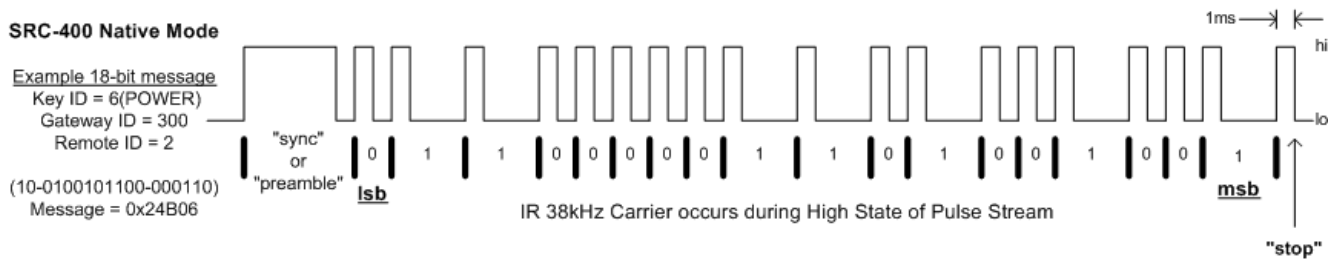
2) In case when P42 is $= 1$V (Logic= "1"), Q3 is turned off. This case does not generate any RF signal.
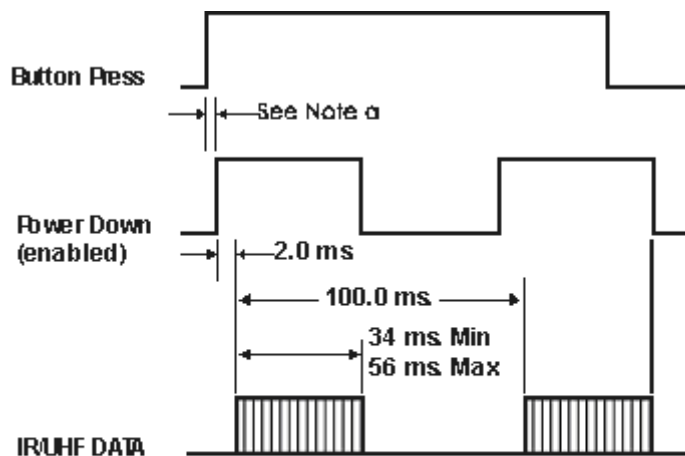
1) Transmit Data Format

"sync"
(SRC-200 Compatibility Mode)
8.0ms
5.0ms
3.0ms

"sync"
(SRC-300 Navtive Mode)
6.0ms
5.0ms
1.0ms

"0"
2.0ms
1.0ms
1.0ms

"1"
4.0ms
1.0ms
3.0ms

"stop"
1.0ms

SRC-200 Compatibility Mode

1ms
hi
lo

Example 16-bit message
Key ID = 6(POWER)
Gateway ID = 100
Remote ID = 2

(10-01100100-000110)
Message = 0x9906

"sync" or "preamble"

0 1 1 0 0 0 0 0 1 0 0 1 1 1 0 0 1
lsb   msb

IR 38kHz Carrier occurs during High State of Pulse Stream

"stop"

SRC-400 Native Mode

1ms
hi
lo

Example 18-bit message
Key ID = 6(POWER)
Gateway ID = 300
Remote ID = 2

(10-0100101100-000110)
Message = 0x24B06

"sync" or "preamble"

0 1 1 0 0 0 0 0 1 1 0 1 0 0 1 0 0 1
lsb   msb

IR 38kHz Carrier occurs during High State of Pulse Stream

"stop"

100ms (All Keys) **Key Repeat Timing**

key key   key key

500 ms (repeating keys only)

chopped pulse. IR only. 38 kHz; ratio 1:2
8.77 us
26.3 us

2) Interval of Frame

Button Press

See Note a

Power Down (enabled)

2.0 ms
100.0 ms
34 ms Min
56 ms Max

IR/UHF DATA

NOTES:
a. This should be small as possible.

At the above figures

1. BIT Rate: Max.500 bps (bit per second)

2. Data length of one frame: 12bit (3Byte)

3. Transmitting time of one frame data: 34mS~56mS