This is a simple schematic and program for taking an Arduino microprocessor and Big Easy Drive and manually running a step motor from a two button interface; CW and CCW (schematic shows the RadioShack DPDT toggle switch I used). An RGB LED was also used to indicate power applied and when the button was activated.

Both the Easy Drive and Big Easy Drive have current limits so if you run a motor with windings rated less than the current draw at 12V, and you can provide torque needed at the current limit, you can do it.

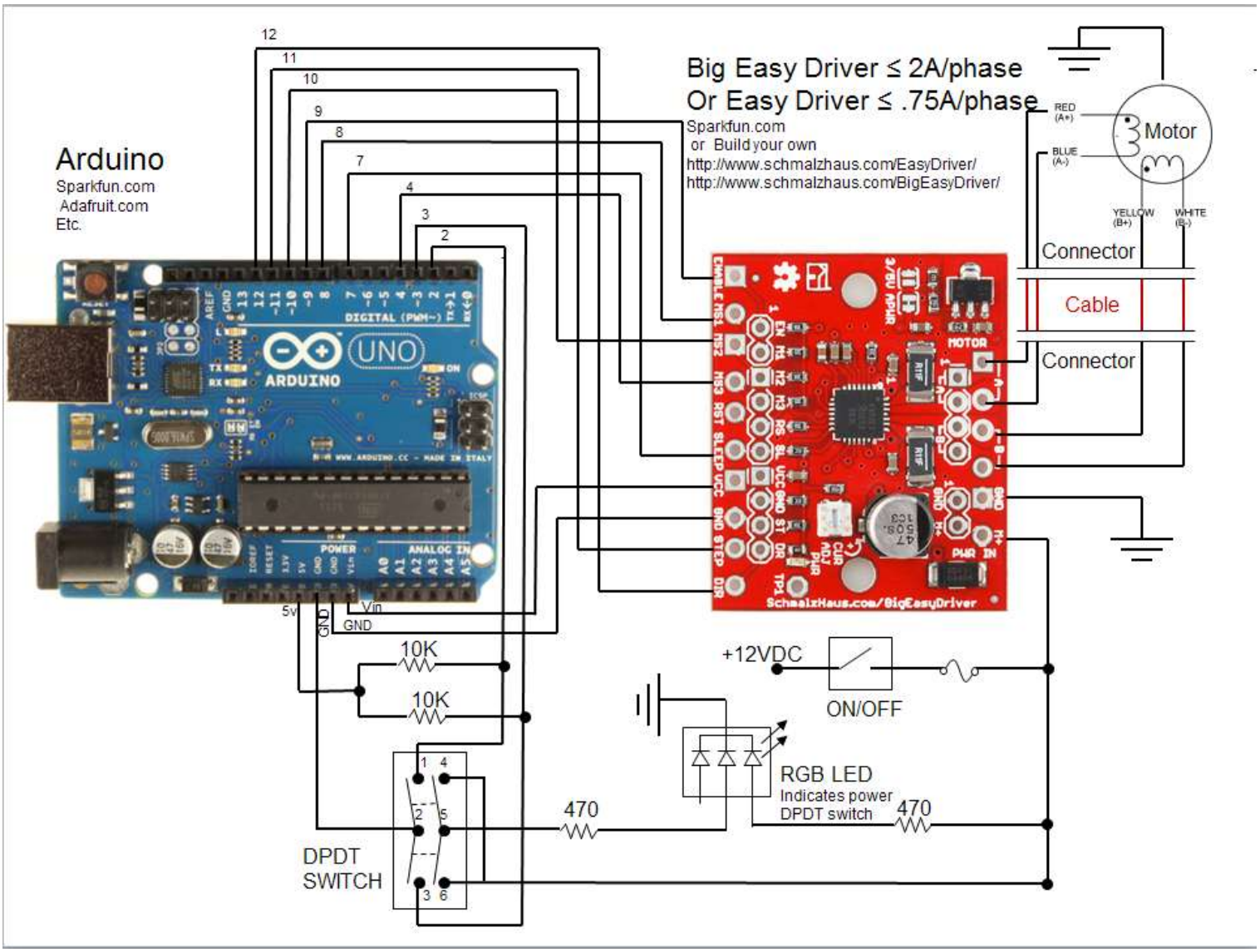
The program was originally offered on www.currentamps.com for the Easy Drive, but that site seems to be down. It was originally modified from www.mendingthings.com. The program was slightly modified by me to work with the Big Easy Drive. Speed for each button is set by changing the delay in the program. There is a good tutorial at http://danthompsonsblog.blogspot.com/2008/09/easydriver-v31-tutorial.html .

