



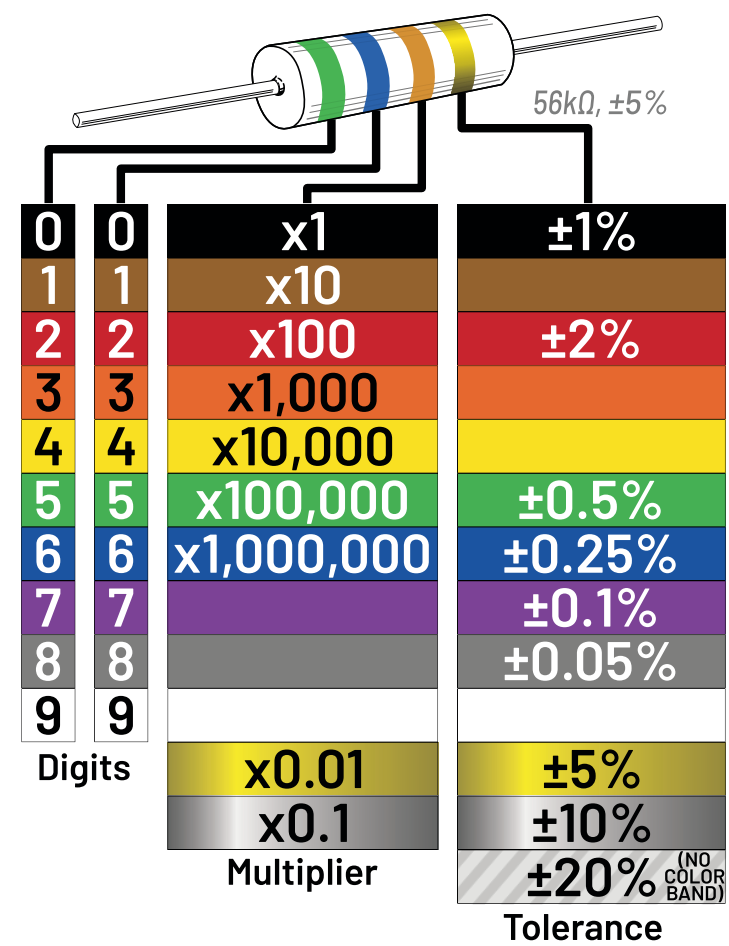
Deluxe Reverb Style

This kit provides all the chassis components to recreate the legendary Blackface AB763 22W amp circuit, celebrated for its crystal-clear clean tone, versatility, and touch-sensitive response. This kit is meticulously designed to match the original specifications, utilizing high-quality components to faithfully replicate the vintage tone and aesthetic, and will offer a rewarding and educational experience for both seasoned builders and those new to the world of tube amplifiers.

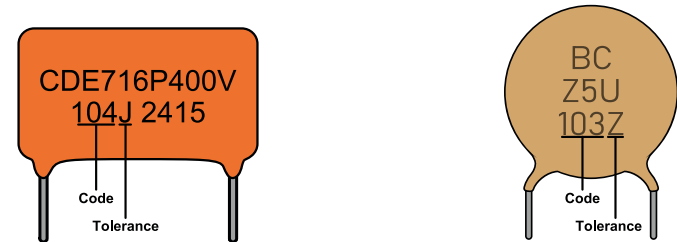
The AB763 22W features a 22W push-pull output, classic tube-driven reverb and tremolo circuits, “sparkling” clean tones, and can accommodate a wide variety of musical and playing styles. It has been an iconic staple of rock music stages and studios for over half a century.



4-BAND RESISTOR COLOR CODE CHART



CAPACITOR CODE CHART



Picofarad pF	Nanofarad nF	Microfarad uF	Code	Picofarad pF	Nanofarad nF	Microfarad uF	Code	Tolerance
10	0.01	0.00001	100	2200	2.2	0.0022	222	E: 0.5%
12	0.012	0.000012	120	3300	3.3	0.0033	332	F: ±1%
15	0.015	0.000015	150	4700	4.7	0.0047	472	G: ±2%
22	0.022	0.000022	220	5600	5.6	0.0056	562	J: ±5%
33	0.033	0.000033	330	6800	6.8	0.0068	682	K: ±10%
47	0.047	0.000047	470	10000	10	0.01	103	M: ±20%
56	0.056	0.000056	560	15000	15	0.015	153	P: +100%, -0%
68	0.068	0.000068	680	22000	22	0.022	223	Z: +80%, -20%
82	0.082	0.000082	820	33000	33	0.033	333	
100	0.1	0.0001	101	47000	47	0.047	473	
120	0.12	0.00012	121	56000	56	0.056	563	
150	0.15	0.00015	151	68000	68	0.068	683	
220	0.22	0.00022	221	100000	100	0.1	104	
330	0.33	0.00033	331	150000	150	0.15	154	
470	0.47	0.00047	471	220000	220	0.22	224	
560	0.56	0.00056	561	330000	330	0.33	334	
680	0.68	0.00068	681	470000	470	0.47	474	
820	0.82	0.00082	821	560000	560	0.56	564	
1000	1	0.001	102	680000	680	0.68	684	
1500	1.5	0.0015	152	1000000	1000	1	105	

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Required Tools

- Adjustable Wrench
- Cutters
- Helping Hands
- Needlenose Pliers
- Phillips Head Screwdrivers
- Ruler
- Solder (No Clean Type)
- Soldering Iron (70W+)
- Multimeter with Standard Probes & Alligator Clip Leads
- Wire Stripper
- Xacto Knife or Similar Cutting Tool
- 8Ω Speaker with Speaker Cable
- Electric Guitar with Instrument Cable

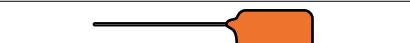
Optional Recommended Tools

- Self-adjusting Wire Stripper
- Strain Relief Pliers
- Socket Drivers
- Desoldering Braid
- Desoldering Pump
- Helping Hands
- Non-Slip Bench Mat
- Speaker Cable Extension

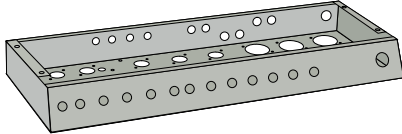
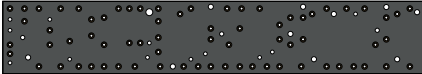
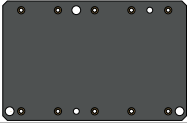
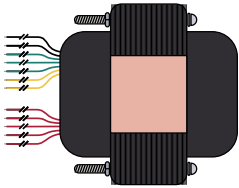
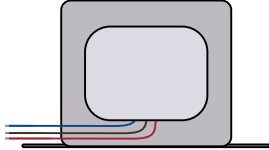
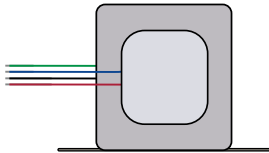
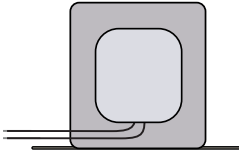
Parts List

	R-PR02-1	Qty 2	1Ω 2W Metal Film Resistor
	R-PR02-47	Qty 1	47Ω 2W Metal Film Resistor
	R-PR02-100	Qty 2	100Ω 2W Metal Film Resistor
	R-PR02-470	Qty 1	470Ω 2W Metal Film Resistor
	R-PR02-820	Qty 3	820Ω 2W Metal Film Resistor
	R-PR02-1D5K	Qty 4	1.5kΩ 2W Metal Film Resistor
	R-PR02-2D2K	Qty 1	2.2kΩ 2W Metal Film Resistor
	R-PR02-2D7K	Qty 1	2.7kΩ 2W Metal Film Resistor
	R-PR02-6D8K	Qty 2	6.8kΩ 2W Metal Film Resistor
	R-PR02-10K	Qty 1	10kΩ 2W Metal Film Resistor
	R-PR02-22K	Qty 1	22kΩ 2W Metal Film Resistor
	R-PR02-68K	Qty 4	68kΩ 2W Metal Film Resistor
	R-PR02-82K	Qty 1	82kΩ 2W Metal Film Resistor
	R-PR02-100K	Qty 12	100kΩ 2W Metal Film Resistor
	R-PR02-220K	Qty 7	220kΩ 2W Metal Film Resistor
	R-PR02-470K	Qty 1	470kΩ 2W Metal Film Resistor
	R-PR02-1M	Qty 7	1MΩ 2W Metal Film Resistor
	R-J2D2M	Qty 1	2.2MΩ 1/2W Carbon Comp Resistor
	R-J3D3M	Qty 1	3.3MΩ 1/2W Carbon Comp Resistor
	R-A10M	Qty 1	10MΩ 1/2W Carbon Film Resistor
	R-PR03-470	Qty 3	470Ω 3W Metal Film Resistor
	R-PR03-10K	Qty 2	10kΩ 3W Metal Film Resistor

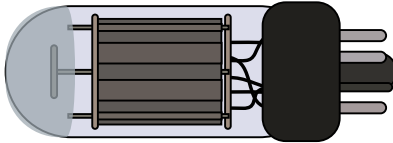
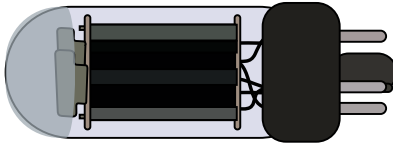
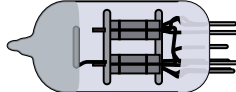
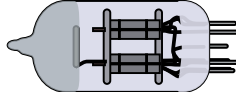
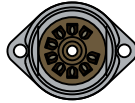
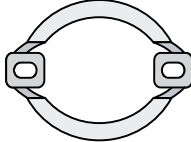
Parts List

	P-Q1N4007	Qty 1	Rectifier Diode
	R-VOP1020	Qty 1	Optocoupler
	C-ET16-475-MOD	Qty 5	16uF 475V Electrolytic Capacitor
	C-ET50-100-MOD	Qty 1	50uF 100V Electrolytic Capacitor
	C-ET25-50-MOD	Qty 7	25uF 50V Electrolytic Capacitor
	C-PD1-400	Qty 3	0.1 400V Film Capacitor (104J) <i>(marked 104J)</i>
	C-PD1-600	Qty 2	0.1 600V Film Capacitor (104J) <i>(marked 104J)</i>
	C-LD1-630	Qty 1	0.1 630V Film Capacitor (104J) <i>(marked 104J)</i>
	C-PD047-400	Qty 3	0.047uF 400V Film Capacitor (473J) <i>(marked 473J)</i>
	C-SD003-600	Qty 1	0.003uF 600V Film Capacitor (302K) <i>(marked 302K)</i>
	C-DS20N-500	Qty 2	0.02uF 500V Ceramic Capacitor (203Z) <i>(marked 203Z)</i>
	C-DS10N-500	Qty 2	0.01uF 500V Ceramic Capacitor (103K) <i>(marked 103K)</i>
	C-DS1N-500	Qty 1	0.001uF 500V Ceramic Capacitor (102) <i>(marked 102)</i>
	C-DS470P-500	Qty 1	470pF 500V Ceramic Capacitor (471) <i>(marked 471)</i>
	C-DS220P-500	Qty 2	220pF 500V Ceramic Capacitor (221) <i>(marked 221)</i>
	C-CD47-500	Qty 1	47pF 500V Ceramic Capacitor (47) <i>(marked 47)</i>
	C-CD10-500	Qty 1	10pF 500V Ceramic Capacitor (10) <i>(marked 10)</i>

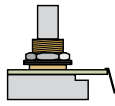
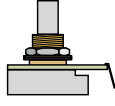
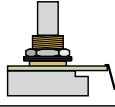
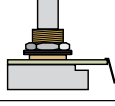
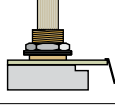
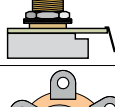
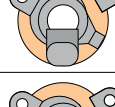
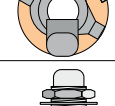
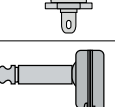
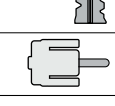
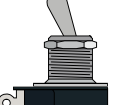
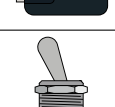
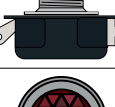
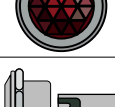
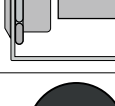
Parts List

	P-HCH724	Qty 1	Chassis
	P-H711-A	Qty 1	Capacitor Cover
	P-H723-F	Qty 1	Front Panel
	P-H723-R	Qty 1	Rear Panel
	P-HEYE-4	Qty 1	Main Eyelet Board w/ Bottom
	P-HEYE-6	Qty 1	Bias Eyelet Board w/ Bottom
	P-HEYE-7	Qty 1	Capacitor Eyelet Board with Bottom
	P-T290BX	Qty 1	Power Transformer
	P-T1750H	Qty 1	Output Transformer
	P-TGR-001	Qty 1	Reverb Driver Transformer
	P-TGC-001	Qty 1	4H Choke
	P-RMOD-4AB3C1B	Qty 1	Reverb Tank
	P-RBAG-17-A	Qty 1	Reverb Tank Bag
	P-H271-A-BLK	Qty 1	Footswitch

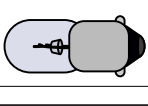
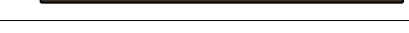
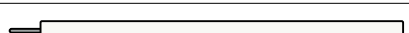
Parts List

	T-6V6-S-JJ	Qty 2	6V6S (6V6GT) Power Tube
	T-5AR4-JJ	Qty 1	GZ34S (GZ34/5AR4) Rectifier Tube
	T-12AX7-S-JJ	Qty 4	ECC83S (12AX7) Preamp Tube
	T-12AT7-S-JJ	Qty 2	ECC81S (12AT7) Preamp Tube
	F-Z3AG-S1	Qty 1	1A 3AG Slow Blow Fuse
	S-H201	Qty 1	Fuse Holder
	P-ST9-700	Qty 6	Noval Socket
	P-SS9-400	Qty 6	Noval Socket Shield & Base
	P-ST8-209MIP	Qty 3	Octal Socket
	S-H142	Qty 3	Octal Socket Tube Retainer
	P-H1350	Qty 1	Power Cord Strain Relief
	S-W133	Qty 1	3 Conductor Power Cord
	P-K314-1-A	Qty 9	1-10 Knob

Parts List

	R-VC1MA-M	Qty 2	A1MΩ Potentiometer <i>(marked R-VC1MA-M or 450S3493)</i>
	R-VC250KA-M	Qty 4	A250kΩ Potentiometer <i>(marked R-VC250KA-M or 450S3495)</i>
	R-VC100KL-M	Qty 1	B100kΩ Potentiometer <i>(marked R-VC100KL-M or 450S3500)</i>
	R-VC50KRA-M	Qty 1	C50kΩ Potentiometer <i>(marked R-VC50KRA-M or 450S3992)</i>
	R-VC3M-RA	Qty 1	C3MΩ Potentiometer <i>(marked R-VC3M-RA or 450S2546)</i>
	R-V10KL-BP-FND	Qty 1	B50kΩ Bias Potentiometer
	W-SC-12A	Qty 5	Switched 1/4" Jack
	W-SC-11	Qty 1	Unswitched 1/4" Jack
	W-SC-3501FR	Qty 4	RCA Jack
	W-SC-228	Qty 1	Right Angle 1/4" Plug
	W-SC-3501MX	Qty 4	RCA Plug
	P-H495	Qty 2	SPST Toggle Switch
	P-H494	Qty 1	SPDT Toggle Switch
	P-L115	Qty 1	Red Jewel
	P-L124-P	Qty 1	Pilot Light Socket
	P-GROM-14-S	Qty 6	1/4" Inner Diameter Rubber Grommet

Parts List

	P-47	Qty 1	47 Bulb
	S-W901	8 ft	22AWG Braided Wire
	S-W902Y	24 ft	22AWG Yellow Wire
	S-W902W	6 ft	22AWG White Wire
	S-W902B	2 ft	22AWG White Wire
	S-W902BLU	5 ft	22AWG Blue Wire
	S-W902BRN	5 ft	22AWG Brown Wire
	S-W902R	5 ft	22AWG Red Wire
	S-W903G	12 ft	18AWG Green Wire
	S-W903W	3 ft	18AWG White Wire
	S-W903B	3 ft	18AWG Black Wire
	S-W3817	4 ft	20AWG Bus Wire
	S-HS440-14	Qty 18	4-40 x 1/4" Pan Head Screw
	S-HS440-12	Qty 7	4-40 x 1/2" Pan Head Screw
	S-HS632-38	Qty 10	6-32 x 3/8" Pan Head Screw
	S-HHN440	Qty 32	4-40 Nut
	S-HHN632	Qty 10	6-32 Nut
	S-HHN832	Qty 4	8-32 Nut
	R-VC-NUT	Qty 1	3/8"-32 Nut
	S-HW4	Qty 7	#4 Flat Washer
	S-HLW4	Qty 25	#4 Lock Washer
	S-HLW6	Qty 10	#6 Lock Washer
	S-H112	Qty 2	#6 Solder Lug
	S-H113	Qty 4	#8 Solder Lug
	S-H132	Qty 3	3/8" Solder Lug

Notes on Wired Connections

This section covers stripping and dressing the various wires used throughout this kit.

Instructions Terminology

Throughout these instructions, you will be guided to make various wire connections. Typically, these steps will instruct you to 'connect a wire from one point to another.' Occasionally, a specific length will be specified. It's important to follow these measurements precisely.

In other steps, you will be instructed to 'trim and connect' a wire that is already installed to components, like the transformers or wires previously connected to the eyelet board or elsewhere. For these steps, first line up the wire to gauge the required length. Ensure the wire is not pulled taut, allowing for some slack.

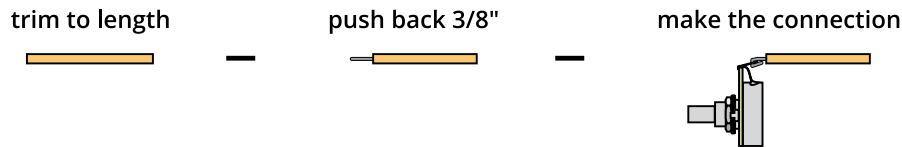
You will sometimes want to route wires away from or around other components. This keeps the build tidy and prevents wires from blocking access to solder lugs and other connections. In the drawings, the individual wires are laid out to avoid overlapping for clarity, but their basic routings are good examples to follow. It is perfectly fine if the wires in your build overlap one another as long as metal contacts don't touch.

Once you are satisfied with the length and routing, cut the wire. Prepare the wire appropriately for its type and then make the connection as instructed.

Preparing Cloth-Covered Wires

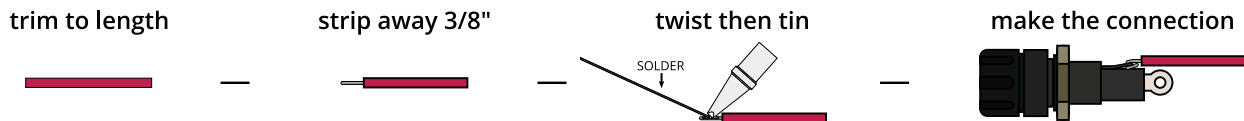
The majority of the wire used throughout this kit is cloth-covered wire. The type included is stranded wire, which allows flexibility, but it includes a top coat of solder to help it hold shape. Additionally, no tinning is required which makes building with this type of wire a breeze.

Cloth-covered wire like this is commonly referred to as "push back" wire. This is because you can simply trim the wire to length and then push back the cloth insulation rather than stripping it with wire strippers. First, make a clean cut with a sharp pair of cutters. Then carefully push the cloth cover back to expose ~3/8" of the bare wire. Try to avoid fraying the cloth when pushing it back. As mentioned, no additional tinning is required so you can now make the connection.



Preparing PVC-Insulated Wires

Some wires, like the power cord and transformer wires, are PVC-insulated. To prepare these wires you will need to strip and tin them before making the connection. Once trimmed to length, use wire strippers to remove ~3/8" of the insulation. Twist the bare end of the wire and then tin it with a soldering iron. You can now make the connection.



Notes on Fiberboard Construction

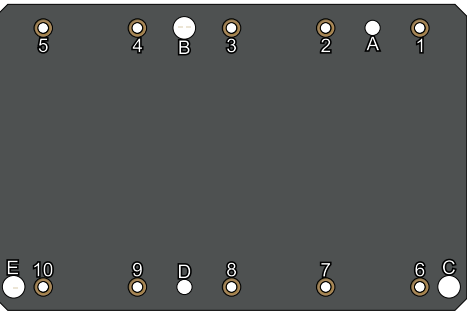
This section covers basic fiberboard construction.

Board Layout

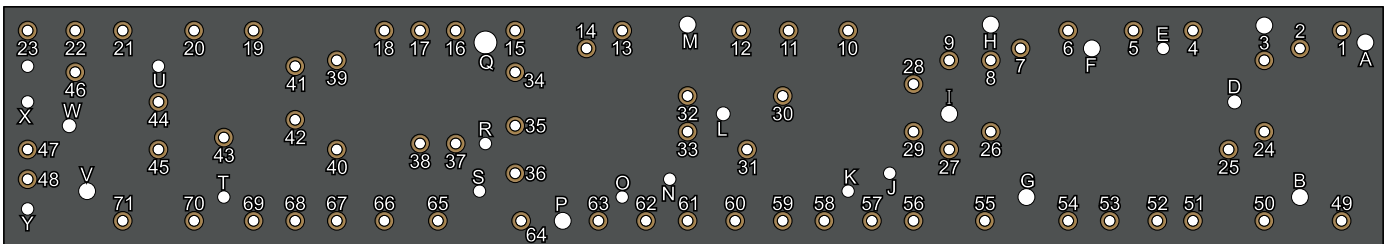
Bias board



Capacitor board



Main board

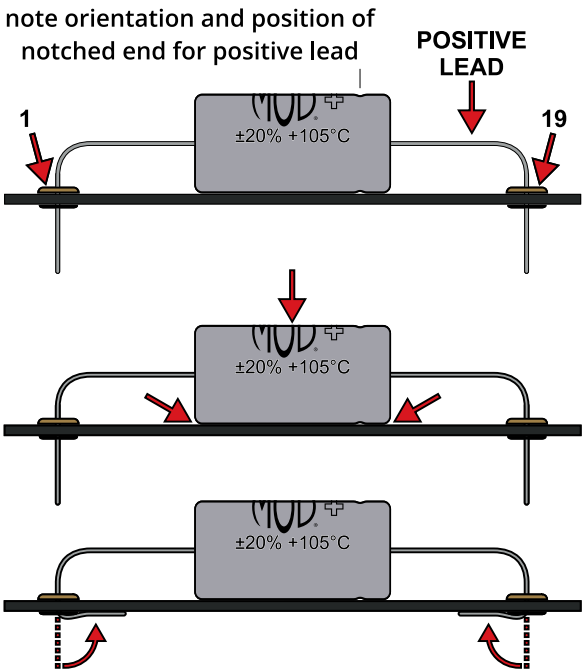


Orient the fiberboards as shown above. The eyelets will be referenced by the numbers shown on this drawing throughout the instructions. Similarly, the empty holes will be referenced by the letters shown here. These numbered and lettered holes will be used when mounting the various parts. For example, you might be instructed to connect an electrolytic capacitor from eyelet 1 to 49 on the main fiberboard with the positive lead at 49. For the empty holes, you will be instructed to pass a wire through them. These wires may connect to an eyelet through the back of the board. Alternatively, the wire may pass back through another hole to be routed to an eyelet on the top of the board or elsewhere in the amp.

