CELADON

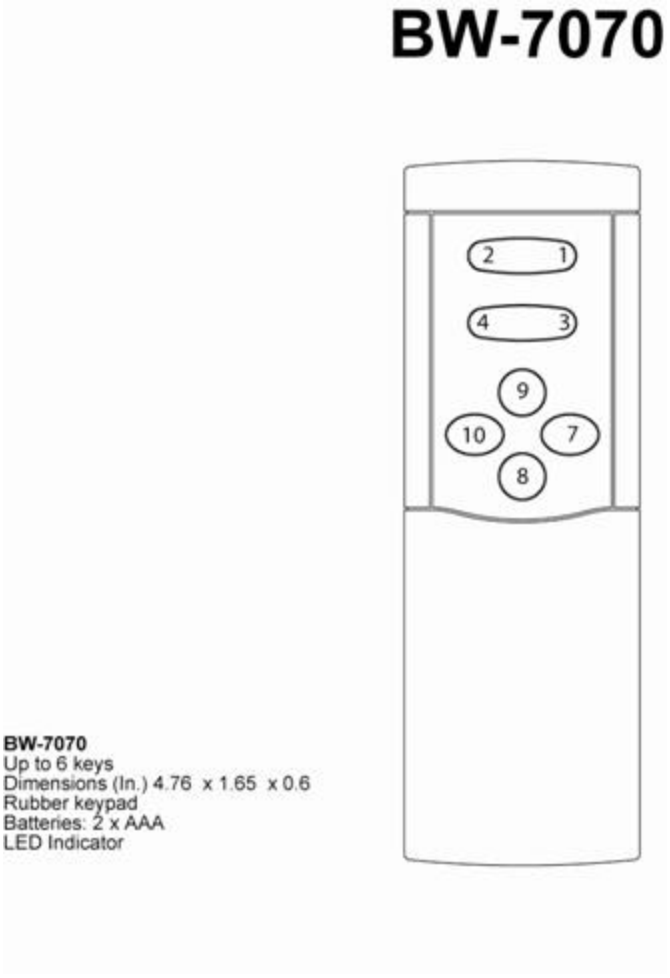
STANDARD CODE 7A – BW7070 Low Volume Remote Control

IC NO. :

Protocol: Custom IR Protocol
Custom Code: 56h

Custom Code:	C0	C1	C2	C3	C4	C5	C6	C7
BIN CODE:	0	1	0	1	0	1	1	0
HEX CODE:	5				6			

Key No.	Hex	Function	Data					
			D0	D1	D2	D3	D4	D5
1	2F		1	1	1	1	0	1
2	1F		1	1	1	1	1	0
3	37		1	1	1	0	1	1
4	F		1	1	1	1	0	0
7	28		0	0	0	1	0	1
8	3F		1	1	1	1	1	1
9	17		1	1	1	0	1	0
10	30		0	0	0	0	1	1



BW-7070
Up to 6 keys
Dimensions (In.) 4.76 x 1.65 x 0.6
Rubber keypad
Batteries: 2 x AAA
LED Indicator

BW7070 Protocol Definition

The structure of Celadon code is very simple and is very easy to implement by both hardware and software. This protocol can support up to 16,384unique commands – 256 system addresses with 64 commands per system. By assigning each device a unique system address, the Celadon code can allow a single remote control unit, with relatively few keys, to control an individual component or an entire integrated system.

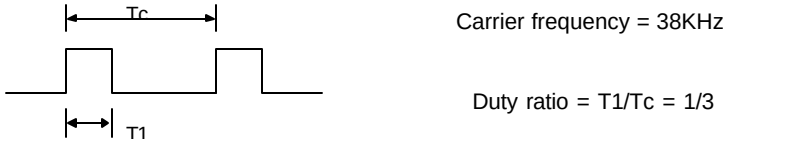
Code Format

The Celadon code is specially designed to reduce the time of implementing the hardware/software systems. As shown in Figure 2, the Celadon code consists of a *Leader* pulse, which gives the first identification of the code and provides synchronization of data bits. This is very useful when sleep-mode provided by the decoder is used to save system power. Following the Leader pulse is the *Custom Code* bits (C7, C6, … C0), where C7 is the Most Significant Bit (MSB). There are a total of 8 *Custom Code* bits. The next 6 bits is the *Data Code* (D5, D4, … D0). Two very useful additional features are provided by the next two bits. The first is the *Toggle* bit. This bit changes state, or toggles, after each key release. This can be used to identify the initiation of a new transmission. Finally, code integrity is provided with the easy to implement *Parity* bit. In most cases, odd parity is used. The *Stop* pulse terminates the *Parity* bit.

A complete code consists of 8 *Custom Code* bits, 6 *Data* bits, 1 *Toggle* Bit, and 1 *Stop* bit for a total of 16 bits of data (8+6+1+1). There is a gap between codes and then the entire sequence repeats again. (see Figure 1)

The data bit format is documented in Figure 3. The data bits use a PWM (Pulse Width Modulated) scheme. Each data bits starts with a pulse of 1.16 ms. The value of the data bit is determined by the width of the gap between pulses. A short gap (1.125ms) represents a zero (0) bit. A long gap (2.875ms) represents a one (1) bit.

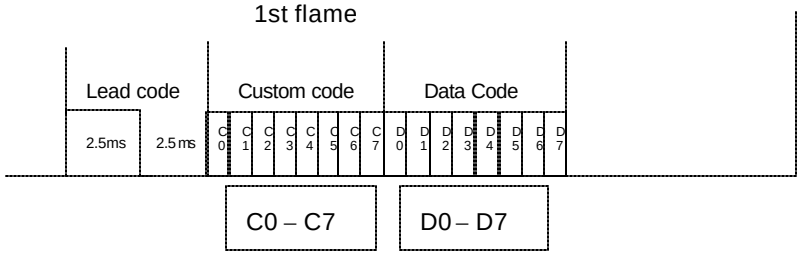
BW7070 Waveform Data



Carrier frequency = 38KHz

Duty ratio = T1/Tc = 1/3

- Configuration of Flame



- Bit Description