

**Answer:** This scanner uses 16 switches set to either 1 or 0 to program the frequency. Here is the formula, with an example to work with:  
Take the display and divide it into groups of 4 bits each:

01 02 03 04	05 06 07 08	09 10 11 12	13 14 15 16
1	2	3	4

Group 1 is as follows:

Band	MHz	1	2	3	X
VHF Lo	30-50	0	0	0	0
VHF Hi	150-172	0	0	1	120
UHF LO	450-470	0	1	0	420
UHF Mid	470-490	0	1	1	440.0025
UHF Hi	490-512	1	0	0	460.0025

Bits 1, 2, and 3 are from the column 1, 2, and 3 above. To find bit 4, do the following:

$$(Freq - X + 10.7) / 12.8$$

The answer is between 3 and 5. If the answer is 4 or greater, then bit 4=0. If the answer is less than 4, bit 4=1.

Subtract either 3 or 4 from the number to leave a positive number 0 and less than 1. Multiply by 16. Enter the whole part of the number as HEX in group 2 above.  
Subtract the whole number to leave a value again greater than 0 and less than 1. Multiply by 16 again. Enter the whole part of the number as HEX in group 3 above.  
Subtract the whole number to leave a value again greater than 0 and less than 1. Multiply by 10 this time. Enter the whole part of the number as HEX in group 4 above.

**Example:** 40.125 MHz

The 1 2 3 bits = 0 0 0  
000x xxxx xxxx xxxx

The formula yields 3.9707031, making bit 4 = 1  
0001 xxxx xxxx xxxx

Subtract 3 from 3.9707031, yielding 0.9707031

Multiply 0.9707031 by 16, yielding 15.53125, and making group 2 = 15 (1111)  
0001 1111 xxxx xxxx

Subtract 15 from 15.53125, yielding 0.53125

Multiply 0.53125 by 16, yielding 8.5, making group 3 = 8 (1000)  
0001 1111 1000 xxxx

Subtract 8 from 8.5, yielding 0.5

Multiply 0.5 by 10, yielding 5, and making group 4 = 5 (0101)

The coding for 40.125 MHz is 0001 1111 1000 0101.