Mounting and Soldering Parts

When instructed to mount a part to the board, first make sure you have the correct board. Then, line the part up with the two holes and then bend the leads so each lead can pass through the eyelets. Make sure that the label is facing upwards so you can clearly read the capacitance or other pertinent info for the type of part being mounted. Make sure that the body of the part sits flush to the board.

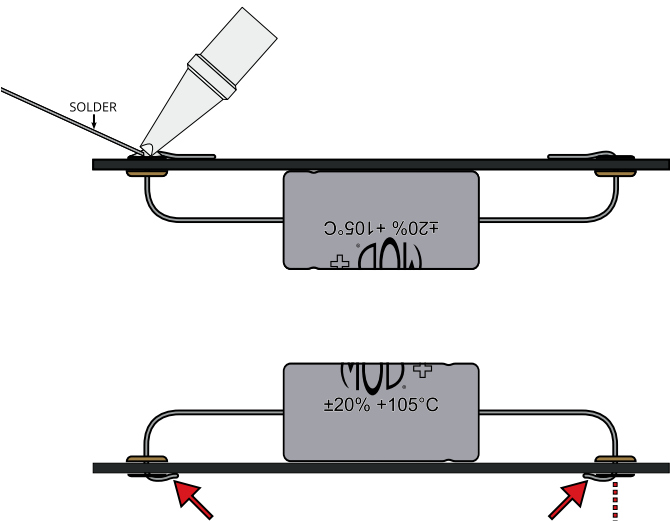
Once the part is oriented correctly and flush to the board, bend the leads on the underside of the board to secure the component to the board. Do this by pushing each lead inwards and completely flat to the board. The part should now be held tightly to the board.



Notes on Fiberboard Construction

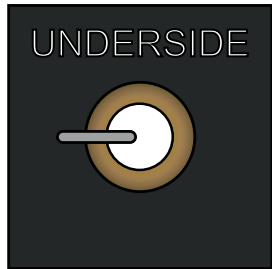
Mounting and Soldering Parts (cont.)

At this point you may be instructed to solder one or both of the eyelets. If so, make sure your soldering iron is fully warmed up before soldering. Position the tip of the iron so that it is touching both the metal eyelet and the lead or leads of the mounted components. Slowly feed solder onto the eyelet. The solder should flow evenly across the eyelet and completely fill the hole. You may need to move the end of the solder strand around the eyelet to ensure that the eyelet is fully filled with solder and that it is also bonding to the lead of the component. Once fully flowed, remove both the solder strand and iron from the eyelet and components.



With the component soldered to the board, use a pair of cutters to trim the excess leads on the underside of the board.

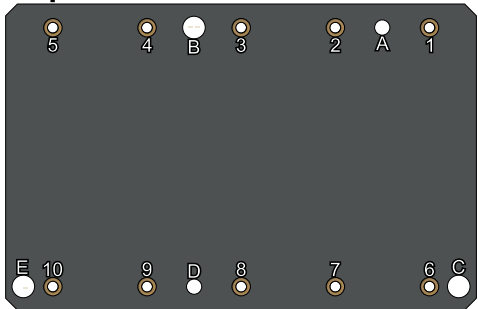
Be sure to carefully follow the various connections listed in the instructions. **Only solder an eyelet when instructed.** Some eyelets will connect multiple parts or offboard wire connections that appear later in the instructions.



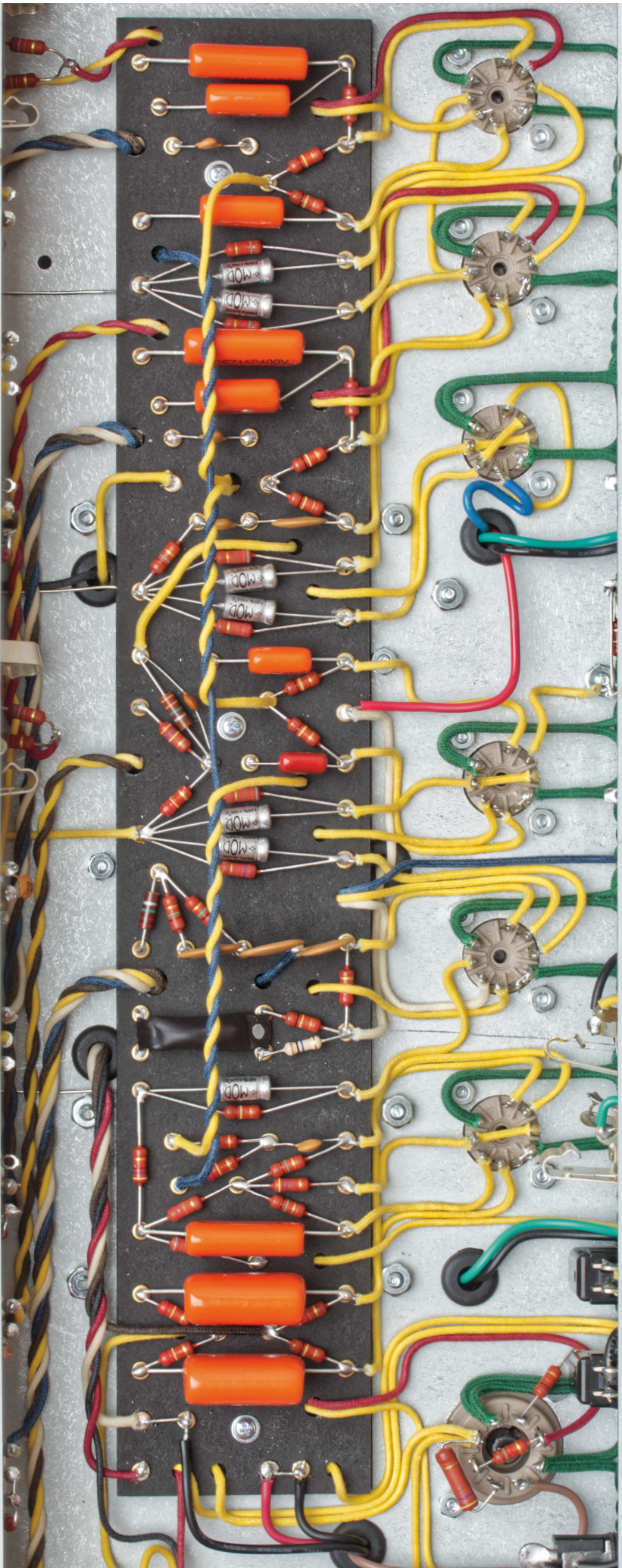
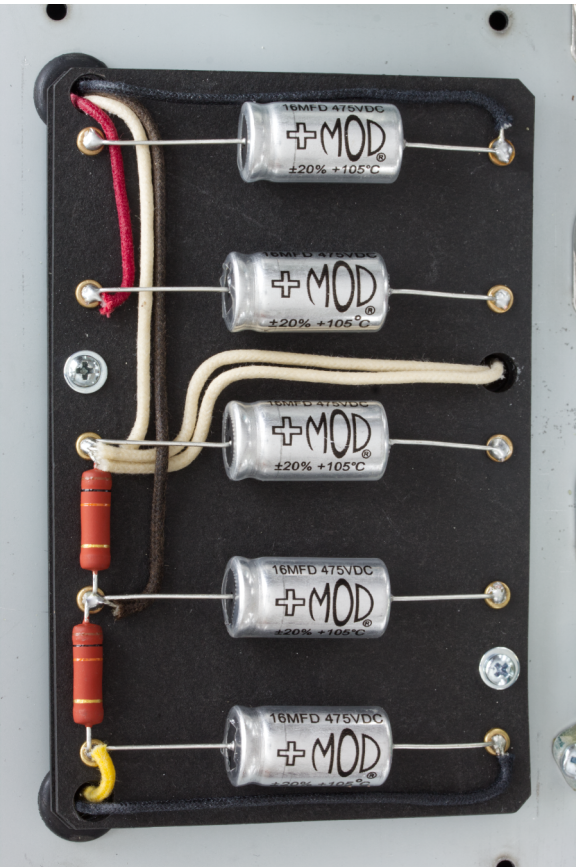
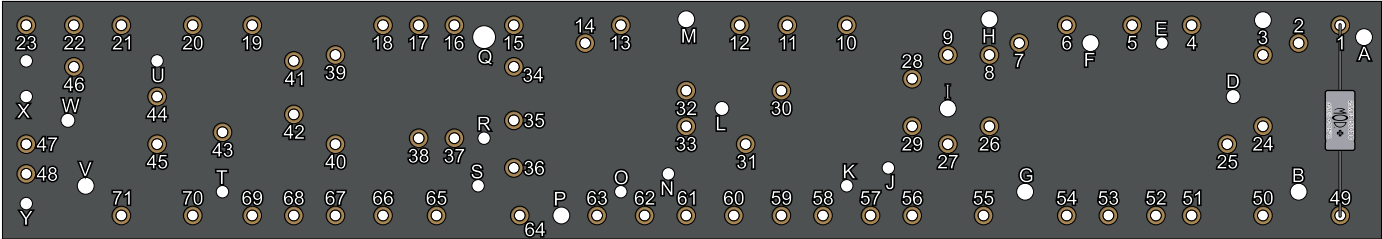
Bias board



Capacitor board



Main board



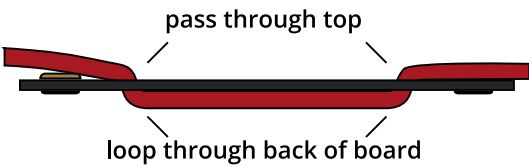
AB763 22W Main Eyelet Board Construction

Please fully review the safety information on page 86 before beginning.

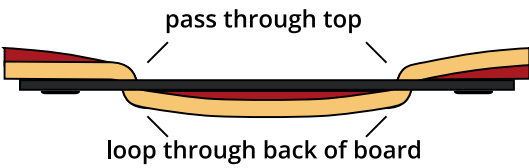
Locate the AB763 Main Eyelet Board. The following steps will cover the placement and soldering of all parts that are mounted on this board. Use the Parts List as a reference.

AB763 22W Main Eyelet Board: Part 1

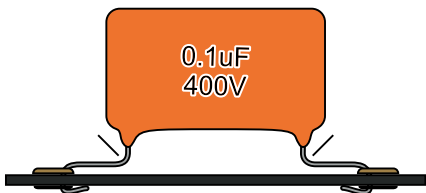
A1-1: Thread a 12" piece of red wire from A to B with the loop passing through the back of the board. Ensure the ends exiting holes A and B are roughly equal in length.



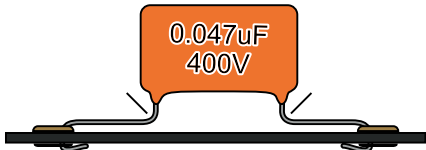
A1-2: Thread a 12" piece of yellow wire from A to B with the loop passing through the back of the board. Ensure the ends exiting holes A and B are roughly equal in length.



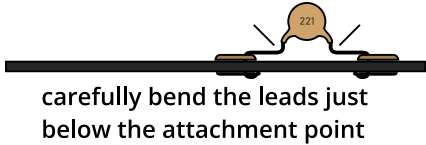
A1-3: Locate a 0.1uF (104J) 400V capacitor. Connect it from eyelet 1 to 49.



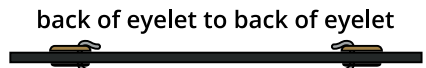
A1-4: Locate a 0.047uF (473J) 400V capacitor. Connect it from eyelet 2 to 49.



A1-5: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 49 to 50. Make sure that the wires from hole B are not under the resistor when mounting it. Solder eyelet 49 now.

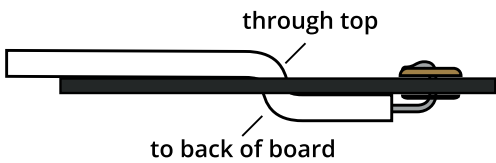


A1-6: Locate a 220pF (221) 500V ceramic capacitor. Connect it from eyelet 3 to 24.

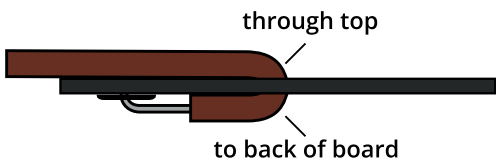


A1-7: Connect a 1.5" piece of bus wire from the back of eyelet 24 to the back of 50. Solder eyelet 24 now.

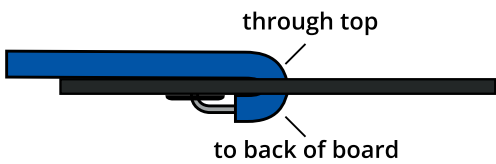
A1-8: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 25 to 50.



A1-9: Connect a 4" piece of yellow wire to eyelet 50. Solder eyelet 50 now.

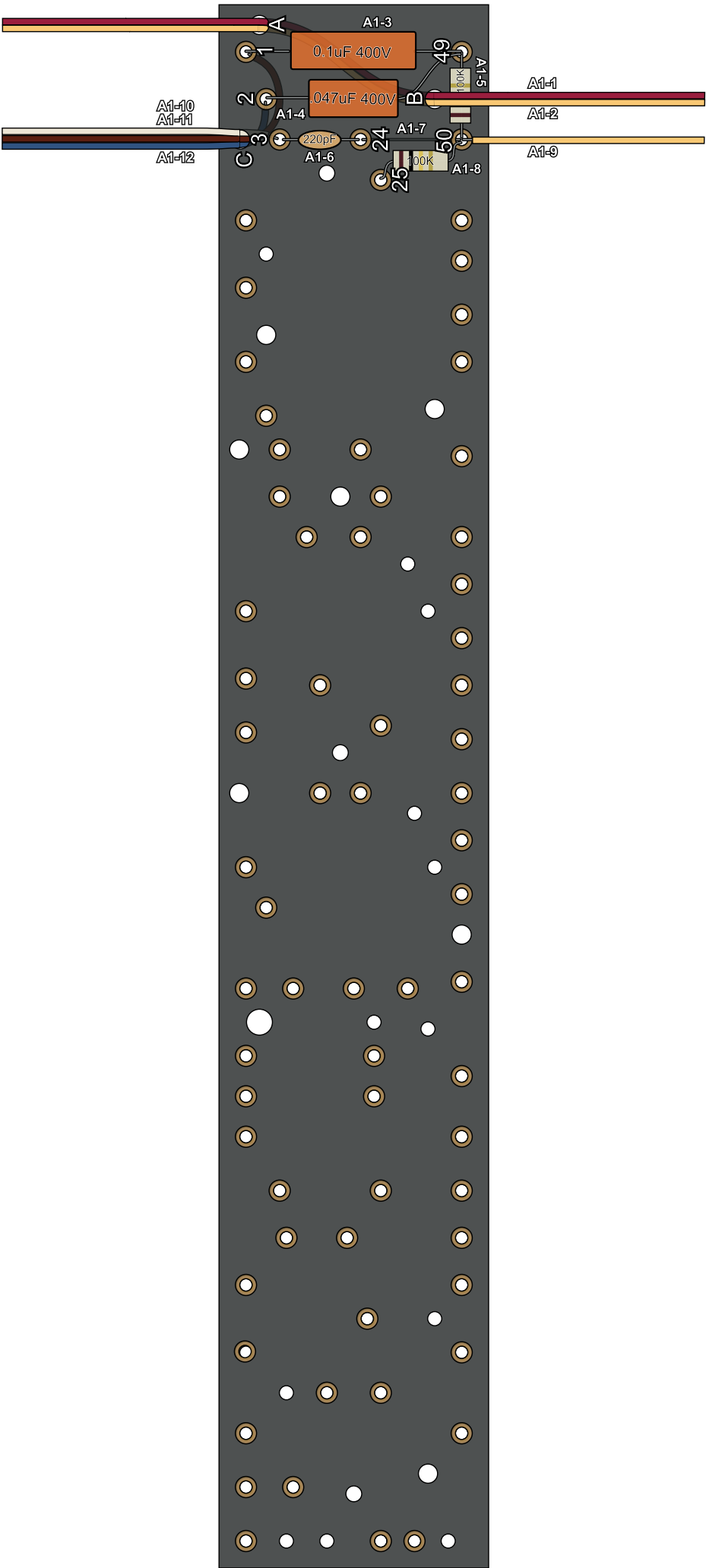


A1-10: Thread a 8" piece of 22AWG (thinner) white wire through hole C and connect it to eyelet 3 through the back of the board. Solder eyelet 3 now.



A1-11: Thread a 10" piece of brown wire through hole C and connect it to eyelet 1 through the back of the board. Solder eyelet 1 now.

A1-12: Thread a 10" piece of blue wire through hole C and connect it to eyelet 2 through the back of the board. Solder eyelet 2 now.



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 2

A2-1: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 25 to 51.

A2-2: Locate a 0.047uF (473J) 400V capacitor. Connect it from eyelet 4 to 51.

A2-3: Connect a 3" piece of yellow wire to eyelet 51. Solder eyelet 51 now.

A2-4: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 5 and the positive to 52.

A2-5: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 5 and the positive to 53.

A2-6: Locate a 1.5kΩ resistor. Its color bands are brown, green, red, gold. Connect this resistor from eyelet 5 to 52.

A2-7: Locate a 1.5kΩ resistor. Its color bands are brown, green, red, gold. Connect this resistor from eyelet 5 to 53.

A2-8: Connect a 4" piece of bus wire to the back of eyelet 5. Solder eyelet 5 now.

A2-9: Connect a 5" piece of yellow wire to eyelet 52. Solder eyelet 52 now.

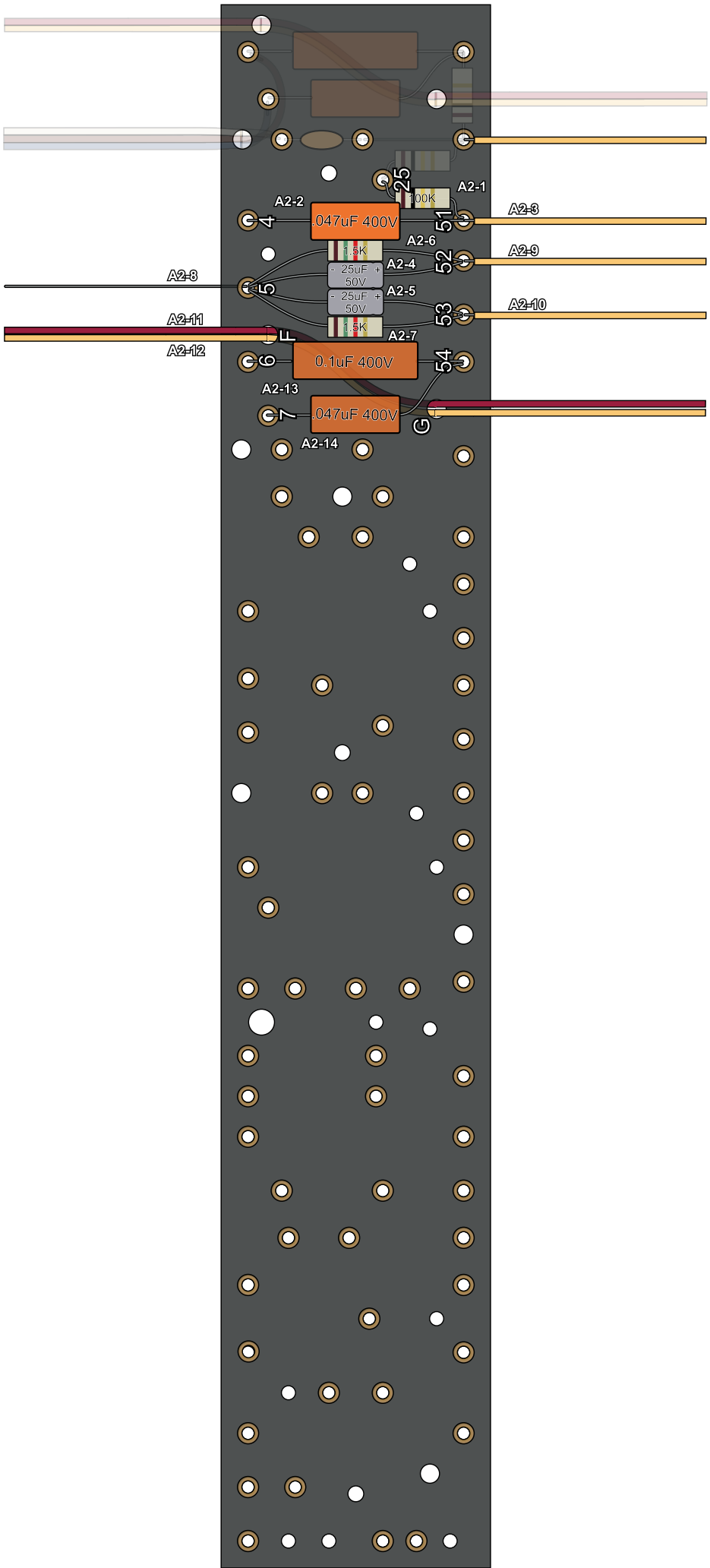
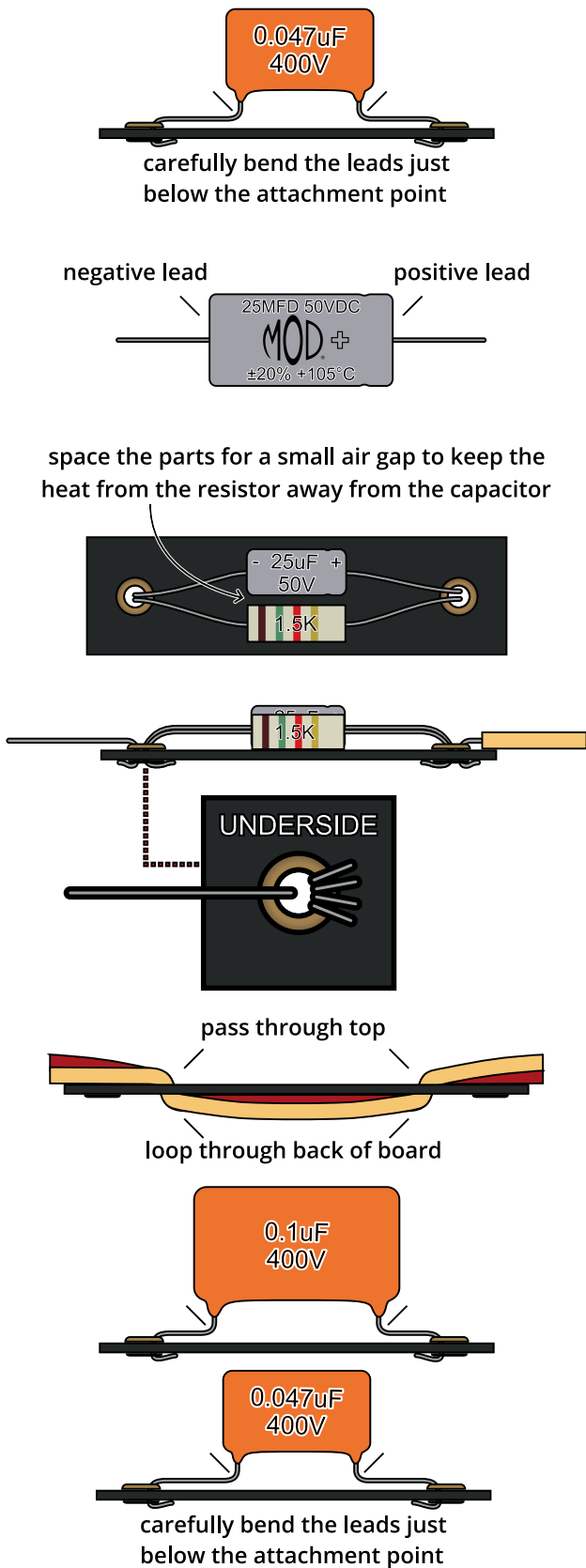
A2-10: Connect a 5" piece of yellow wire to eyelet 53. Solder eyelet 53 now.

