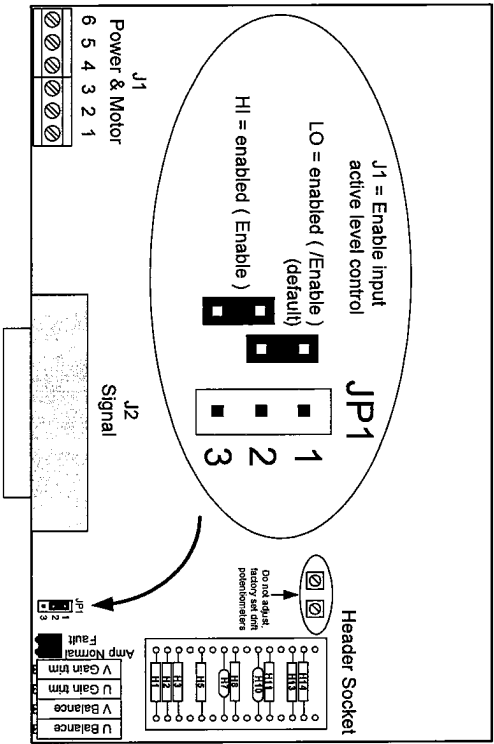


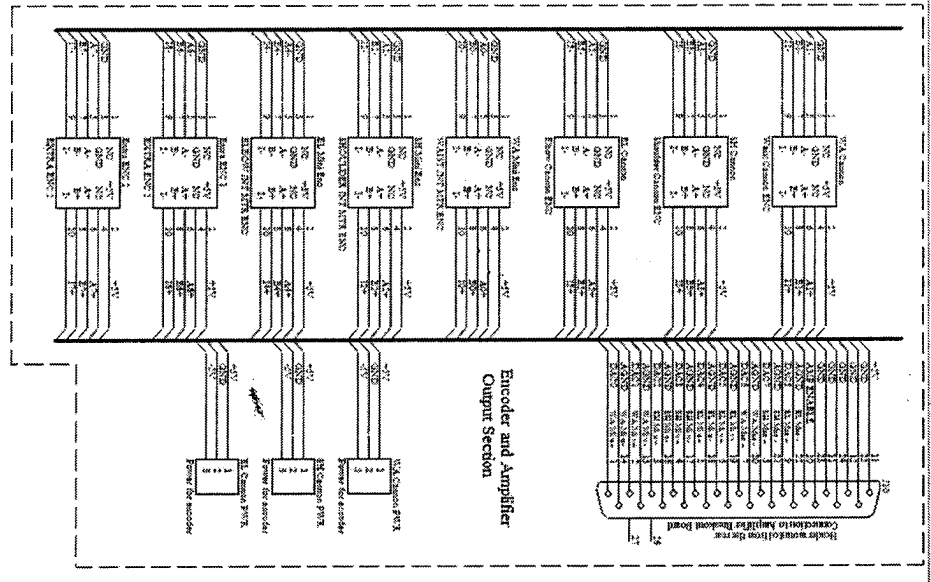
**PC BOARD LAYOUT**



**HEADER SOCKET COMPONENTS**

Part	Value	Remarks
H15	N/A	No function
H14	86.6kΩ	PT Current Limit select
H13	0Ω<short>	PT Threshold Current select
H12	<open>	Ch. V Current Error Amp hi-frequency roll off
H11	30.1kΩ	Ch. V Current Error Amp proportional gain
H10	100nF	Ch. V Current Error Amp integrator
H9	<open>	Ch. U Current Error Amp hi-frequency roll off
H8	30.1kΩ	Ch. U Current Error Amp proportional gain
H7	100nF	Ch. U Current Error Amp integrator
H6	<open>	Ch. V Transconductance Current Limit
H5	75kΩ	Ch. V Transconductance
H4	<open>	Ch. U Continuous Current Limit
H3	75kΩ	Ch. U Transconductance
H2	1.5MΩ	Ch. U Balance Range select
H1	1.5MΩ	Ch. V Balance Range select

Encoder Section Schematics



white -D GND  
black -V -5V

NEW Cannon Hirose Connector Pinout

cannon pin	function
1	A+
2	A-
3	B+
4	B-
5	Z+
6	Z-
7	+5V
8	GND
9	-5V
10	GND
11	GND
12	shield

Canon custom shielded cable

alpha color	function	cannon pin
red	+5V	7
white	-5V	9
black	GND	8
green	shield	12
orange	GND	10
blue	A+	1
brown	A-	2
yellow	B+	3
gray	B-	4
pink	Z+	5
sand	Z-	6