I operate my loop portable style as show below. I manually set the capacitor in a band using an antenna analyzer and then use the motor control to tune in a band. Tuning feedback is done manually with an SWR meter and an AD5X tune button for my IC-7000.

Maybe this will provide a reference or starting point for someone.

Have fun,

K4PP


Arduino
Sparkfun.com
Adafruit.com
Etc.
Big Easy Driver ≤ 2A/phase
Or Easy Driver ≤ .75A/phase
Sparkfun.com
or Build your own
http://www.schmalzhaus.com/EasyDriver/
http://www.schmalzhaus.com/BigEasyDriver/
Motor
RED (A+)
BLUE (A-)
YELLOW (B+)
WHITE (B-)
Connector
Cable
Connector
12
11
10
9
8
7
4
3
2
5v
GND
Vin
GND
10K
10K
+12VDC
ON/OFF
RGB LED
Indicates power
DPDT switch
470
470
DPDT
SWITCH

The program below can be cut and pasted into an Arduino Sketch

```
// Most of this code is from http://www.mendingthings.com/?p=68&cpage=1
//I customized it for my setup and added 2 buttons! www.currentamps.com Keep this section if you use.
const int buttonPin = 2;  //Setting button number 1 to Pin 2
int buttonState = 0;   //Setting button state to off
const int buttonPin2 = 3;  //Setting button number 2 to Pin 3
int buttonState2 = 0;   //Setting button state to off
int dirpin = 12; //the following are the connections from-
int steppin = 11;//the Easy Driver v4.2 and the Arduino
int ms2pin = 10;
int enablepin = 9;
int ms1pin = 8;
int sleeppin = 7;
int ms3pin = 4;
int counter = 0;
int start = 0;//counter counts the steps of motor
void setup() {
pinMode(13, OUTPUT);
pinMode(buttonPin, INPUT); //make button pin
pinMode(buttonPin2, INPUT); //make button pin
pinMode(dirpin, OUTPUT);
pinMode(steppin, OUTPUT);
pinMode(ms2pin, OUTPUT);
pinMode(enablepin, OUTPUT);
pinMode(ms1pin, OUTPUT);
pinMode(ms3pin, OUTPUT);
```

```
pinMode(sleeppin, OUTPUT);
digitalWrite(enablepin, LOW); // enable easy driver
digitalWrite(sleeppin, HIGH); // easy driver operating
digitalWrite(ms1pin, HIGH); // microstepping sixteenth
digitalWrite(ms2pin, HIGH); // microstepping sixteenth
digitalWrite(ms3pin, HIGH); // microstepping sixteenth
}
void loop()
{
buttonState = digitalRead(buttonPin); //code for button 1
if (buttonState == LOW) {
// turn stepper forward
digitalWrite(13, HIGH);
start = 0;
digitalWrite(dirpin, HIGH); // Set the direction pin to move forward
delay(10); //Give it some time
for (counter; start != 1; counter++) // Step Forward 1 until button is unpressed
{
buttonState = digitalRead(buttonPin);
if (buttonState == HIGH) {
digitalWrite(13, HIGH);
start = 1;
}
digitalWrite(steppin, LOW); // Start out with step pin low
delayMicroseconds(4350); // Delay controls speed and Torque
digitalWrite(steppin, HIGH); // Now switch it high
delayMicroseconds(4350); // Delay controls speed and Torque
}
}
buttonState2 = digitalRead(buttonPin2); //code for button 2
if (buttonState2 == LOW) {
// turn stepper forward
digitalWrite(13, HIGH);
start = 0;
digitalWrite(dirpin, LOW); // Set the direction pin to move forward
delay(10); //Give it some time
for (counter; start != 1; counter++) // Step Forward 1 until button is unpressed
{
buttonState2 = digitalRead(buttonPin2);
if (buttonState2 == HIGH) {
digitalWrite(13, HIGH);
start = 1;
}
digitalWrite(steppin, LOW); // Start out with step pin low
delayMicroseconds(4350); // Delay controls speed and Torque Try 500
digitalWrite(steppin, HIGH); // Now switch it high
delayMicroseconds(4350); // Delay controls speed and Torque Try 500
}
}
}
```