A2-11: Thread a 17" piece of red wire from F to G with the loop passing through the back of the board. Ensure the end exiting hole F is ~10" and the end exiting hole G is ~5" in length.

A2-12: Thread a 17" piece of yellow wire from F to G with the loop passing through the back of the board. Ensure the end exiting hole F is ~10" and the end exiting hole G is ~5" in length.

A2-13: Locate a 0.1uF (104J) 400V capacitor. Connect it from eyelet 6 to 54.

A2-14: Locate a 0.047uF (473J) 400V capacitor. Connect it from eyelet 7 to 54.



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 3

A3-1: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 54 to 55. Make sure that the wires from hole G are not under the resistor when mounting it. Solder eyelet 54 now.

A3-2: Locate a 220pF (221) 500V ceramic capacitor. Connect it from eyelet 8 to 26.

A3-3: Connect a 1.5" piece of bus wire from the back of eyelet 26 to the back of 55. Solder eyelet 26 now.

A3-4: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 27 to 55.

A3-5: Connect a 6" piece of yellow wire to eyelet 55. Solder eyelet 55 now.

A3-6: Thread a 12" piece of 22AWG (thinner) white wire through hole H and connect it to eyelet 8 through the back of the board. Solder eyelet 8 now.

A3-7: Thread a 14" piece of brown wire through hole H and connect it to eyelet 6 through the back of the board. Solder eyelet 6 now.

A3-8: Thread a 14" piece of blue wire through hole H and connect it to eyelet 7 through the back of the board. Solder eyelet 7 now.

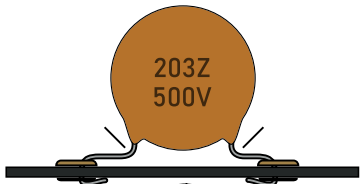
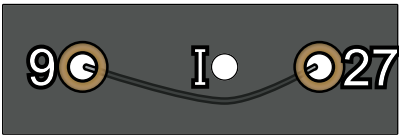
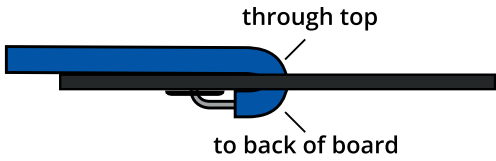
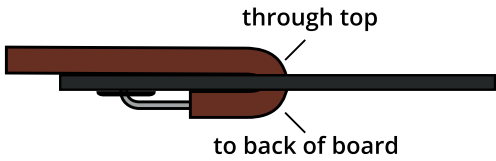
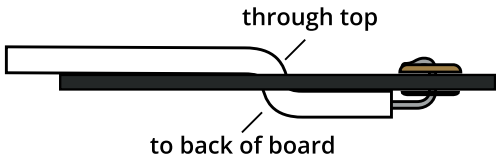
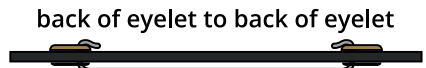
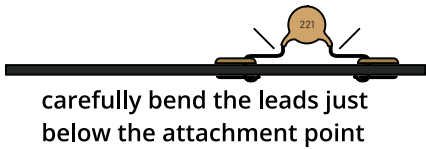
A3-9: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 27 to 56.

A3-10: Connect a 2" piece of bus wire from the back of eyelet 9 to the back of 27. Avoid blocking hole I with this wire but be mindful of the eyelets nearby when routing.

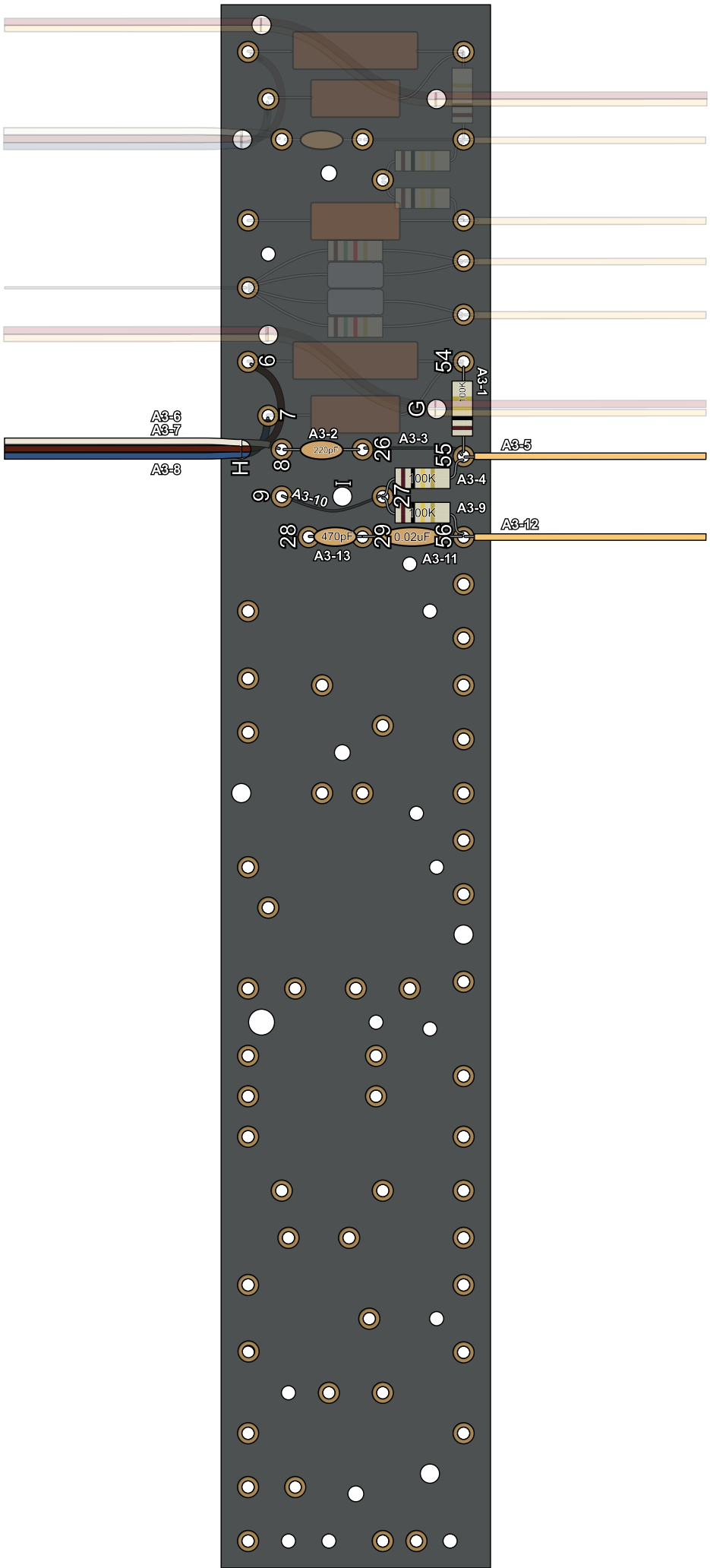
A3-11: Locate a 0.02uF (203Z) 500V ceramic capacitor. Connect it from eyelet 29 to 56.

A3-12: Connect a 4" piece of yellow wire to eyelet 56. Solder eyelet 56 now.

A3-13: Locate the 470pF (471) 500V ceramic capacitor. Connect it from eyelet 28 to 29.



carefully bend the leads just below the attachment point



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 4

A4-1: Thread a 4" piece of yellow wire through hole J and connect it to eyelet 29 through the back of the board. Solder eyelet 29 now.

A4-2: Locate a 1MΩ resistor. Its color bands are brown, black, green, gold. Connect this resistor from eyelet 10 to 28.

A4-3: Thread a 5" piece of yellow wire through hole K and connect it to eyelet 28 through the back of the board. Solder eyelet 28 now.

A4-4: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 10 and the positive to 57.

A4-5: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 10 and the positive to 58.

A4-6: Locate a 820Ω resistor. Its color bands are gray, red, brown, gold. Connect this resistor from eyelet 10 to 57.

A4-7: Locate a 2.2kΩ resistor. Its color bands are red, red, gold. Connect this resistor from eyelet 10 to 58.

A4-8: Connect a 4" piece of bus wire to the back of eyelet 10. Solder eyelet 10 now.

A4-9: Connect a 5" piece of yellow wire to eyelet 57. Solder eyelet 57 now.

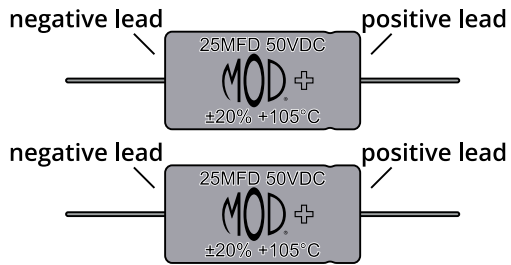
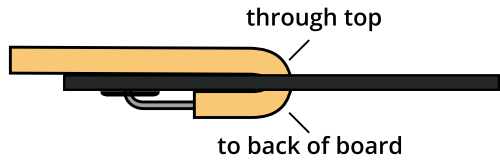
A4-10: Connect a 4" piece of yellow wire to eyelet 58. Solder eyelet 58 now.

A4-11: Locate the 0.003uF (302K) 600V capacitor. Connect it from eyelet 30 to 59.

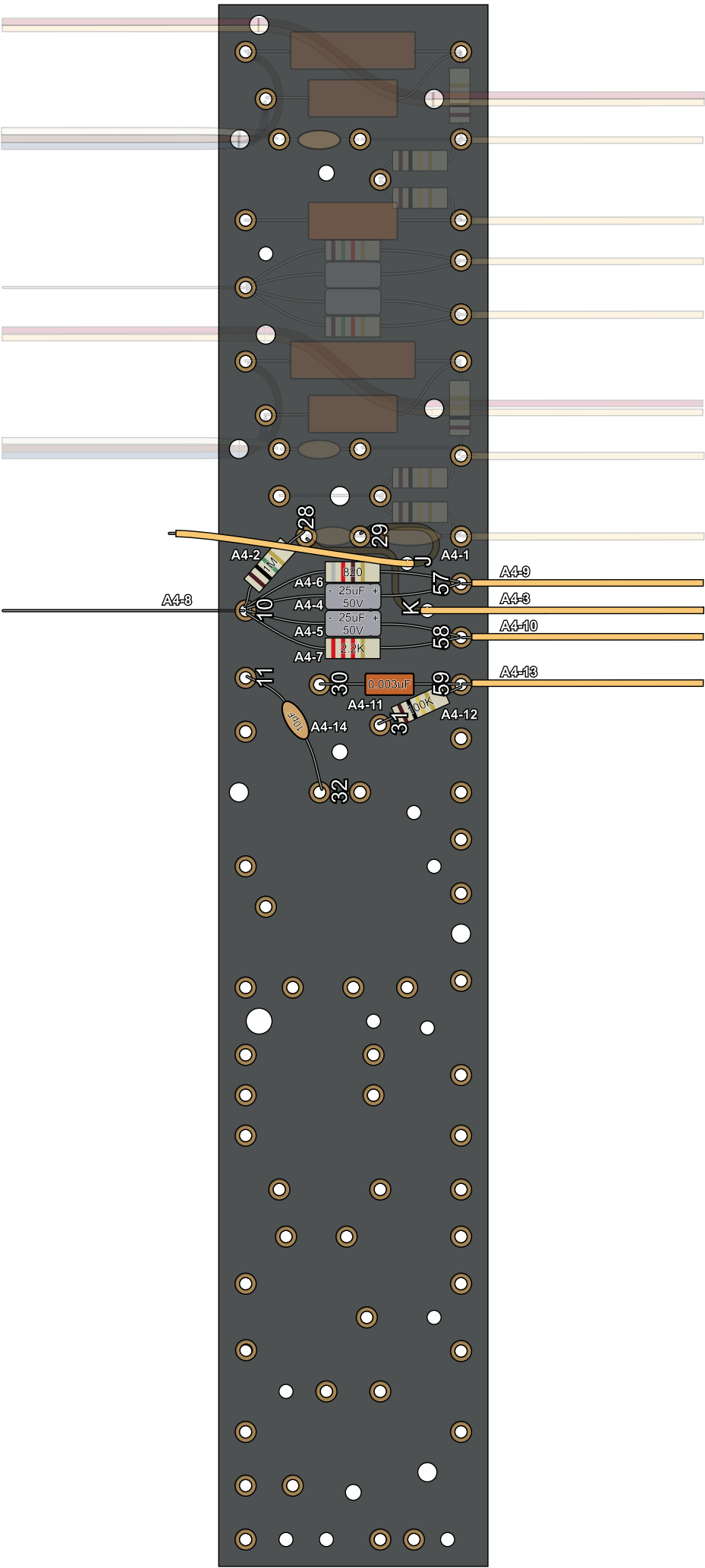
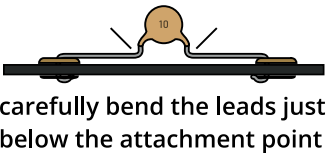
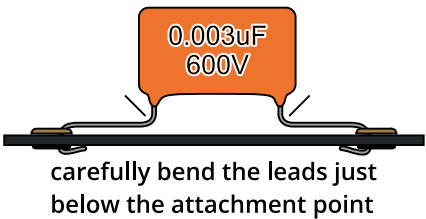
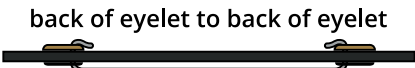
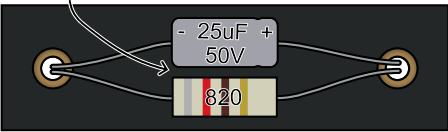
A4-12: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 31 to 59.

A4-13: Connect a 3" piece of yellow wire to eyelet 59. Solder eyelet 59 now.

A4-14: Locate the 10pF (10) 500V ceramic capacitor. Connect it from eyelet 11 to 32.



space the parts for a small air gap to keep the heat from the resistor away from the capacitor



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 5

A5-1: Locate the 3.3MΩ resistor. Its color bands are orange, orange, green, silver. Connect this resistor from eyelet 11 to 32.

A5-2: Locate the yellow wire at hole J. Connect it to eyelet 11. Solder eyelet 11 now.

A5-3: Locate the 470kΩ resistor. Its color bands are yellow, violet, yellow, gold. Connect this resistor from eyelet 12 to 32.

A5-4: Thread an 11" piece of yellow wire through hole M and connect it to eyelet 30 through the back of the board. Solder eyelet 30 now.

A5-5: Thread an 11" piece of brown wire through hole M and connect it to eyelet 12 through the back of the board. Solder eyelet 12 now.

A5-6: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 13 to 32.

A5-7: Thread a 4" piece of yellow wire through hole O and connect it to eyelet 32 through the back of the board. Solder eyelet 32 now.

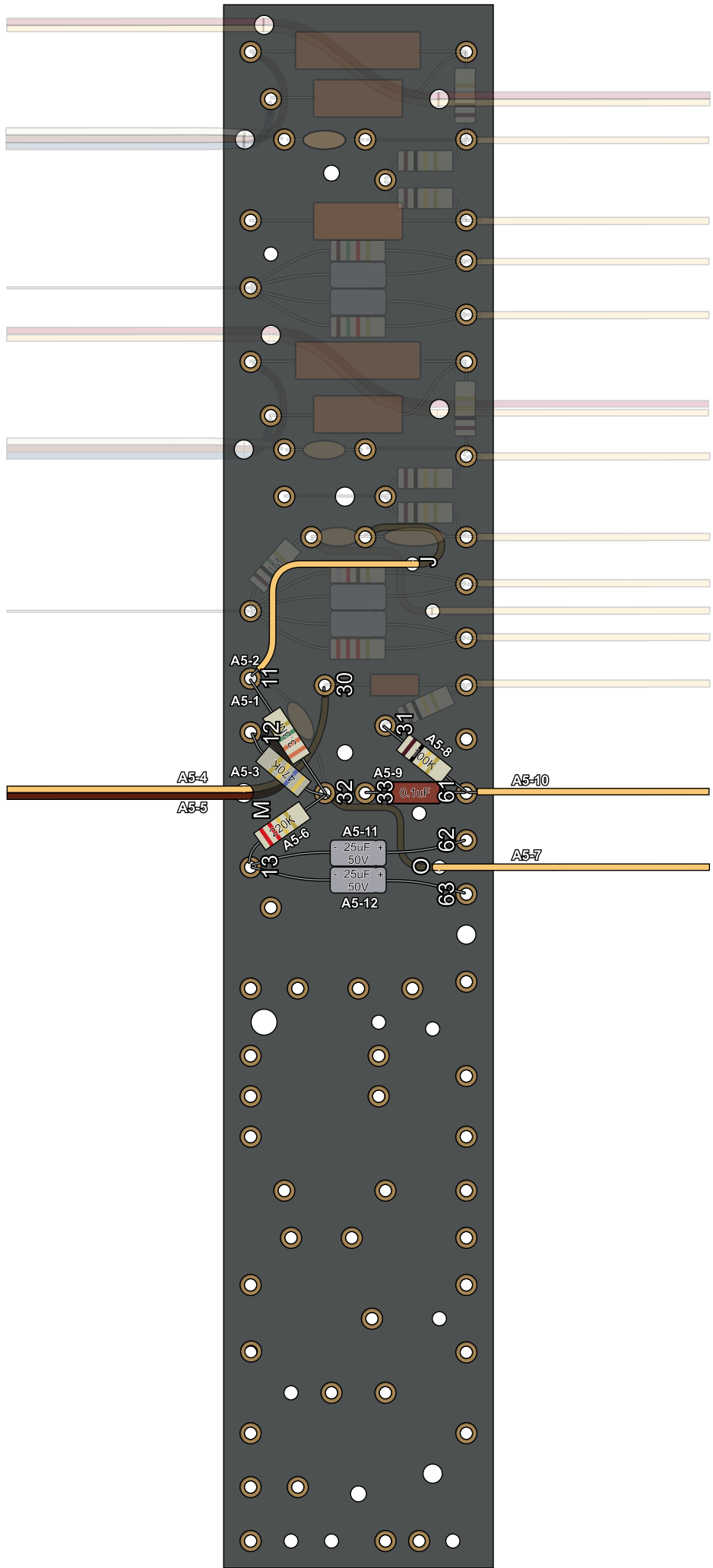
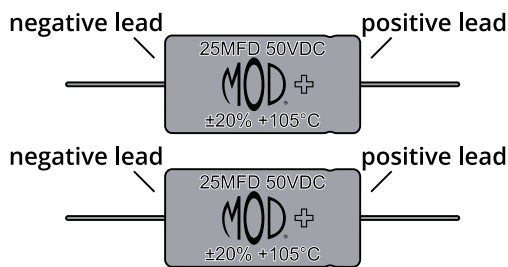
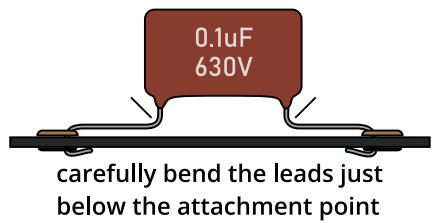
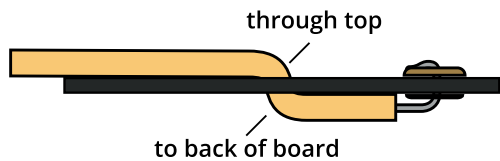
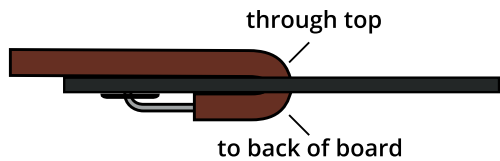
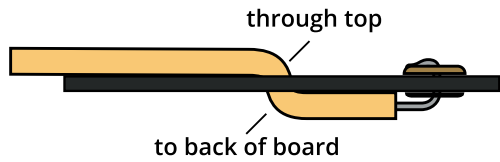
A5-8: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 31 to 61.

A5-9: Locate the 0.1uF (104J) 630V capacitor. This is the small red capacitor. Connect it from eyelet 33 to 61.

A5-10: Connect a 4" piece of yellow wire to eyelet 61. Solder eyelet 61 now.

A5-11: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 13 and the positive to 62.

A5-12: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 13 and the positive to 63.



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 6

A6-1: Locate a 820Ω resistor. Its color bands are gray, red, brown, gold. Connect this resistor from eyelet 13 to 62.

A6-2: Locate a 2.7kΩ resistor. Its color bands are red, violet, red, gold. Connect this resistor from eyelet 13 to 63.

A6-3: Connect a 5" piece of yellow wire to the eyelet 13. Solder eyelet 13 now.

A6-4: Connect a 3" piece of yellow wire to eyelet 62. Solder eyelet 62 now.

A6-5: Connect a 5" piece of yellow wire to eyelet 63. Solder eyelet 63 now.

A6-6: Locate the 2.2MΩ resistor. Its color bands are red, red, green, silver. Connect this resistor from eyelet 14 to 15.

A6-7: Locate a 1MΩ resistor. Its color bands are brown, black, green, gold. Connect this resistor from eyelet 14 to 34.

A6-8: Locate a 1MΩ resistor. Its color bands are brown, black, green, gold. Connect this resistor from eyelet 14 to 35.

A6-9: Thread a 9" piece of blue wire through hole P and connect it to eyelet 14 through the back of the board. Solder eyelet 14 now.

A6-10: Thread a 12" piece of 22AWG (thinner) white wire through hole Q and connect it to eyelet 15 through the back of the board. Solder eyelet 15 now.

A6-11: Locate a 0.01uF (103K) 500V ceramic capacitor. Connect it from eyelet 34 to 35.