Encoder header @ Custom STG Board

sig pin	ribbon color
PWR1	red
PWR3	cream
PWR2	orange
	cream
	orange
	yellow
	cream
	yellow
	cream
	green

Canon Original Cable ==> Alpha Wire Cable ==> Ribbon Cable ==> IDC10 Header  
Mini encoders + Macro encoders are diffract plug in

Pin	Function	Color
1	A+	blue
2	A-	brown
3	B+	yellow
4	B-	gray
5	Z+	pink
6	Z-	sand
7	+5V	red
8	GND	wire
9	-5V	black
10	GND	
11	GND	
12	SHIELD	green

+5V GND -5V  
OKG Red Yellow

5 orange -> brown  
6 cream -> blue  
7 yellow -> gray  
8 cream -> yellow  
9 green -> sand  
10 cream -> pink

**DB25 connection to amplifier breakout board**

I put all the amplifier (brushless and brushless) signals on the one DB25 connector to reduce cable clutter going out of the custom STG interface board. This however requires the use of an amplifier breakout board but it will be local / close to the amplifiers and thus clutter is minimum.

The DB25 straight PC-mount connector is mounted from the rear and thus the PCB footprint is special as the pin alignment is flipped (mirrored).

Pin #	Amplifier	Function
1	WA JOINT	U (+)
2	WA JOINT	V (+)
3	SH JOINT	U (+)
4	SH JOINT	V (+)
5	EL JOINT	U (+)
6	EL JOINT	V (+)
7	WA SEA	ref (+)
8	SH SEA	ref (+)
9	EL SEA	ref (+)
10	ENABLE	Amplifier enable (LOW = enable)
11	GND	
12	GND	
13	5V	
14	WA JOINT	U (-)
15	WA JOINT	V (-)
16	SH JOINT	U (-)
17	SH JOINT	V (-)
18	EL JOINT	U (-)
19	EL JOINT	V (-)
20	WA SEA	ref (-)
21	SH SEA	ref (-)
22	EL SEA	ref (-)
23	GND	
24	GND	
25	GND	

**Amplifier Breakout Board Wiring Schematics**

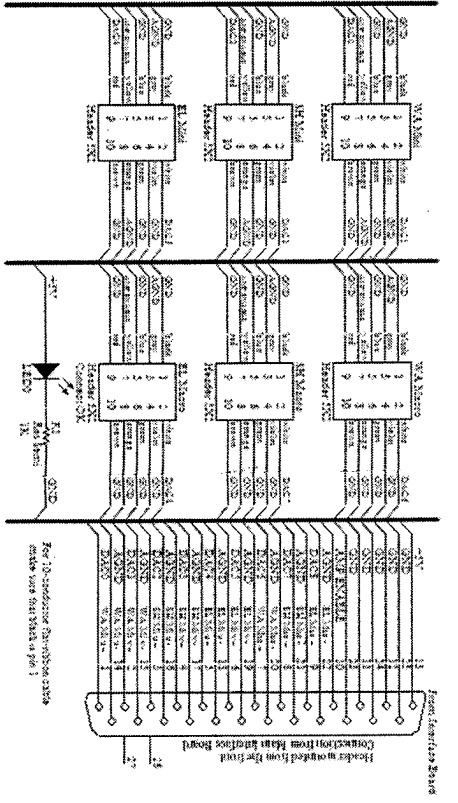
August 7/5 2005

**Mini Connections**

JP Pin#	Description	Color	Amp Header Pin#
1	GND	Black	13 (Signal GND)
2	V(+)	White	3
3	V(-)	Gray	15
4	GND	Violet	12 (GND)
5	GND	Blue	21 (MOTEMP)
6	GND	Green	22 (/RESET)
7	EN	Yellow	5 (EN)
8	U(-)	Orange	14
9	U(+)	Red	2
10	GND	Brown	16 (GND)

JP Pin#	Description	Color	Amp Header Pin#
1	GND	Black	2 (Signal GND)
2	DAC(+)	White	4
3	DAC(-)	Gray	5
4	GND	Violet	
5	GND	Blue	
6	GND	Green	10 (GND)
7	EN	Yellow	11 (EN)
8	GND	Orange	12 (/PROSEN)
9	GND	Red	13 (/NREGEN)
10	GND	Brown	15 (/RESET)



For 70-conductor 25-pin DB25 connector, make sure that shield is pin 3