Keil uVision 4 Settings for Programming Firmware to DEVRAM or OTP

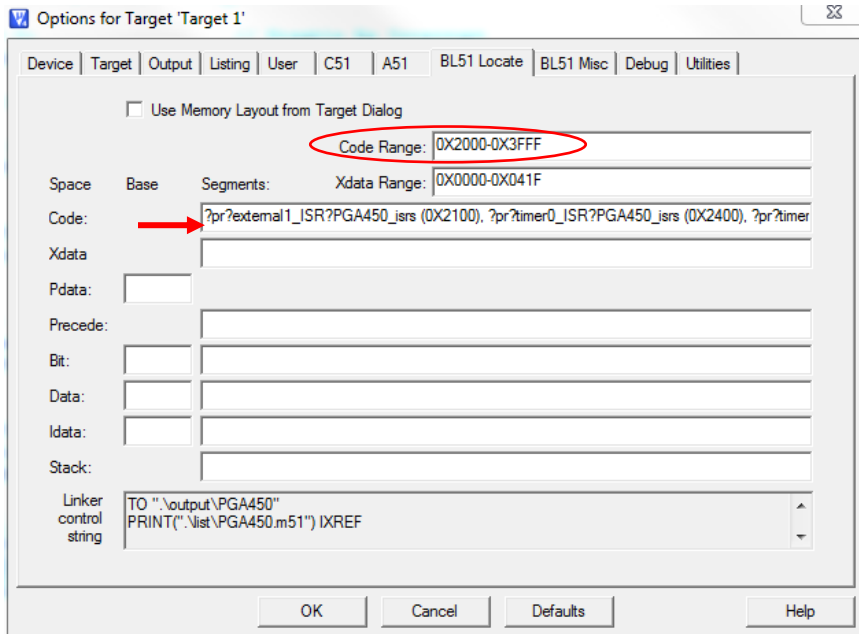

Figure 1: DEVRAM Target Options
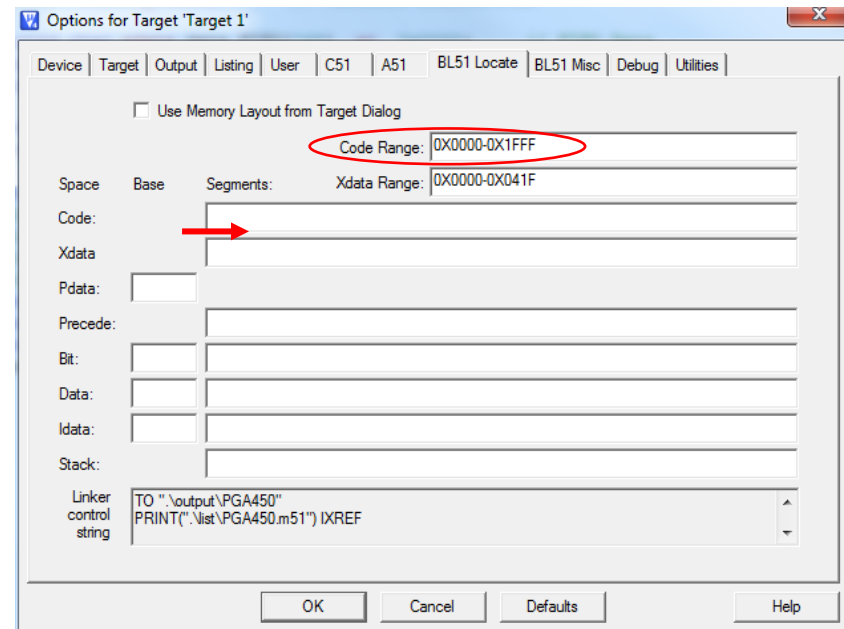

Figure 2: OTP Target Options

To program to DEVRAM:	**To Program to OTP**:

1. Change the code range to the DEVRAM memory space
   a. Right click on "Target 1" in the Project Window, and select "Options for Target".
   b. Go to the "BL51 Locate" tab, and modify the Code Range to go from 0x2000-0x3FFF.
2. Copy the following to the "Code" box:
 	
?pr?external1_ISR?PGA450_isrs (0X2100), ?pr?timer0_ISR?PGA450_isrs (0X2400), ?pr?timer1_ISR?PGA450_isrs (0X2800), ?pr?serial_ISR?PGA450_isrs (0X2C00), ?pr?linPID_ISR?PGA450_isrs (0X3000), ?pr?linSciRxData_ISR?PGA450_isrs (0X3400), ?pr?linSciTxData_ISR?PGA450_isrs (0X3800), ?pr?external0_ISR?PGA450_isrs (0X3900), ?pr?linSync_ISR?PGA450_isrs (0X3D00)
	1. Change the code range to the OTP memory space
	   a. Right click on "Target 1" in the Project Window, and select "Options for Target".
	   b. Go to the "BL51 Locate" tab, and modify the Code Range to go from 0x0000-0x1FFF.
	2. Delete everything in the "Code" box.
	3. Comment out the DEVRAM section in STARTUP.A51, and uncomment the OTP section
	   a. An example of this is shown in Figure 4 below.

3. Comment out the OTP section in STARTUP.A51, and uncomment the OTP section
    a. An example of this is shown in Figure 3 below.

```
114  //------------ For DEVRAM program
115
116  ?STACK              SEGMENT    IDATA
117
118                      RSEG     ?STACK
119                      DS       1
120
121                      EXTRN CODE (?C_START)
122                      PUBLIC   ?C_STARTUP
123
124                      CSEG     AT      0
125  ?C_STARTUP:         LJMP     STARTUP1
126
127                      CSEG     AT      0x2000   ; relocate to Development RAM;
128  //------end of DEVRAM program section
129  |
130  //OTP section currently commented out
131  /*
132  //----------- For OTP program
133  ?C_C51STARTUP   SEGMENT    CODE
134  ?STACK          SEGMENT    IDATA
135
136                      RSEG     ?STACK
137                      DS       1
138
139                      EXTRN CODE (?C_START)
140                      PUBLIC   ?C_STARTUP
141
142                      CSEG     AT      0
143  ?C_STARTUP:         LJMP     STARTUP1
144
145                      RSEG     ?C_C51STARTUP
146
147  //--------end of OTP program section
148  */
149
```

Figure 3: DEVRAM STARTUP.A51 example

```
115  //DEVRAM section currently commented out
116  /*
117  //-------------- For DEVRAM program
118
119  ?STACK              SEGMENT    IDATA
120
121                      RSEG     ?STACK
122                      DS       1
123
124                      EXTRN CODE (?C_START)
125                      PUBLIC   ?C_STARTUP|
126
127                      CSEG     AT      0
128  ?C_STARTUP:         LJMP     STARTUP1
129
130                      CSEG     AT      0x2000   ; relocate to Development RAM;
131  //---------end of DEVRAM program section
132  */
133
134  //-------------- For OTP program
135  ?C_C51STARTUP   SEGMENT    CODE
136  ?STACK          SEGMENT    IDATA
137
138                      RSEG     ?STACK
139                      DS       1
140
141                      EXTRN CODE (?C_START)
142                      PUBLIC   ?C_STARTUP
143
144                      CSEG     AT      0
145  ?C_STARTUP:         LJMP     STARTUP1
146
147                      RSEG     ?C_C51STARTUP
148
149  //----------end of OTP program section
150
```

Figure 4: OTP STARTUP.A51 example