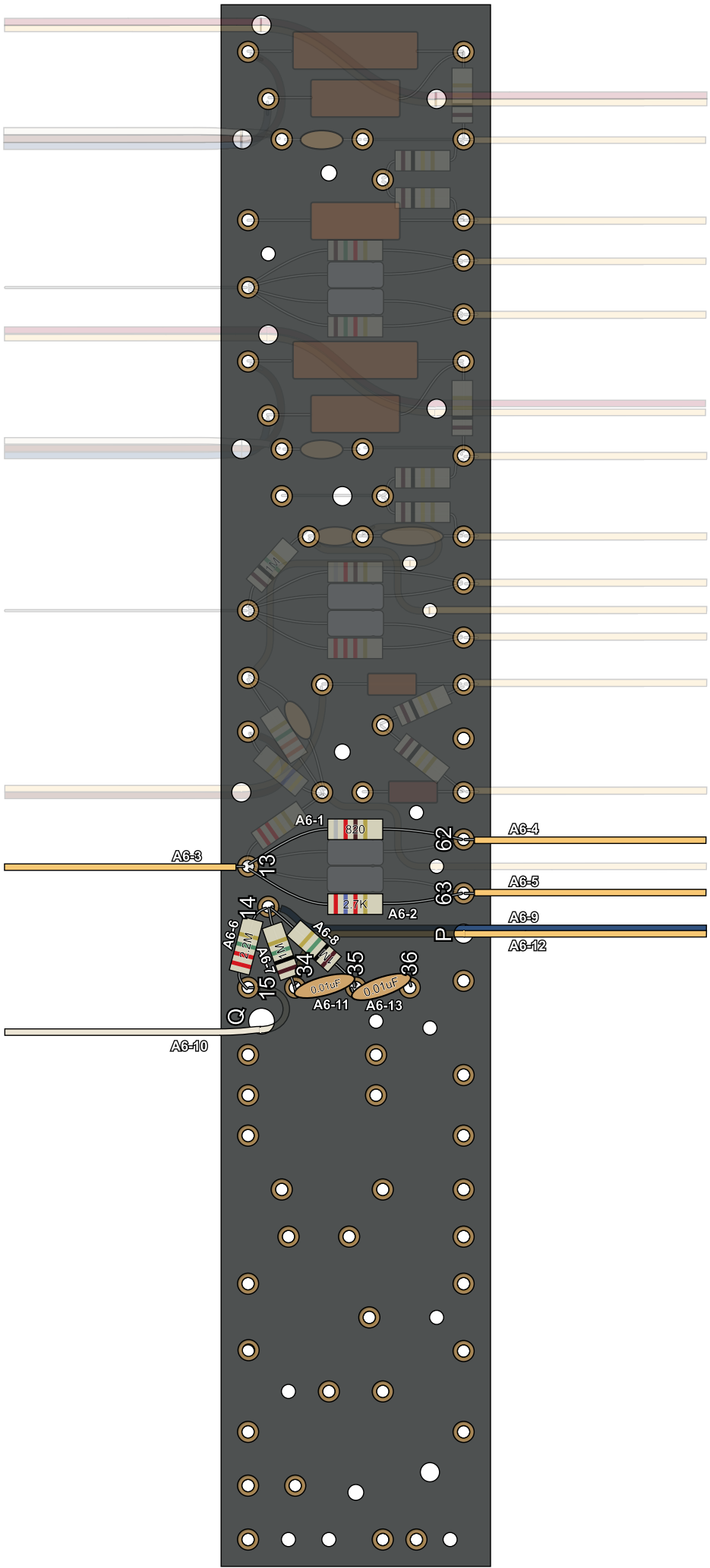
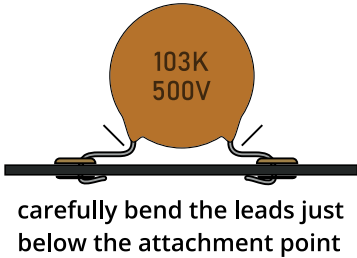
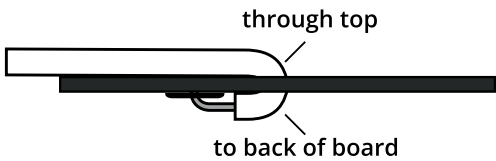
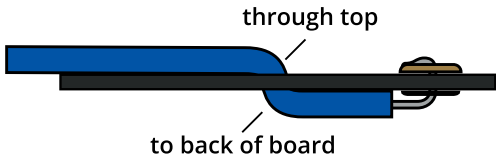
A6-12: Thread a 5" piece of yellow wire through hole P and connect it to eyelet 34 through the back of the board. Solder eyelet 34 now.

A6-13: Locate a 0.01uF (103K) 500V ceramic capacitor. Connect it from eyelet 35 to 36.

space the parts for a small air gap to keep the heat from the resistor away from the capacitor



space the parts for a small air gap to keep the heat from the resistor away from the capacitor



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 7

A7-1: Thread a 6" piece of 22AWG (thinner) white wire through hole P and connect it to eyelet 35 through the back of the board. Solder eyelet 35 now.

A7-2: Locate a 0.02uF (203Z) 500V ceramic capacitor. Connect it from eyelet 36 to 64.

A7-3: Connect an 11" piece of blue wire to eyelet 36. Thread the other end to the back of the board through hole R and then back out to the front through hole Q. Solder eyelet 36 now.

A7-4: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 64 to 65.

A7-5: Connect a 4" piece of yellow wire to eyelet 64. Solder eyelet 64 now.

A7-6: Locate the optocoupler. Note the orientation marked by the silver dot. Connect lead 1 to eyelet 17, lead 2 to eyelet 16, lead 3 to eyelet 38, and lead 4 to eyelet 37.

A7-7: Thread an 11" piece of brown wire through hole Q and connect it to eyelet 16 through the back of the board. Solder eyelet 16 now.

A7-8: Connect a 1" piece of bus wire from the back of eyelet 17 to the back of 18. Solder eyelet 17 now.

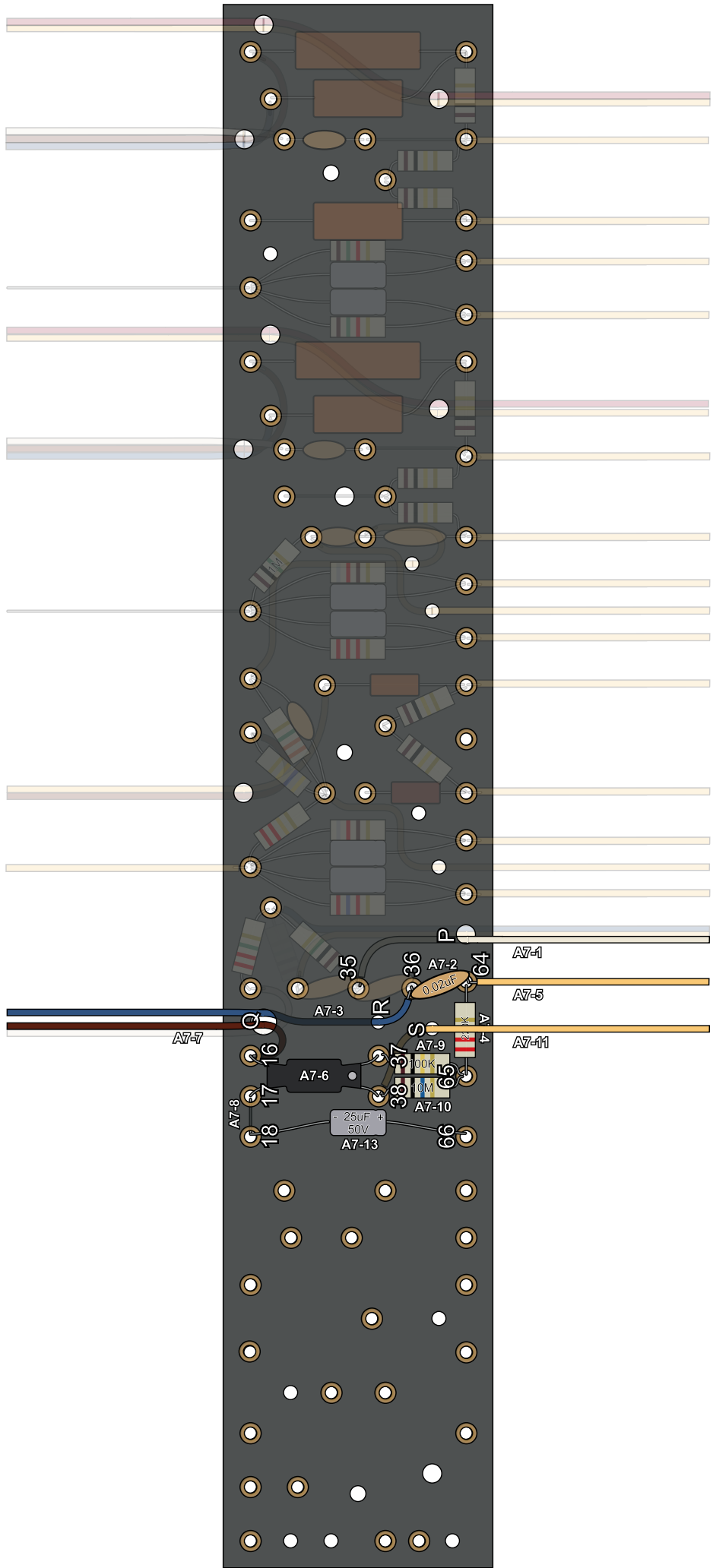
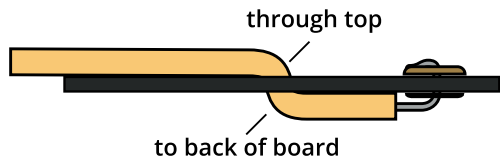
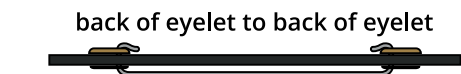
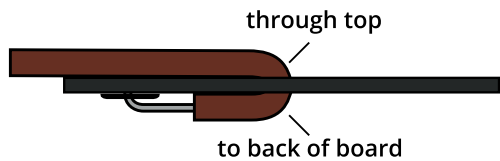
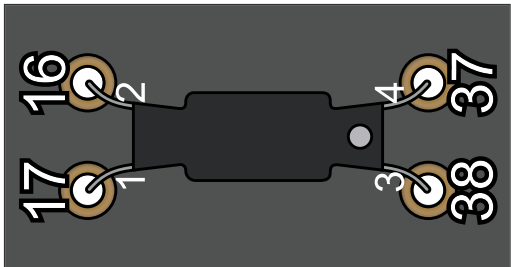
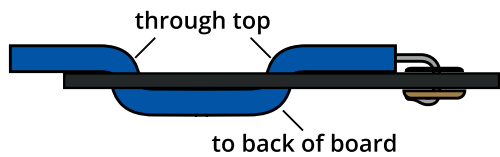
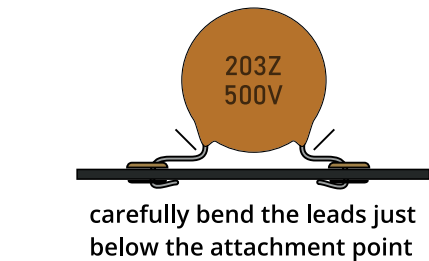
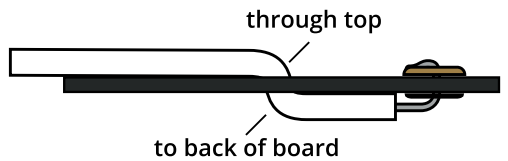
A7-9: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 37 to 65. Solder eyelet 37 now.

A7-10: Locate the 10MΩ resistor. Its color bands are brown, black, blue, gold. Connect this resistor from eyelet 38 to 65.

A7-11: Thread a 5" piece of yellow wire through hole S and connect it to eyelet 38 through the back of the board. Solder eyelet 38 now.

A7-12: Trim all of the leads at eyelet 65 but do not solder this eyelet yet.

A7-13: Locate a 25uF 50V capacitor. Connect the negative lead to eyelet 18 and the positive to 66.



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 8

A8-1: Locate a 100k Ω resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 18 to 66.

A8-2: Locate the 47 Ω resistor. Its color bands are yellow, violet, black, gold. Connect this resistor from eyelet 18 to 19.

A8-3: Connect a 4" piece of bus wire to the back of eyelet 18. Solder eyelet 18 now.

A8-4: Connect a 3" piece of yellow wire to eyelet 66. Solder eyelet 66 now.

A8-5: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 39 to 40.

A8-6: Thread a 12" piece of yellow wire through hole Q and connect it to eyelet 39 through the back of the board.

A8-7: Locate a 220k Ω resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 40 to 41.

A8-8: Locate the 1000pF/0.001uF (102K) 500V ceramic capacitor. Connect it from eyelet 40 to 67. Solder eyelet 40 now.

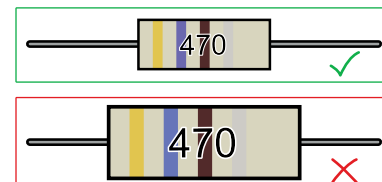
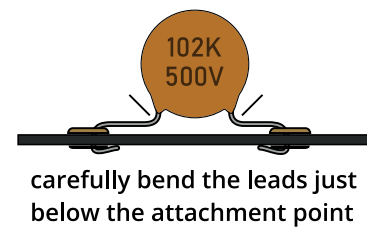
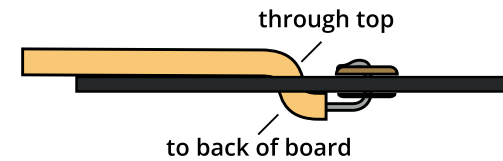
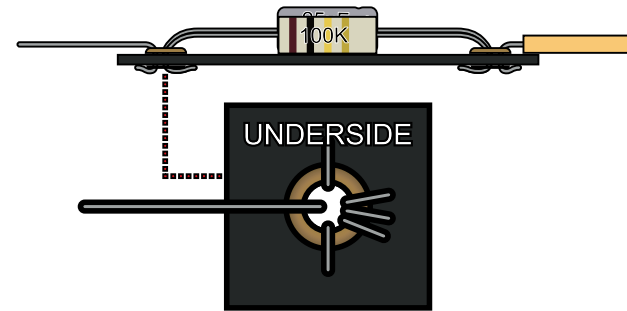
A8-9: Locate a 1M Ω resistor. Its color bands are brown, black, green, gold. Connect this resistor from eyelet 42 to 67.

A8-10: Connect a 4" piece of yellow wire to eyelet 67. Solder eyelet 67 now.

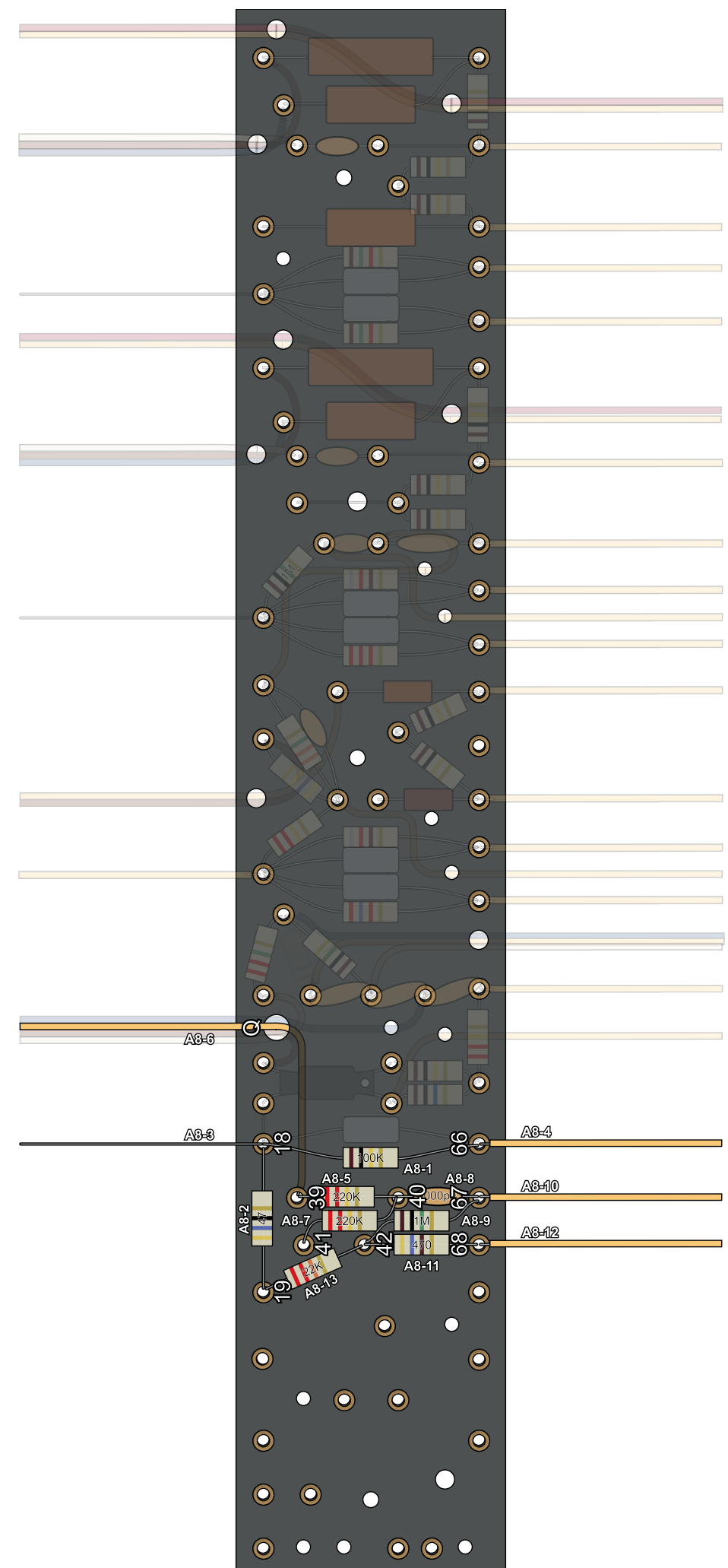
A8-11: Locate a 2W(smaller) 470Ω resistor. Its color bands are yellow, violet, brown, gold. Connect this resistor from eyelet 42 to 68.

A8-12: Connect a 3" piece of yellow wire to eyelet 68. Solder eyelet 68 now.

A8-13: Locate a 22k Ω resistor. Its color bands are red, red, orange, gold. Connect this resistor from eyelet 19 to 42.



Main Eucler Board Construction



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 9

A9-1: Locate a 1MΩ resistor. Its color bands are brown, black, green, gold. Connect this resistor from eyelet 42 to 69. Solder eyelet 42 now.

A9-2: Locate an 820Ω resistor. Its color bands are gray, red, brown, gold. Connect this resistor from eyelet 19 to 43.

A9-3: Thread a 9" piece of yellow wire through hole T and connect it to eyelet 43 through the back of the board. Solder eyelet 43 now.

A9-4: Locate a 0.1μF (104J) 400V capacitor. Connect it from eyelet 19 to 69. Solder eyelet 19 now.

A9-5: Connect a 3" piece of yellow wire to eyelet 69. Solder eyelet 69 now.

A9-6: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 20 to 44.

A9-7: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from eyelet 21 to 44.

A9-8: Thread a 5" piece of yellow wire through hole U and connect it to eyelet 44 through the back of the board. Solder eyelet 44 now.

A9-9: Locate a 82kΩ resistor. Its color bands are gray, red, orange, gold. Connect this resistor from eyelet 45 to 70.

A9-10: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect this resistor from eyelet 45 to 71.

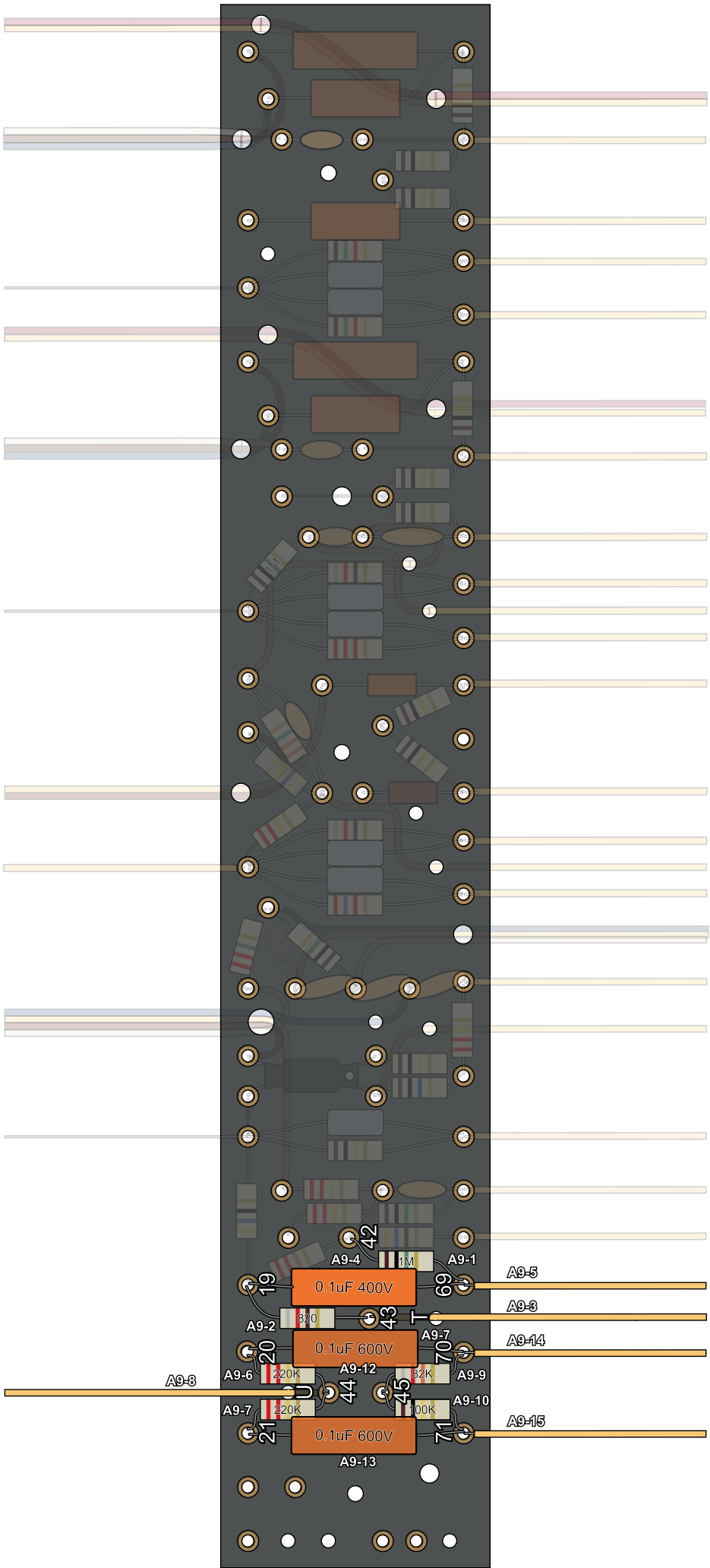
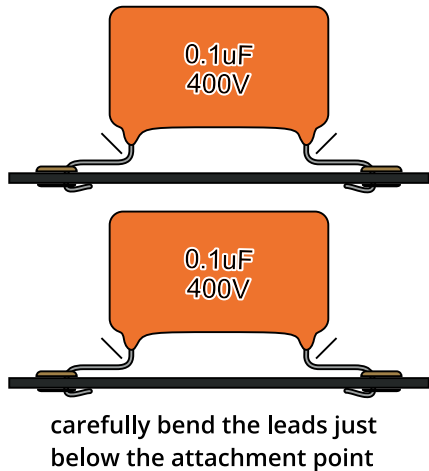
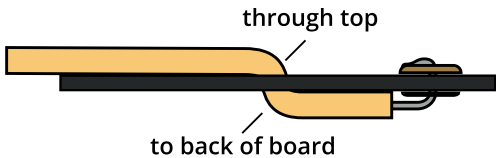
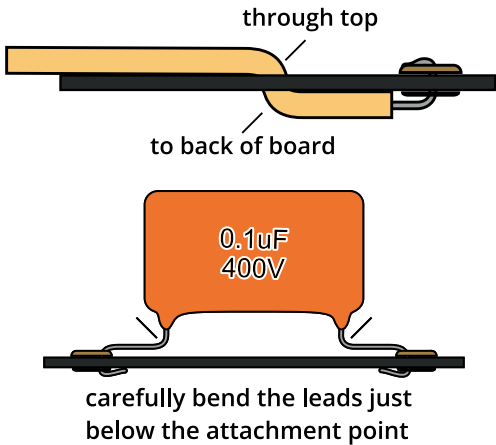
A9-11: Trim all of the leads at eyelet 45 but do not solder this eyelet yet.

A9-12: Locate a 0.1μF (104J) 600V capacitor. Connect it from eyelet 20 to 70.

A9-13: Locate a 0.1μF (104J) 600V capacitor. Connect it from eyelet 21 to 71.

A9-14: Connect a 5" piece of yellow wire to eyelet 70. Solder eyelet 70 now.

A9-15: Connect a 4" piece of yellow wire to eyelet 71. Solder eyelet 71 now.



AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part 10

A10-1: Thread a 7" piece of red wire through hole V and connect it to eyelet 20 through the back of the board. Solder eyelet 20 now.

A10-2: Thread a 9" piece of yellow wire through hole V and connect it to eyelet 21 through the back of the board. Solder eyelet 21 now.

A10-3: Connect a 1" piece of bus wire from eyelet 22 to 46. Trim any excess leads at both eyelets now.

A10-4: Thread a 6" piece of yellow wire through hole Y and connect it to eyelet 46 through the back of the board.

A10-5: Thread a 10" piece of red wire through hole X and connect it to eyelet 23 through the back of the board.

A10-6: Thread a 10" piece of yellow wire through hole X and connect it to eyelet 23 through the back of the board.

A10-7: Connect a 1" piece of bus wire from eyelet 47 to 48. Trim any excess leads at both eyelets now.

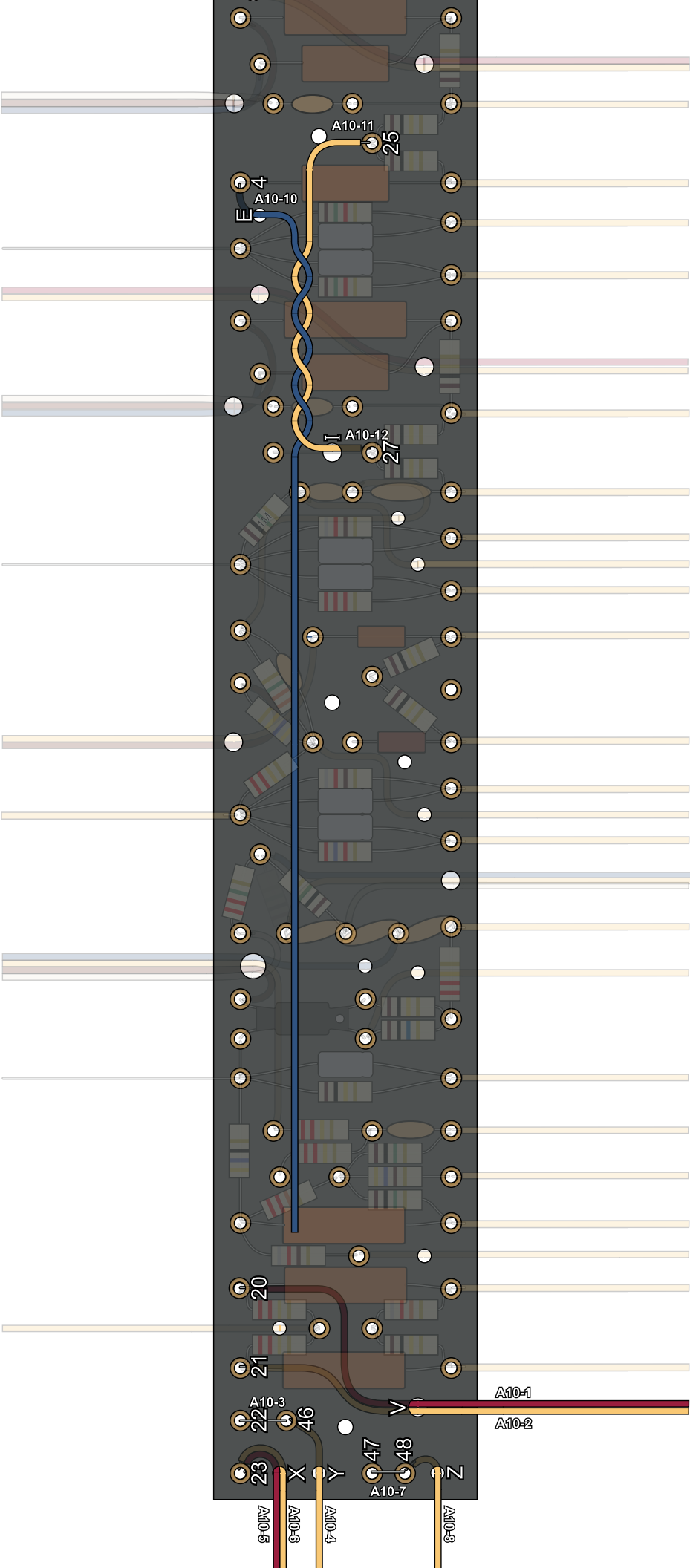
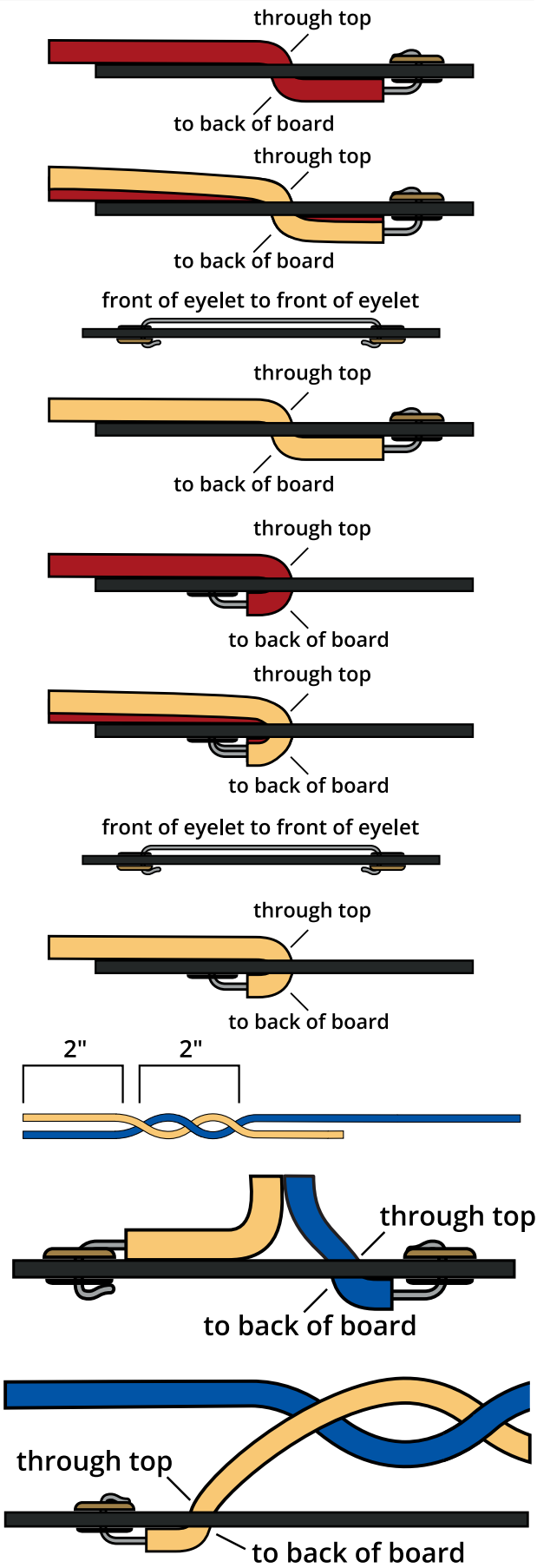
A10-8: Thread a 10" piece of yellow wire through hole Z and connect it to eyelet 48 through the back of the board.

A10-9: Starting at 2" in of a 6" piece of yellow wire and a 12.5" piece of blue wire, twist a 2" segment.

A10-10: Using these twisted wires, thread the 2" end of blue wire through hole E and connect it to eyelet 4 through the back of the board. Solder eyelet 4 now.

A10-11: Using the same twisted wires, connect the 2" end of yellow wire to eyelet 25. Solder eyelet 25 now.

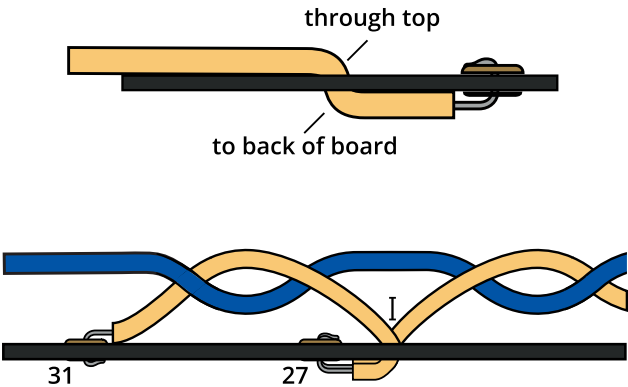
A10-12: Route the twisted section of the yellow and blue wires towards the direction of the end of the board with the X, Y, and Z holes. Make sure this twisted section is lifted up and over the taller parts mounted on the fiberboard. Thread the unconnected end of the yellow wire through hole I to connect it to eyelet 27 through the back of the board.



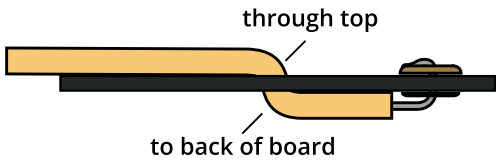
AB763 22W Main Eyelet Board Construction

AB763 22W Main Eyelet Board: Part II

A11-1: Thread a 5" piece of yellow wire through hole I and connect it to eyelet 27 through the back of the board. Solder eyelet 27 now.



A11-2: Lift the yellow wire at hole I up to meet the unconnected end of the blue wire from hole E. Twist these two wires into a 1.75" segment routed towards the end of the board with the X, Y, and Z holes. Connect the remaining yellow wire to eyelet 31. Solder eyelet 31 now.



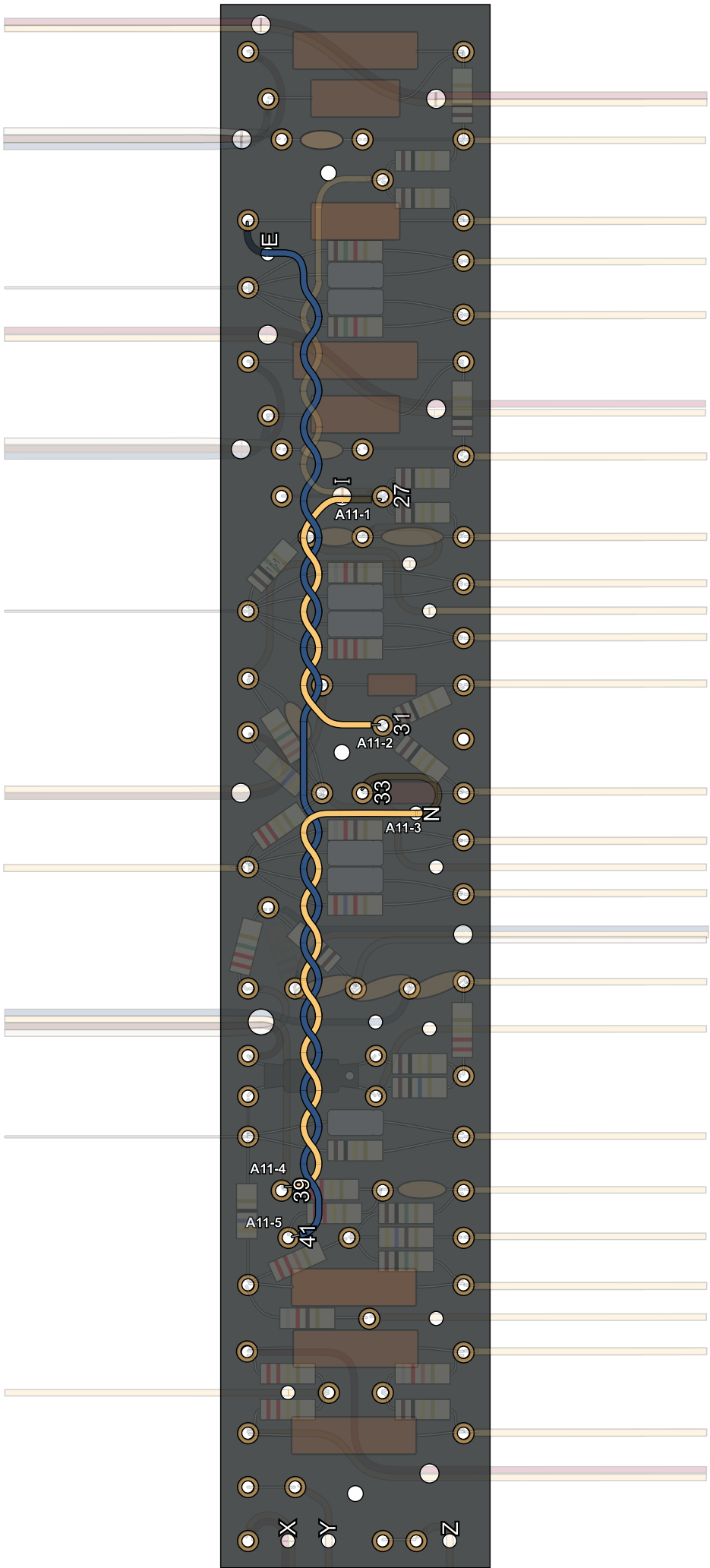
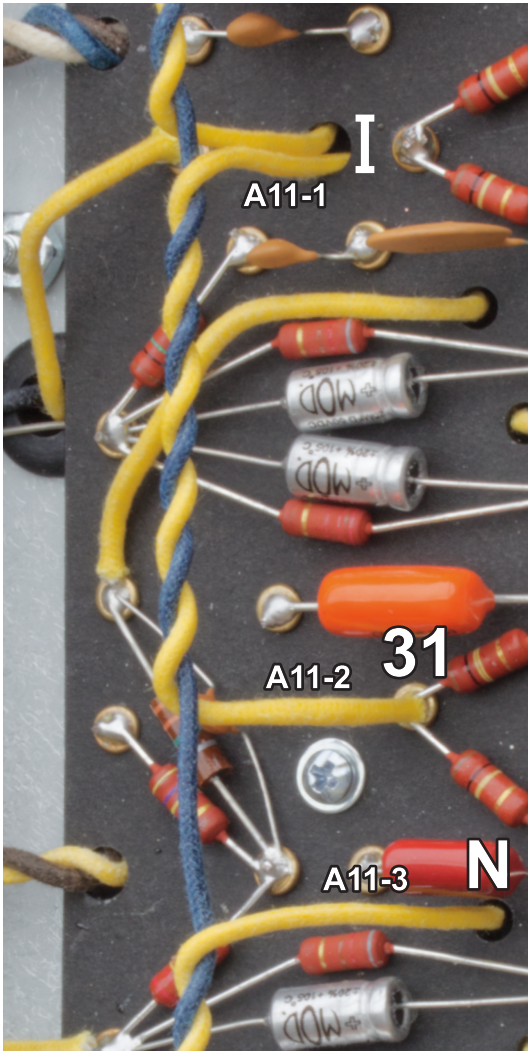
A11-3: Thread a 7.5" piece of yellow wire through hole N and connect it to eyelet 33 through the back of the board. Solder eyelet 33 now.

A11-4: Lift the yellow wire at hole N up to meet the unconnected end of the blue wire from hole E. Twist these two wires into a 3.5" segment routed towards the end of the board with the X, Y, and Z holes. Trim and connect the remaining yellow wire to eyelet 39. Solder eyelet 39 now.

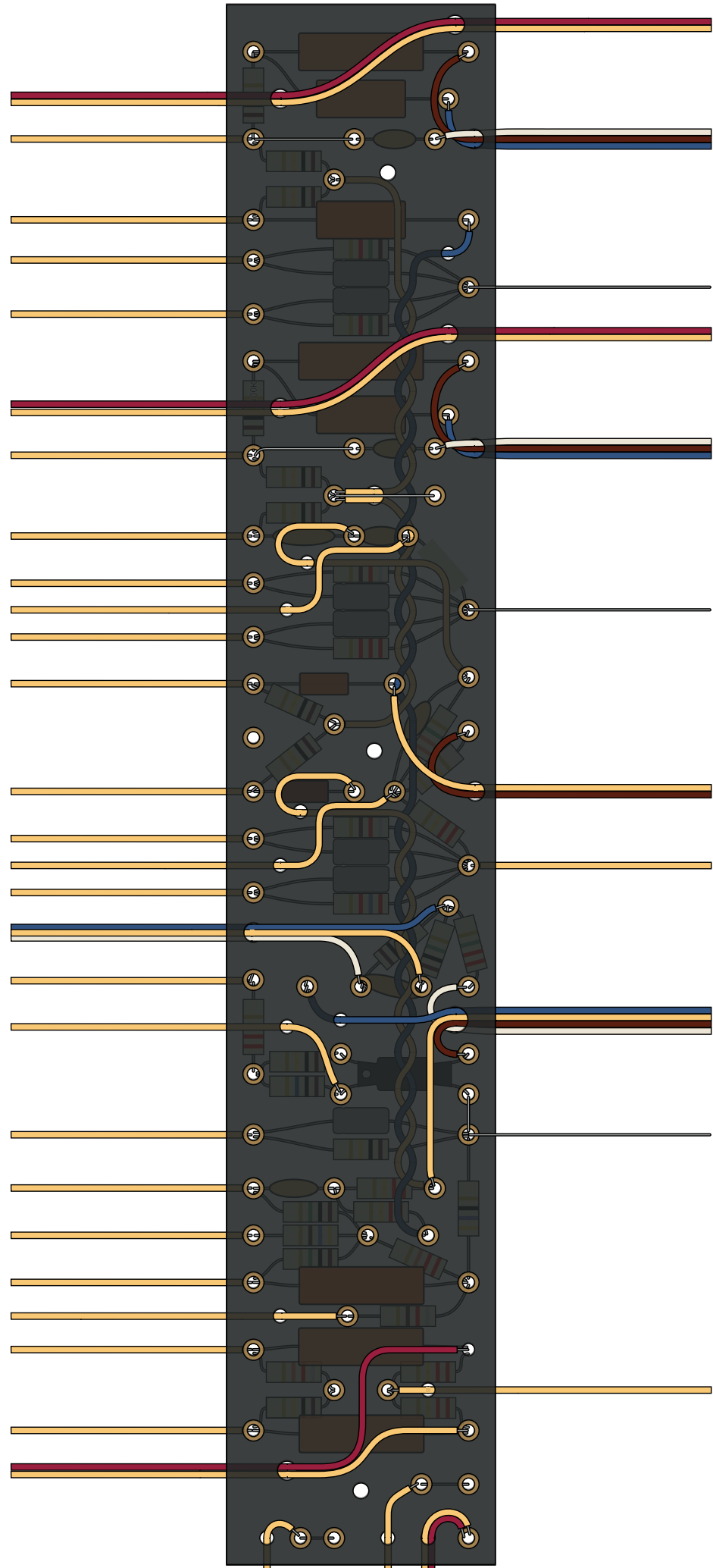
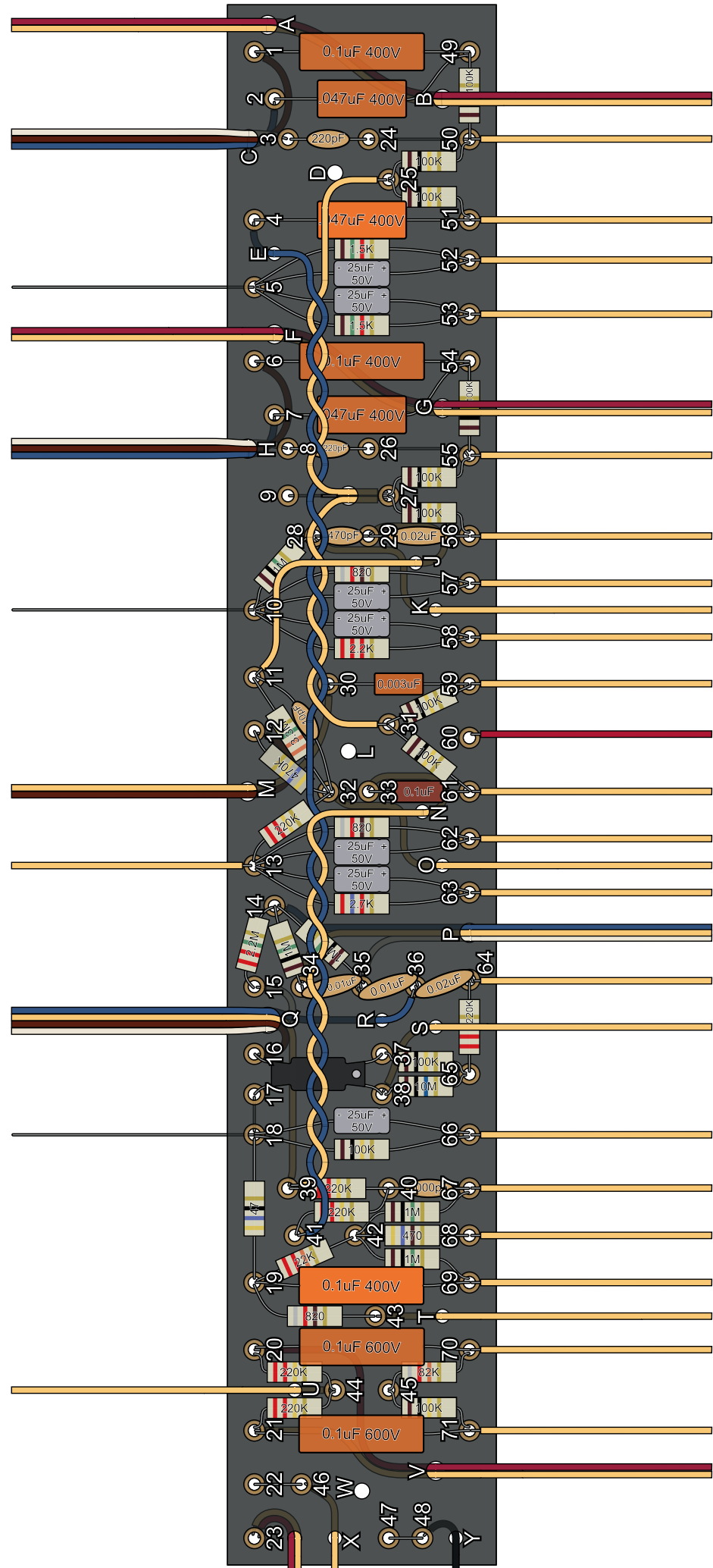
A11-5: Trim and connect the remaining blue wire to eyelet 41. Solder eyelet 41 now.

Completed Fiberboard: Inspection

The main fiberboard of the AB763 22W is now completed. Please take some time to thoroughly check the connections, parts placement, and solder joints. Ensure all components are in their correct positions according to the wiring diagram, with electrolytic capacitors oriented correctly for polarity. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked. Note that all eyelets except for 9, 22, 23, 45, 46, 47, 48, 60, and 65 should be soldered at this point.



Completed AB763 22W Eyelet Board (Front)



Completed AB763 22W Eyelet Board (Back)

AB763 22W Capacitor Eyelet Board Construction

Locate the AB763 22W Capacitor Eyelet Board. The following steps will cover the placement and soldering of all parts that are mounted on this board. Use the Parts List as a reference.

AB763 22W Capacitor Eyelet Board: Part 1

B1-1: Locate a 16uF 475V capacitor. Connect the negative lead to eyelet 1 and the positive to 6.

B1-2: Connect a 2" piece of bus wire from the back of eyelet 1 to the back of 2. Do not block hole A with this wire.

B1-3: Connect an 8" piece of 22AWG (thinner) black wire to eyelet 1. Solder eyelet 1 now. Pull this wire through hole C.

B1-4: Locate a 3W(larger) 10kΩ resistor. Its color bands are brown, black, orange, gold. Connect this resistor from eyelet 6 to 7.

B1-5: Connect an 8" piece of yellow wire to eyelet 6. Solder eyelet 6 now. Pull this wire through hole C.

B1-6: Locate a 16uF 475V capacitor. Connect the negative lead to eyelet 2 and the positive to 7.

B1-7: Connect a 1.5" piece of bus wire from the back of eyelet 2 to the back of 3. Solder eyelet 2 now.

B1-8: Locate a 3W(larger) 10kΩ resistor. Its color bands are brown, black, orange, gold. Connect this resistor from eyelet 7 to 8.

B1-9: Connect a 12" piece of brown wire to eyelet 7. Solder eyelet 7 now. Pull this wire through hole E.

B1-10: Locate a 16uF 475V capacitor. Connect the negative lead to eyelet 3 and the positive to 8. Solder eyelet 3 now.

B1-11: Connect three 8" pieces of 22AWG (thinner) white wire to eyelet 8. Solder eyelet 8 now. Pull two of these wires through hole B and the third through hole E.

B1-12: Locate a 16uF 475V capacitor. Connect the negative lead to eyelet 4 and the positive to 9.

B1-13: Connect a 1.5" piece of bus wire from the back of eyelet 4 to the back of 5. Solder eyelet 4 now.

B1-14: Connect a 1.5" piece of bus wire from the back of eyelet 9 to the back of 10.

B1-15: Connect an 8" piece of red wire to eyelet 9. Solder eyelet 9 now. Pull this wire through hole E.

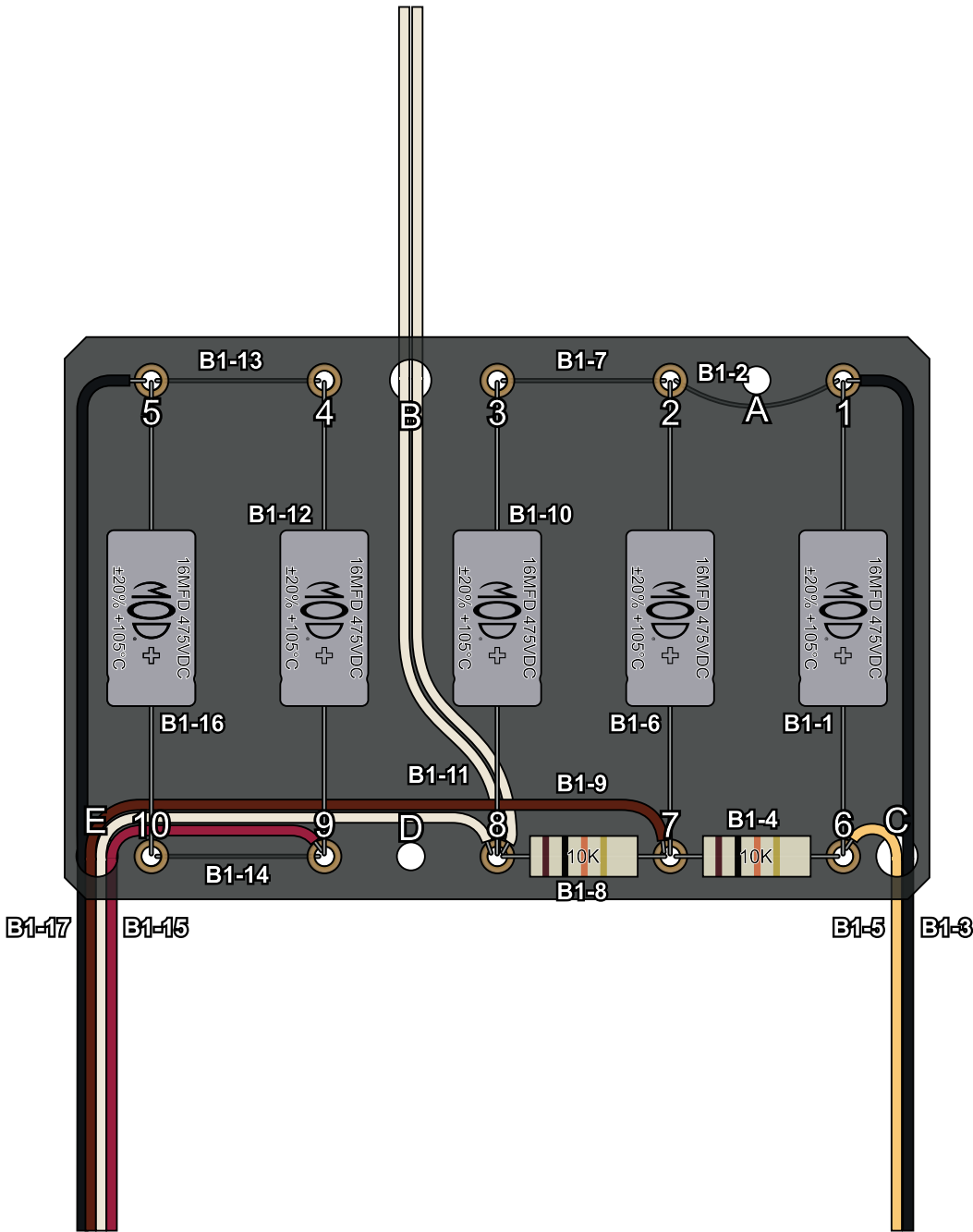
B1-16: Locate a 16uF 475V capacitor. Connect the negative lead to eyelet 5 and the positive to 10. Solder eyelet 10 now.

B1-17: Connect a 12" piece of 22AWG (thinner) black wire to eyelet 5. Solder eyelet 5 now. Pull this wire through hole E.

Completed Fiberboard: Inspection

The capacitor fiberboard of the AB763 22W is now completed. Please take some time to thoroughly check the connections, parts placement, and solder joints. Ensure all components are in their correct positions according to the wiring diagram, with electrolytic capacitors oriented correctly for polarity. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked. Note that all eyelets should be soldered at this point.

Completed AB763 22W Capacitor Eyelet Board



AB763 22W Bias Eyelet Board Construction

Locate the AB763 22W Bias Eyelet Board. The following steps will cover the placement and soldering of all parts that are mounted on this board. Use the Parts List as a reference.

AB763 22W Bias Eyelet Board: Part 1

C1-1: Locate the 1N4007 diode. Connect the anode to eyelet 1 and the cathode, the side with the silver band, to eyelet 2.

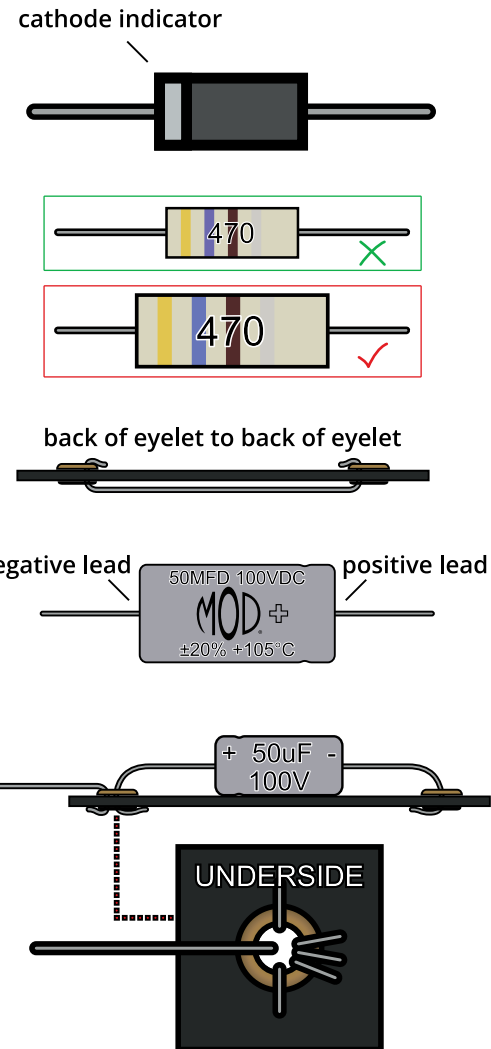
C1-2: Locate a 3W(larger) 470Ω resistor. Its color bands are yellow, violet, brown, gold. Connect this resistor from eyelet 2 to 3. Solder eyelet 2 now. Trim the excess lead at eyelet 3 but do not solder this eyelet yet.

C1-3: Connect a 1" piece of bus wire from the back of eyelet 1 to the back of eyelet 4.

C1-4: Locate the 50uF 100V capacitor. Connect the negative lead to eyelet 4 and the positive to 5. Trim the excess lead at eyelet 5 but do not solder this eyelet yet.

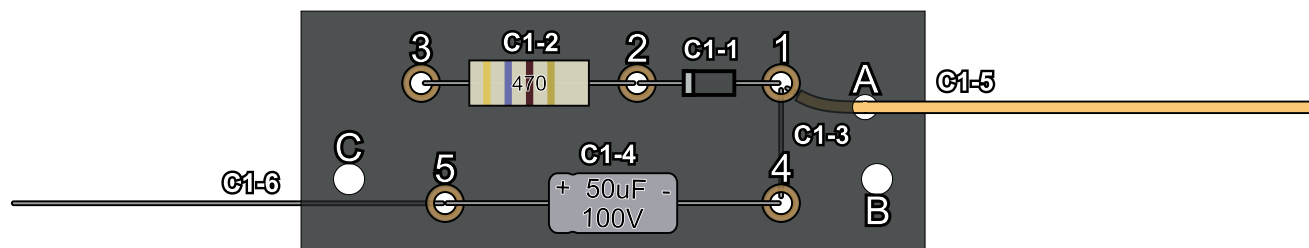
C1-5: Thread a 6" piece of yellow wire through hole A and connect it to eyelet 1 through the back of the board. Solder eyelet 1 now.

C1-6: Connect a 3" piece of bus wire to the back of eyelet 5. Solder eyelet 5 now.



Completed Fiberboard: Inspection

The bias fiberboard of the AB763 22W is now completed. Please take some time to thoroughly check the connections, parts placement, and solder joints. Ensure all components are in their correct positions according to the wiring diagram, with the electrolytic capacitor and diode oriented correctly for polarity. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked. Note that all eyelets except for 3 and 4 should be soldered at this point.



AB763 22W Eyelet Board Construction Builder Notes

Use this page to record any notes on the eyelet board construction.

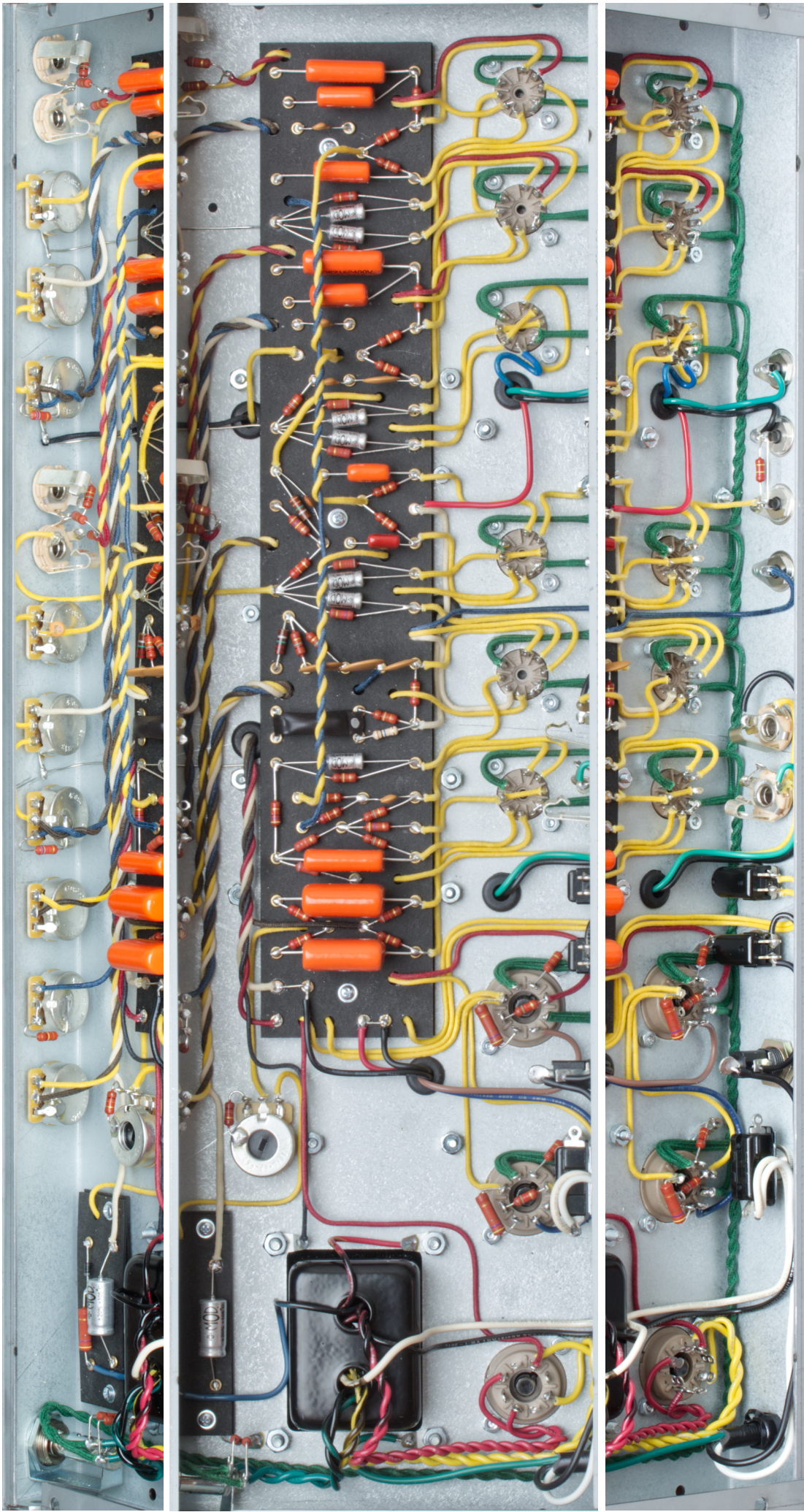
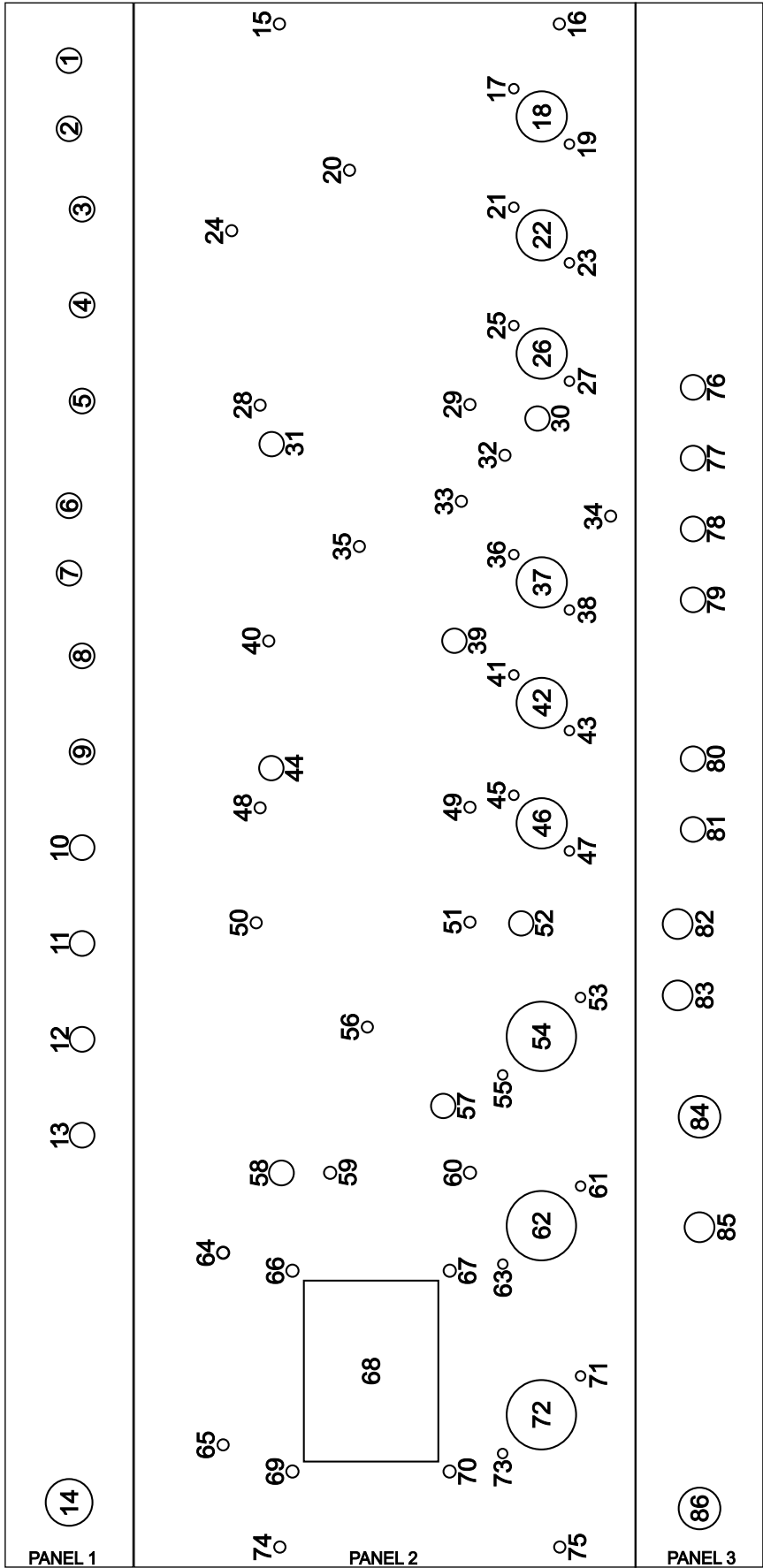
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Notes on Chassis Construction

Chassis Layout

This section covers the chassis construction and diagrams used throughout these instructions.

The chassis drawings show a flattened view of the chassis, looking into the open side, with the control side at the top and the rear panel at the bottom. The top panel with the inputs and controls is referred to as Panel 1. The middle panel with the transformers and fiberboards is Panel 2. The bottom panel with the power and speaker outputs is Panel 3. The holes referenced throughout the instructions will correspond to the numbers shown on this drawing.



Chassis-Mounted Components: Panels 1 & 2

Locate the chassis. The following steps will cover the placement and mounting of components such as potentiometers, transformers, and sockets onto the chassis. Use the Parts List as a reference.

Part 1: Tube Sockets

D1-1: Locate the three octal sockets and tube clips. These will mount to holes 54, 62, and 72 on panel 2 of the chassis. Hole 72 is the rectifier tube socket and holes 54 and 62 are the output tube sockets. Be sure to orient the sockets as shown in the drawing.

D1-2: Locate six 1/4" 4-40 screws, six 4-40 nuts, four #4 lock washers and two #6 solder lugs. Pass the screws through the tube clip and then the mounting bracket of the octal sockets.

D1-3: Mount these through the outside of the chassis then use the lock washers and nuts to secure the sockets to the chassis at holes 55, 63, 71, and 73. At holes 53 and 61, slide the #6 solder lugs onto the screws and then secure each with a 4-40 nut.

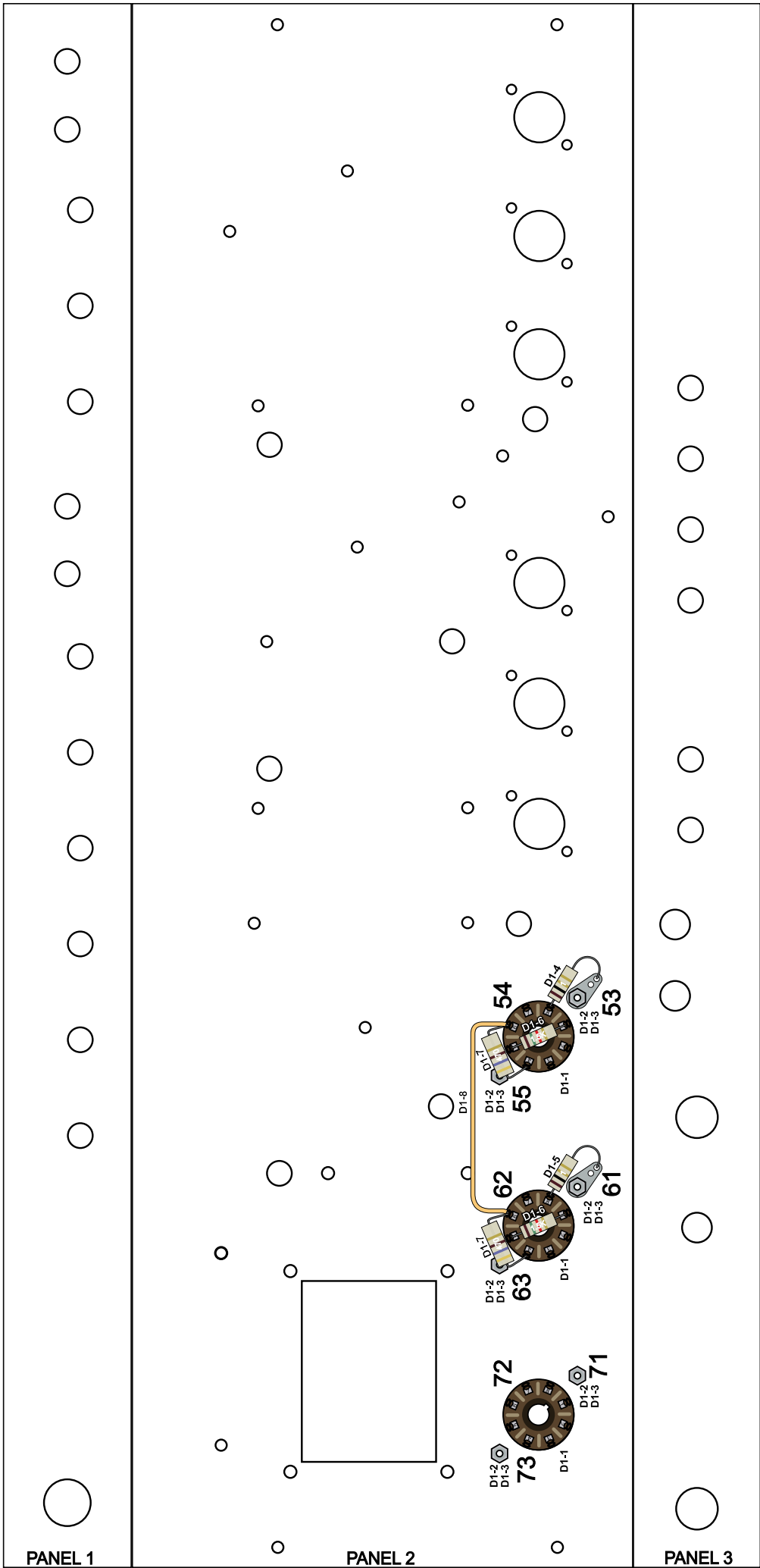
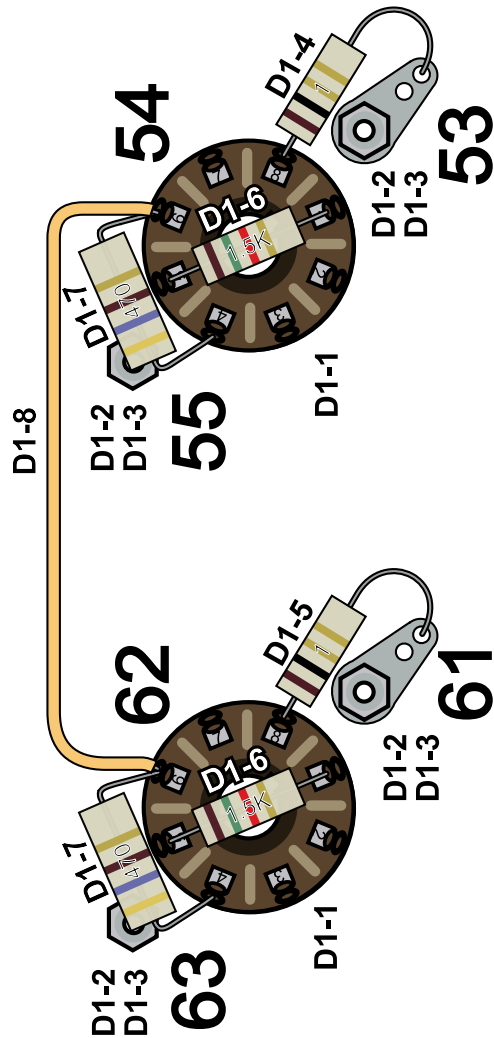
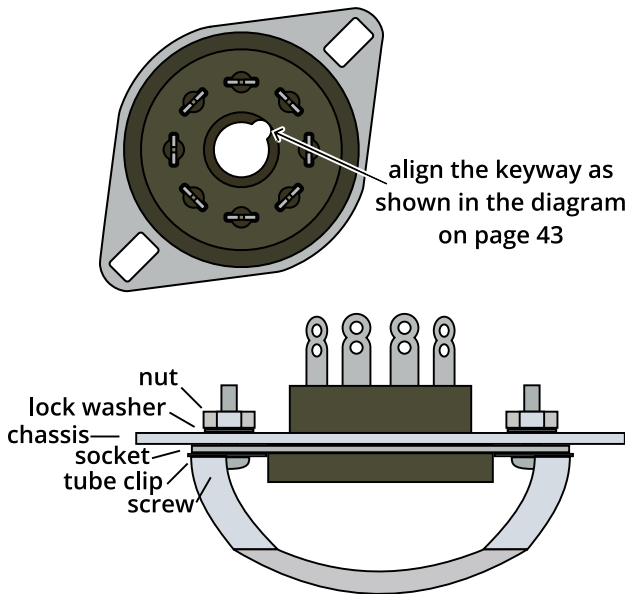
D1-4: Locate a 1Ω resistor. Its color bands are brown, black, gold, gold. Connect this resistor from lug 8 of the octal socket at hole 54 to the solder lug at hole 53. Solder both lug 8 of the socket and the solder lug at 53 now.

D1-5: Locate a 1Ω resistor. Its color bands are brown, black, gold, gold. Connect this resistor from lug 8 of the octal socket at hole 62 to the solder lug at hole 61. Solder both lug 8 of the socket and the solder lug at 61 now.

D1-6: Locate two 1.5kΩ resistors. Their color bands are brown, green, red, gold. Connect these resistors from lug 1 to 5 on the octal sockets at holes 54 and 62. Solder lug 5 on both of these octal sockets now.

D1-7: Locate two 3W(larger) 470Ω resistors. Their color bands are yellow, violet, brown, gold. Connect these resistors from lug 4 to 6 on the octal sockets at holes 54 and 62. Solder lug 4 on both of these octal sockets now.

D1-8: Cut a 4" piece of yellow wire. Use this to connect lug 6 of the socket at hole 54 to lug 6 of the socket at hole 62. Solder lug 6 of the socket at hole 62 now.



Chassis-Mounted Components: Panels 1 & 2

Part 1: Tube Sockets (Continued)

D1-9: Locate the six noval sockets. These will mount to holes 18, 22, 26, 37, 42, and 46 on panel 2 of the chassis. These are the preamp tube sockets. Be sure to orient the sockets as shown in the drawing.

D1-10: Locate twelve 1/4" 4-40 screws, 4-40 nuts, and #4 lock washers. Pass the screws through the mounting bracket of the noval socket at holes 17, 19, 21, 23, 25, 27, 36, 38, 41, 43, 45, and 47.

D1-11: These mount through the outside of the chassis. Use the lock washers and nuts to secure the sockets to the chassis

D1-12: Cut six 1/2" piece of bus wire. Use these to connect the lug 4 to 5 on each noval socket. Solder lug 5 on all noval sockets now.

D1-13: Cut a 2.5" piece of yellow wire. Use this to connect lug 8 of the socket at hole 18 to lug 8 of the socket at hole 22. Solder lug 8 of the socket at hole 18 now.

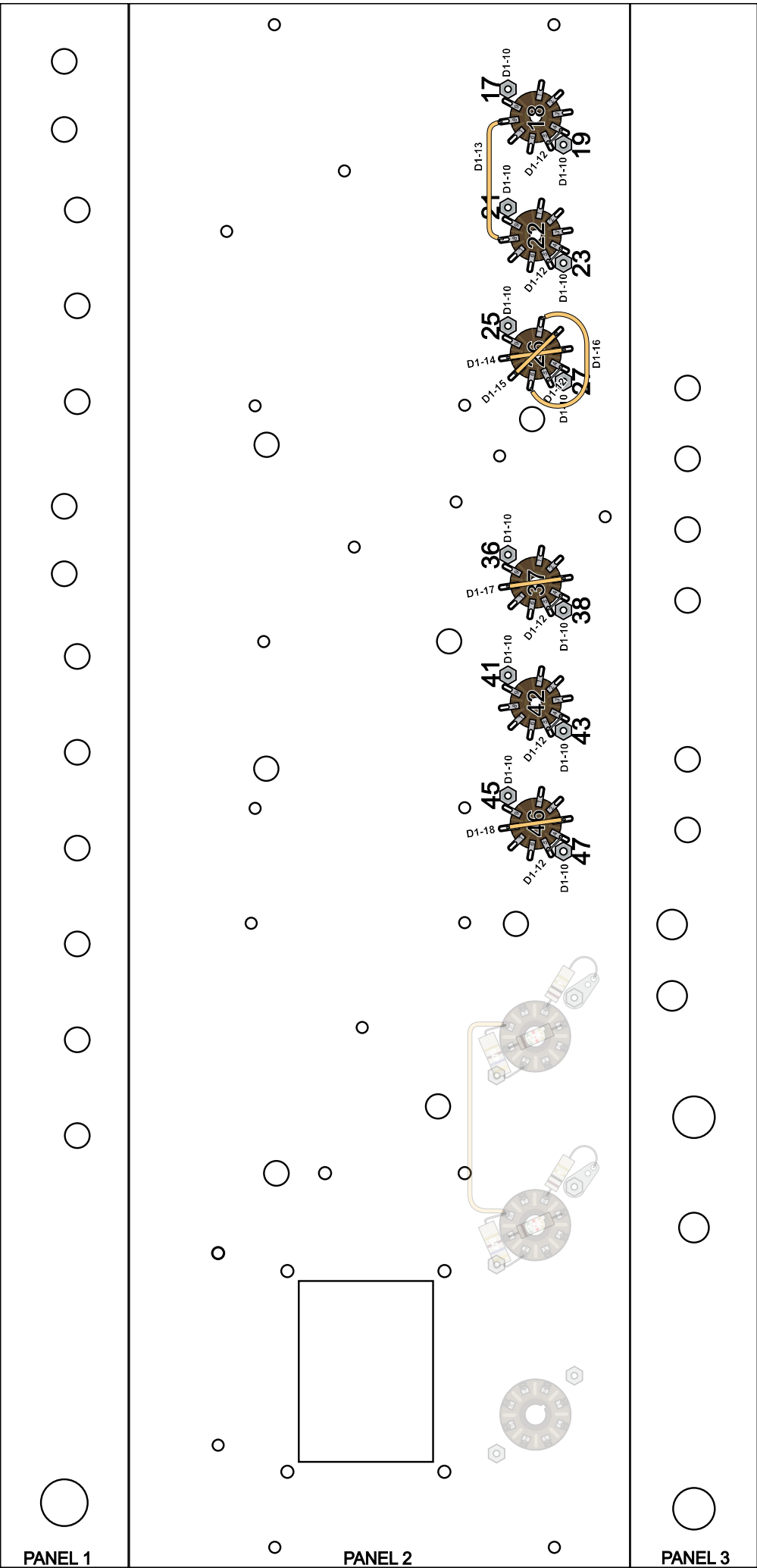
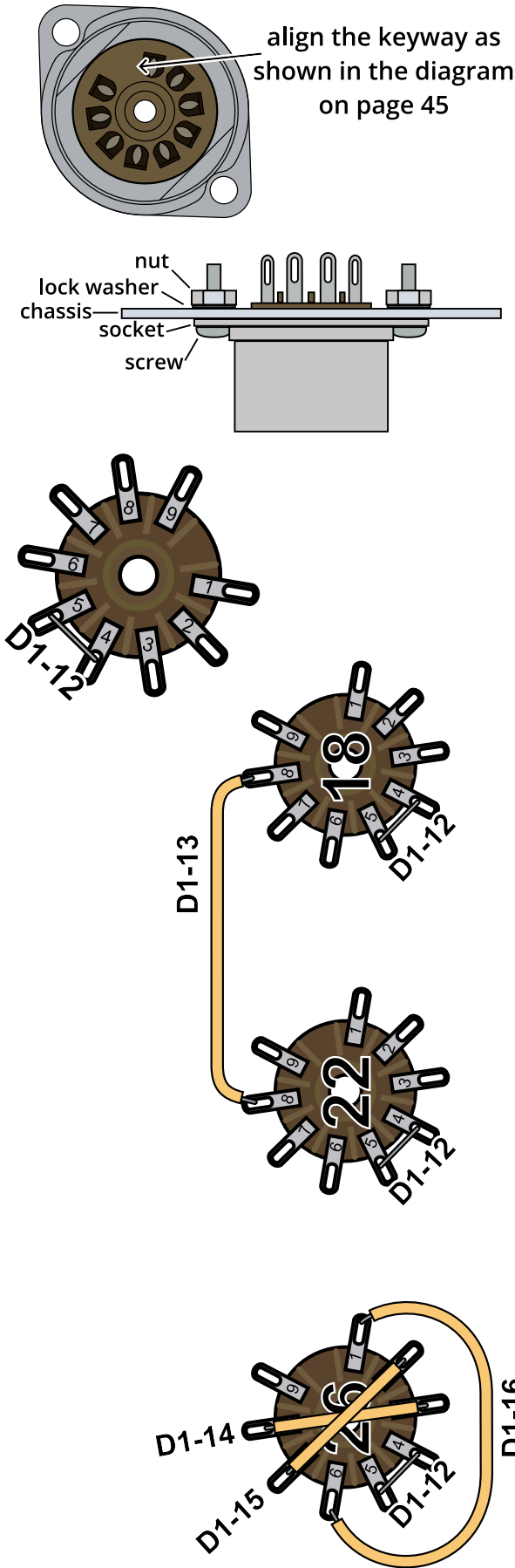
D1-14: Cut a 1" piece of yellow wire. Use this to connect the lug 3 to 8 on the noval socket at hole 26. Solder lug 3 now.

D1-15: Cut a 1" piece of yellow wire. Use this to connect the lug 2 to 7 on the noval socket at hole 26. Solder lug 2 now.

D1-16: Cut a 3" piece of yellow wire. Use this to connect the lug 1 to 6 on the noval socket at hole 26. Solder lug 1 now.

D1-17: Cut a 1" piece of yellow wire. Use this to connect the lug 3 to 8 on the noval socket at hole 37. Solder lug 3 now.

D1-18: Cut a 1" piece of yellow wire. Use this to connect the lug 3 to 8 on the noval socket at hole 46. Solder lug 3 now.



Chassis-Mounted Components: Panels 1 & 2

Part 2: Filament Wiring

D2-1: Starting at the middle of two 6.5" pieces of green wire, twist a 3/4" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 18 and the noval socket at hole 22. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 18 to 9 and 4 of the noval socket at hole 22. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 18 now.

D2-2: Starting at the middle of two 6.5" pieces of green wire, twist a 3/4" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 22 and the noval socket at hole 26. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 22 to 9 and 4 of the noval socket at hole 26. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 22 now.

D2-3: Starting at the middle of two 8.5" pieces of green wire, twist a 2.5" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 26 and the noval socket at hole 37. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 26 to 9 and 4 of the noval socket at hole 37. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 26 now.

D2-4: Starting at the middle of two 6.5" pieces of green wire, twist a 3/4" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 37 and the noval socket at hole 42. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 37 to 9 and 4 of the noval socket at hole 42. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 37 now.

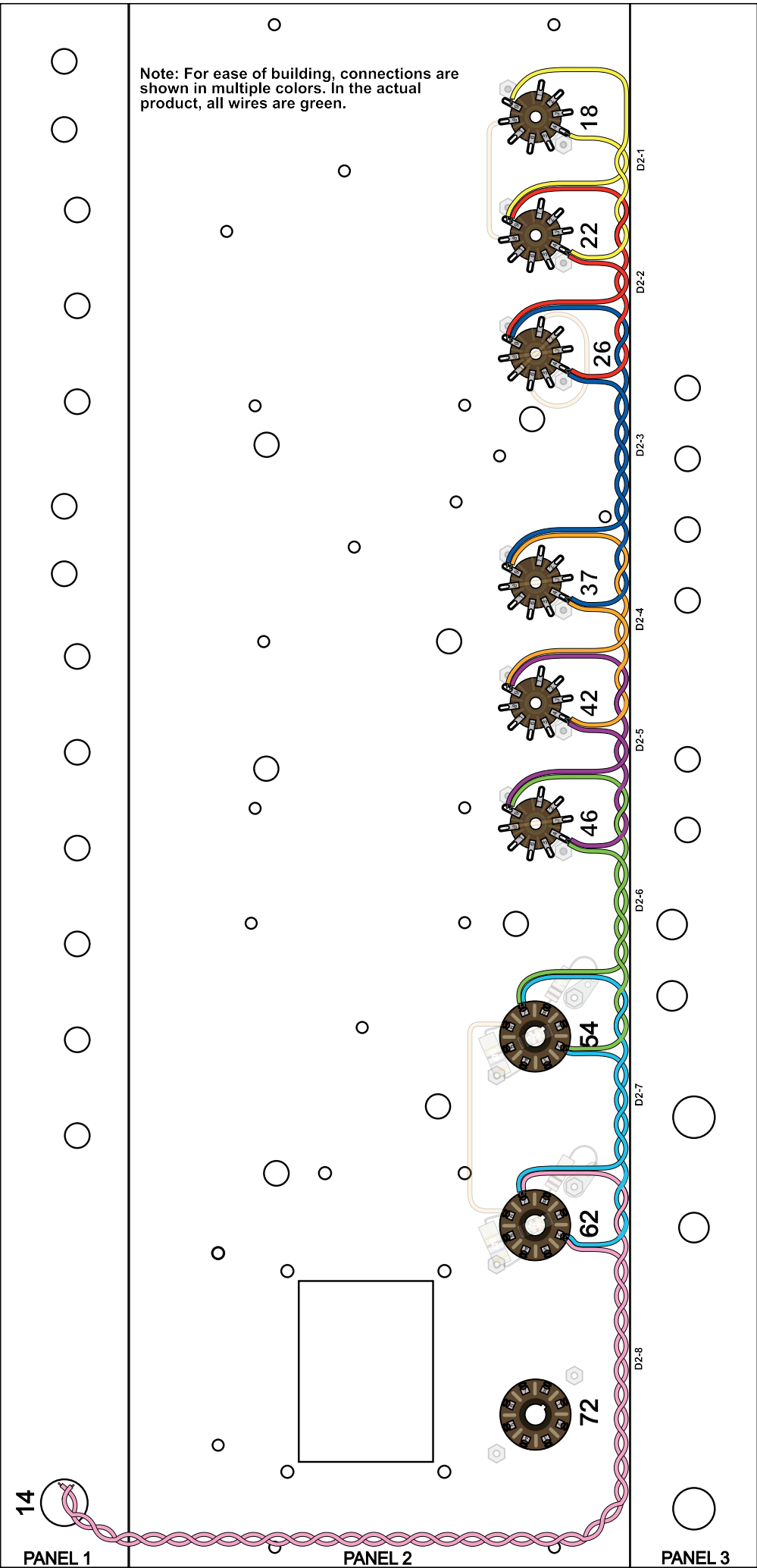
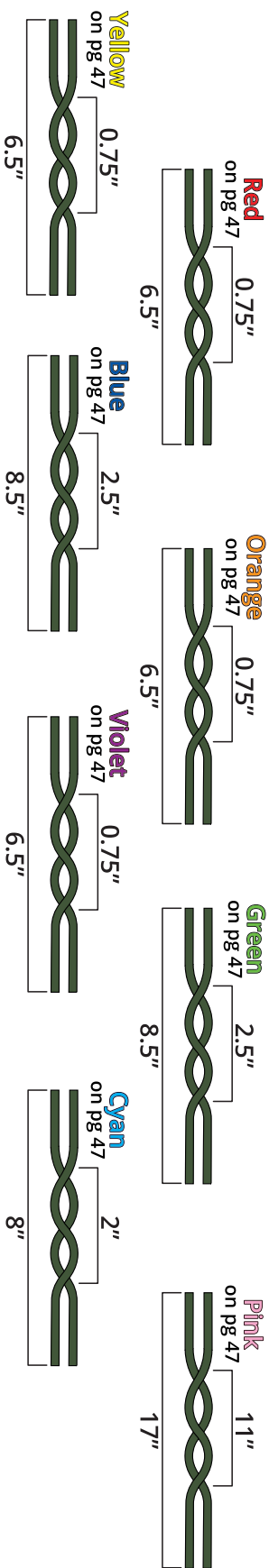
D2-5: Starting at the middle of two 6.5" pieces of green wire, twist a 3/4" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 42 and the noval socket at hole 46. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 42 to 9 and 4 of the noval socket at hole 46. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 42 now.

D2-6: Starting at the middle of two 8.5" pieces of green wire, twist a 2.5" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the noval socket at hole 46 and the octal socket at hole 54. Trim the four untwisted ends to connect pins 9 and 4 of the noval socket at hole 46 to 7 and 2 of the octal socket at hole 54. Polarity does not matter with these wires. Solder pins 9 and 4 of the noval socket at hole 46 now.

D2-7: Starting at the middle of two 8" pieces of green wire, twist a 2" segment. Leave the two ends untwisted. Position the twisted section against the edge of panels 2 and 3 between the octal socket at hole 54 and the octal socket at hole 62. Trim the four untwisted ends to connect pins 7 and 2 of the octal socket at hole 54 to 7 and 2 of the octal socket at hole 62. Polarity does not matter with these wires. Solder pins 7 and 2 of the octal socket at hole 54 now.

D2-8: Starting at 3" in of two 17" pieces of green wire, twist an 11" segment, leaving roughly 2-3" untwisted on the other end. With the 3" untwisted section facing the octal socket at hole 62, route the twisted section against the edge of panels 2 and 3 towards hole 72 on panel 2. Once past hole 72, route the twisted wires toward hole 14. Try to avoid blocking any of the other holes on its way across panel 2. Trim the 3" ends to connect to pins 7 and 2 of the octal socket at hole 62. The other ends will connect to the pilot light holder at hole 14 later in the instructions. Solder pins 7 and 2 of the octal socket at hole 62 now.

Diagrams not to scale.



Chassis-Mounted Components: Panels 1 & 2

Part 3: Mounting the Front Faceplate & Controls

D3-1: Locate the front faceplate. Line it up with the corresponding holes of panel 1 on the outside of the chassis. The following steps detail how to secure the faceplate to the chassis using the front panel hardware. These components will pass through both the chassis and the faceplate at the corresponding holes. Loosely secure each piece of hardware at first, ensuring all items are mounted on panel 3 before fully tightening. Be careful not to scratch the panel when tightening the front panel hardware.

D3-2: Locate two of the switched 1/4" jacks. Mount these to holes 1 and 2 on panel 1. The nut is attached on the outside of the chassis. The included flat washers are not required and can be discarded. Orient the jacks as shown in the drawing to the right. The tip lug of the jack at hole 1 should be touching the switch lug of the jack at hole 2. These lugs may need to be adjusted with pliers for the jacks to sit flush to the panel.

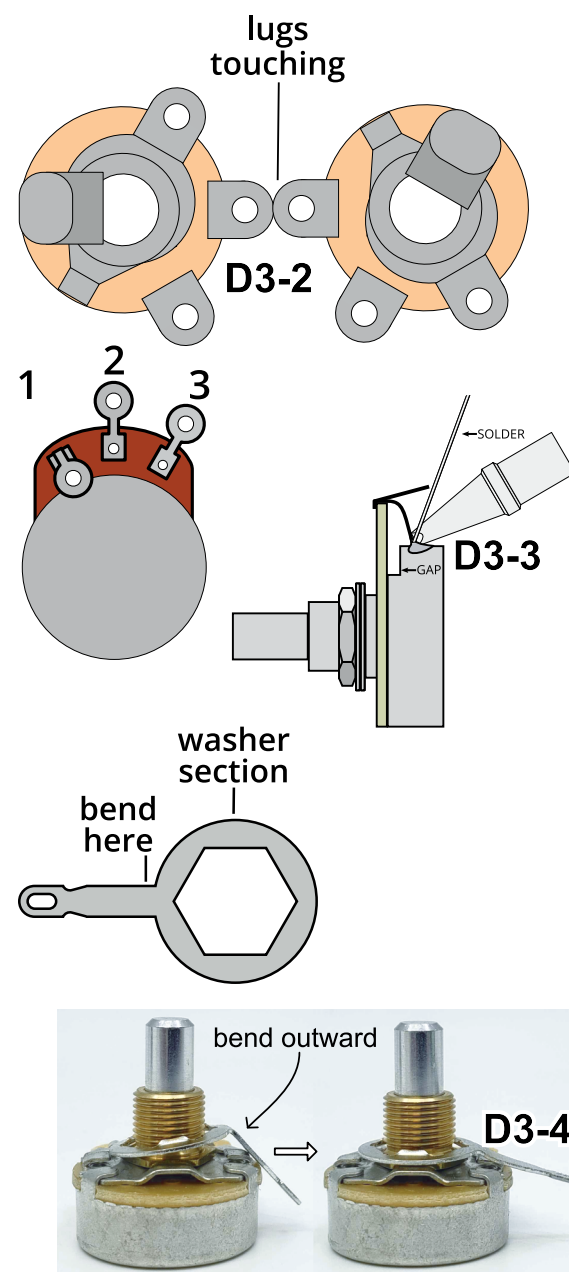
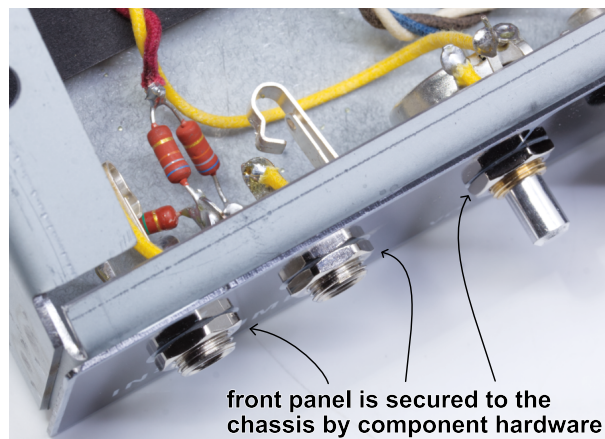
D3-3: Locate the C50k Ω , B100k Ω , and two A1M Ω potentiometers. On each of these, bend lug 1 down until it makes contact with the metal potentiometer body. Solder lug 1 to the frame on these pots now. Be careful not to melt any solder into the gap. This connection grounds the lug to the chassis when the pots are mounted.

D3-4: Locate three 3/8" solder lugs. Use needlenose pliers to slightly bend the arm so that the washer section of the solder lug can sit flush on the potentiometers.

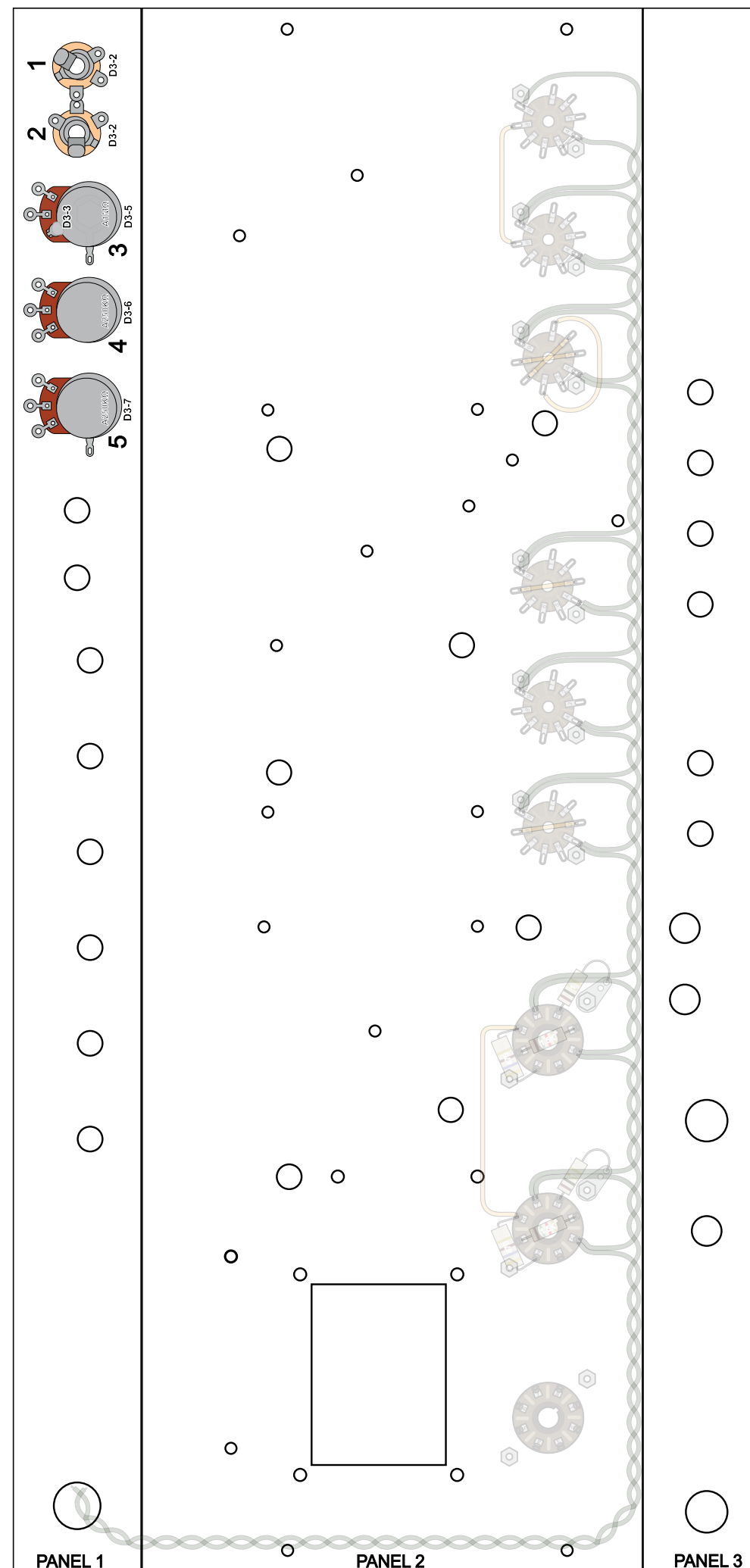
D3-5: Remove all of the mounting hardware from one of the A1MΩ potentiometers. Slide one of the 3/8" solder lugs onto this pot's bushing. Mount this pot to hole 3 with its lugs facing up. The 3/8" solder lug should be pointing left. The easiest way to accomplish this is to stand the chassis on the end closest to hole 14 when mounting the pot. Attach the nut on the outside of the chassis.

D3-6: Locate the one of the A250k Ω potentiometer. Mount this pot to hole 4. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.

D3-7: Remove all of the mounting hardware from another A250k Ω potentiometer. Slide one of the 3/8" solder lugs onto this pot's bushing. Mount this pot to hole 5 with its lugs facing up. The 3/8" solder lug should be pointing left. Attach the nut on the outside of the chassis.



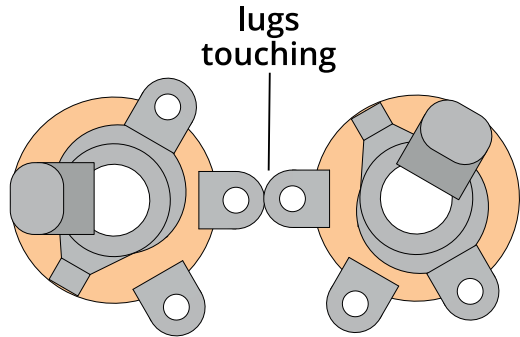
Chassis-Mounted Components: Panels 1 & 2



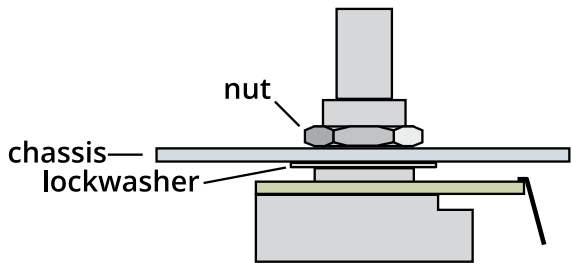
Chassis-Mounted Components: Panels 1 & 2

Part 3: Mounting the Front Faceplate & Controls (Continued)

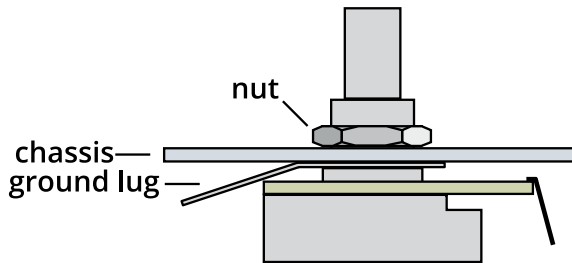
D3-8: Locate two of the switched 1/4" jacks. Mount these to holes 6 and 7 on panel 1. The nut is attached on the outside of the chassis. The included flat washers are not required and can be discarded. Orient the jacks as shown in the drawing to the right. The tip lug of the jack at hole 6 should be touching the switch lug of the jack at hole 7. These lugs may need to be adjusted with pliers for the jacks to sit flush to the panel.



D3-9: Locate the other A1MΩ potentiometer. Mount this pot to hole 8. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.



D3-10: Remove all of the mounting hardware from another A250kΩ potentiometer. Slide one of the 3/8" solder lugs onto this pot's bushing. Mount this pot to hole 9 with its lugs facing up. The 3/8" solder lug should be pointing left. Attach the nut on the outside of the chassis.



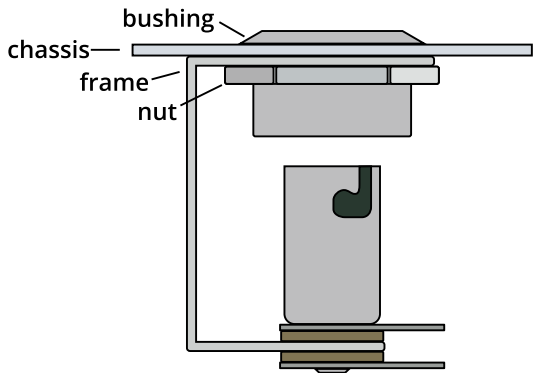
D3-11: Locate the last A250kΩ potentiometer. Mount this pot to hole 10. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.

D3-12: Locate the B100kΩ potentiometer. Mount this pot to hole 11. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.

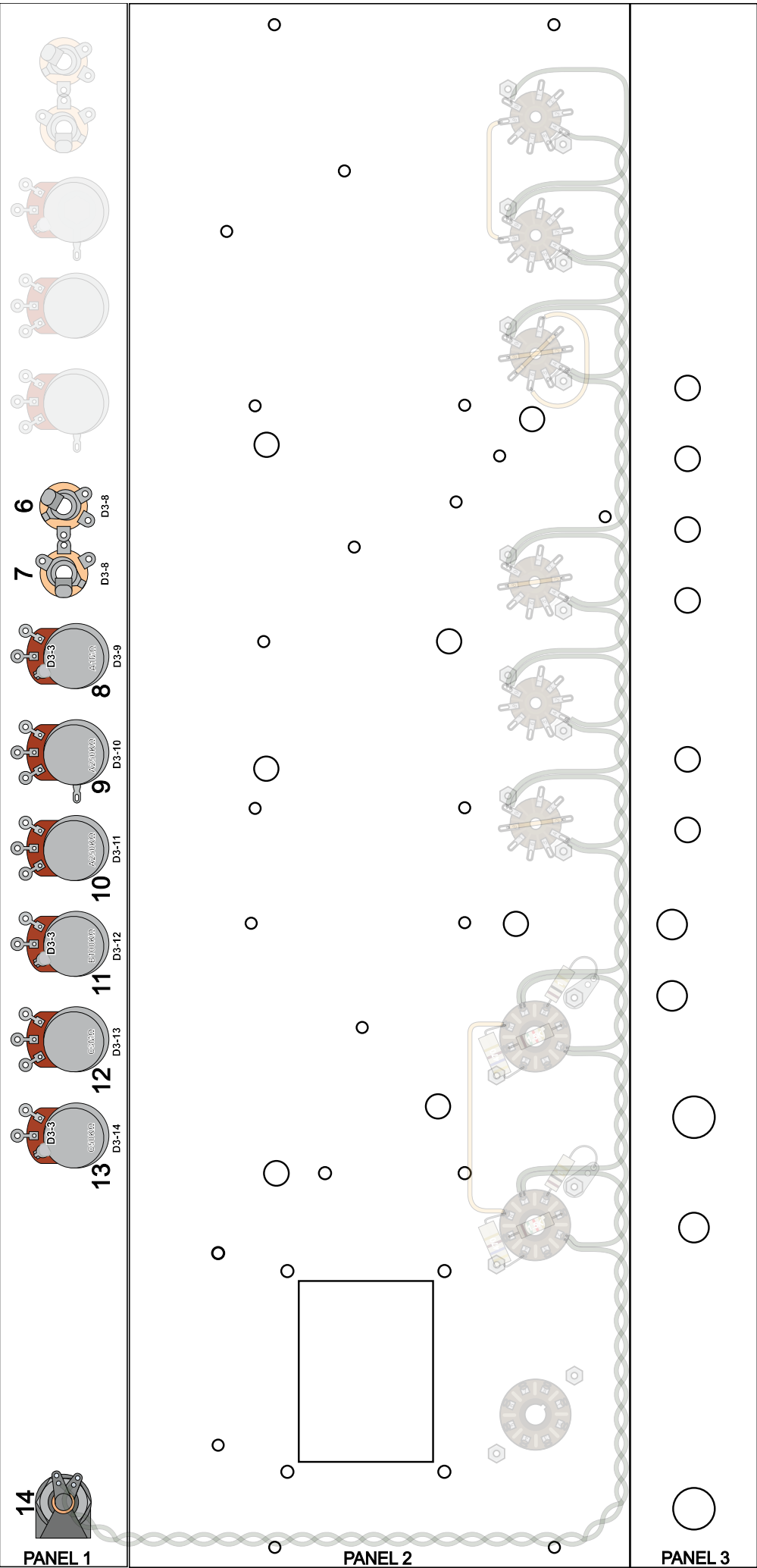
D3-13: Locate the C3MΩ potentiometer. Mount this pot to hole 12. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.

D3-14: Locate the C50kΩ potentiometer. Mount this pot to hole 13. First slide the lock washer onto the pot's bushing. Mount the pot with the lugs facing up. Attach the nut on the outside of the chassis.

D3-15: Locate the pilot light socket. This will mount in hole 14. The bushing mounts to the outside of the chassis. The frame is then secured with the nut on the inside of the chassis. Make sure that the frame is oriented to the left and that the solder lugs are not touching the chassis. The lugs may need to be rotated away from the chassis.



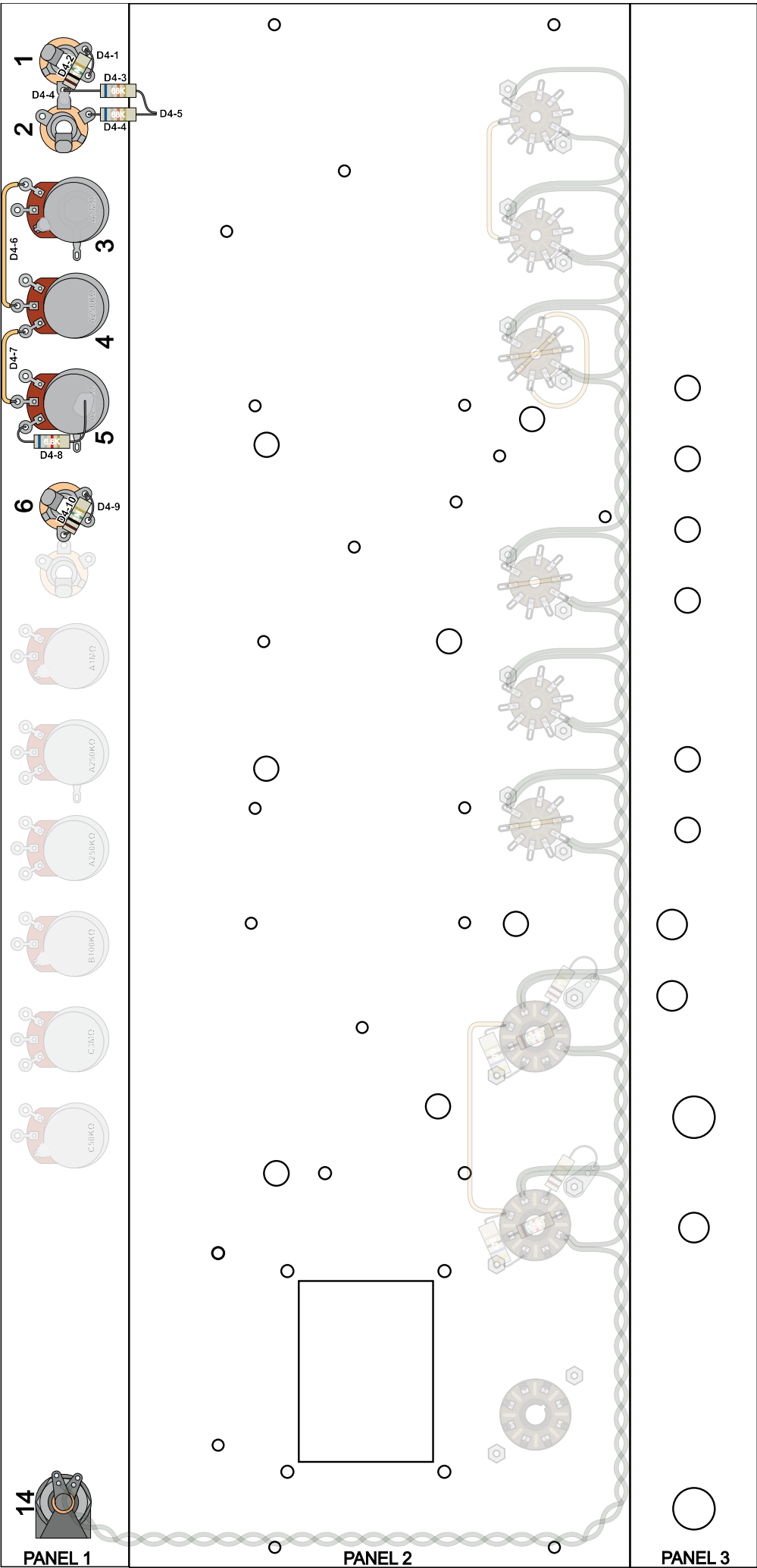
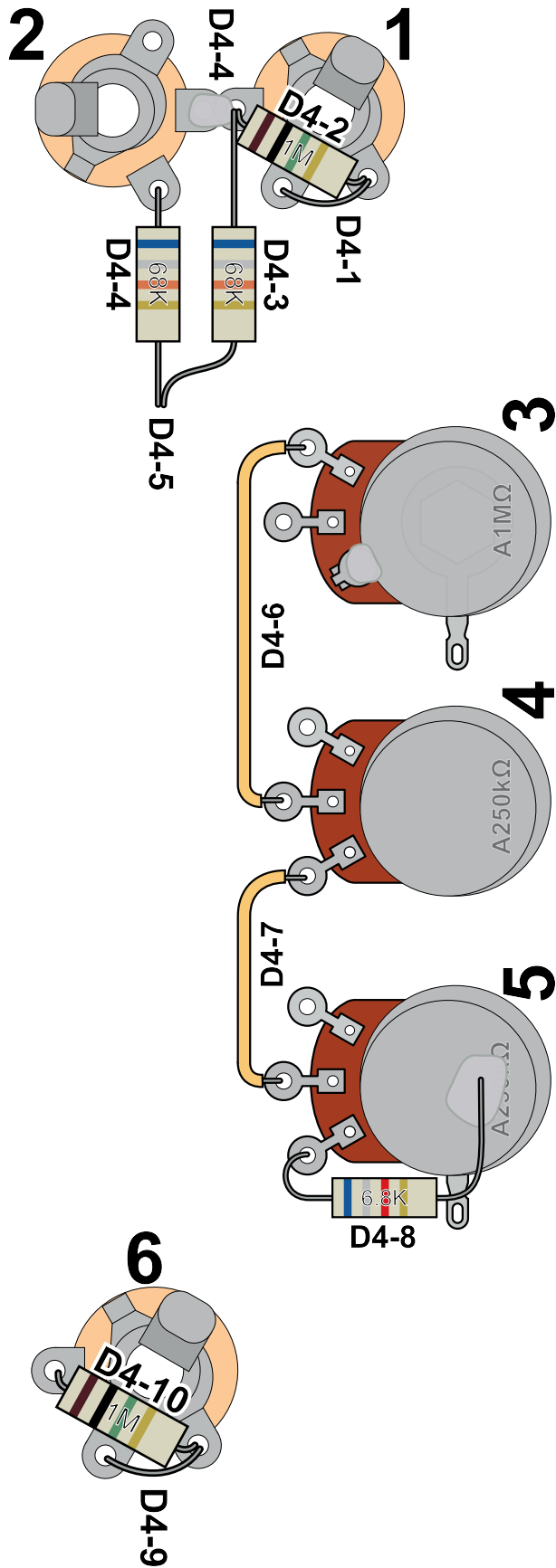
D3-16: Now that all of the front panel components have been mounted, tighten down all mounting hardware.



Chassis-Mounted Components: Panels 1 & 2

Part 4: Front Controls Preliminary Wiring

- D4-1:** Cut a 3/4" piece of bus wire. Use this to connect the switch lug to the sleeve lug on the jack at hole 1. Solder the switch lug of the jacks at hole 1 now.
- D4-2:** Locate a 1M resistor. Its color bands are brown, black, green, gold. Connect this resistor from the tip lug to the sleeve lug on the jack at hole 1. Make sure that the resistor's body is not blocking the path of the plug. Test by inserting a cable into this jack. Once the position is confirmed, solder the sleeve lug of this jack.
- D4-3:** Locate a 68kΩ resistor. It's color bands are blue, gray, orange, gold. Connect this resistor to the tip lug of the jack at hole 2. There should be roughly 1/4" of lead between the body of the resistor and the solder lug. Solder the tip lug now.
- D4-4:** Locate another 68kΩ resistor. Connect this resistor to the tip lug of the jack at hole 1. There should be roughly 1/4" of lead between the body of the resistor and the solder lug. Make sure that the switch lug of the jack at hole 2 is still making contact with the tip lug of the jack at hole 1. Solder these connections together now. The joint should coat both jacks' lugs and the wrapped leads of the two resistors connected to the tip lug at hole 1.
- D4-5:** Once the parts have cooled, gently twist together the unconnected ends of the two 68kΩ resistors.
- D4-6:** Cut a 2.5" piece of yellow wire. Use this to connect lug 3 of the pot at hole 3 to lug 2 of the pot at hole 4. Solder both connections now.
- D4-7:** Cut a 2" piece of yellow wire. Use this to connect lug 1 of the pot at hole 4 to lug 2 of the pot at hole 5. Solder lug 1 of the pot at hole 4 now.
- D4-8:** Locate a 6.8kΩ resistor. Its color bands are blue, gray, red, gold. Connect it from lug 1 of the pot at hole 5 to the back of the pot. First wrap the resistor to lug 1 of the pot. Do not solder lug 1 at this point. Then solder the other lead to the back of the pot. Be sure to sufficiently heat both the lead and the back of the pot before attempting to apply solder. It can sometimes be helpful to lightly sand or scuff the back of the pot so the solder can bond to it more easily.
- D4-9:** Cut a 3/4" piece of bus wire. Use this to connect the switch lug to the sleeve lug on the jack at hole 6. Solder the switch lug of the jacks at hole 6 now.
- D4-10:** Locate a 1M resistor. Its color bands are brown, black, green, gold. Connect this resistor from the tip lug to the sleeve lug on the jack at hole 6. Make sure that the resistor's body is not blocking the path of the plug. Test by inserting a cable into this jack. Once the position is confirmed, solder the sleeve lug of this jack.



Chassis-Mounted Components: Panels 1 & 2

Part 4: Front Controls Preliminary Wiring (Continued)

D4-11: Locate a 68kΩ resistor. It's color bands are blue, gray, orange, gold. Connect this resistor to the tip lug of the jack at hole 7. There should be roughly ¼" of lead between the body of the resistor and the solder lug. Solder the tip lug now.

D4-12: Locate another 68kΩ resistor. Connect this resistor to the tip lug of the jack at hole 6. There should be roughly ¼" of lead between the body of the resistor and the solder lug. Make sure that the switch lug of the jack at hole 7 is still making contact with the tip lug of the jack at hole 6. Solder these connections together now. The joint should coat both jacks' lugs and the wrapped leads of the two resistors connected to the tip lug at hole 6.

D4-13: Once the parts have cooled, gently twist together the unconnected ends of the two 68kΩ resistors.

D4-14: Locate a 47pF (47K) 500V ceramic capacitor. Connect it from lug 2 to lug 3 of the pot at hole 8.

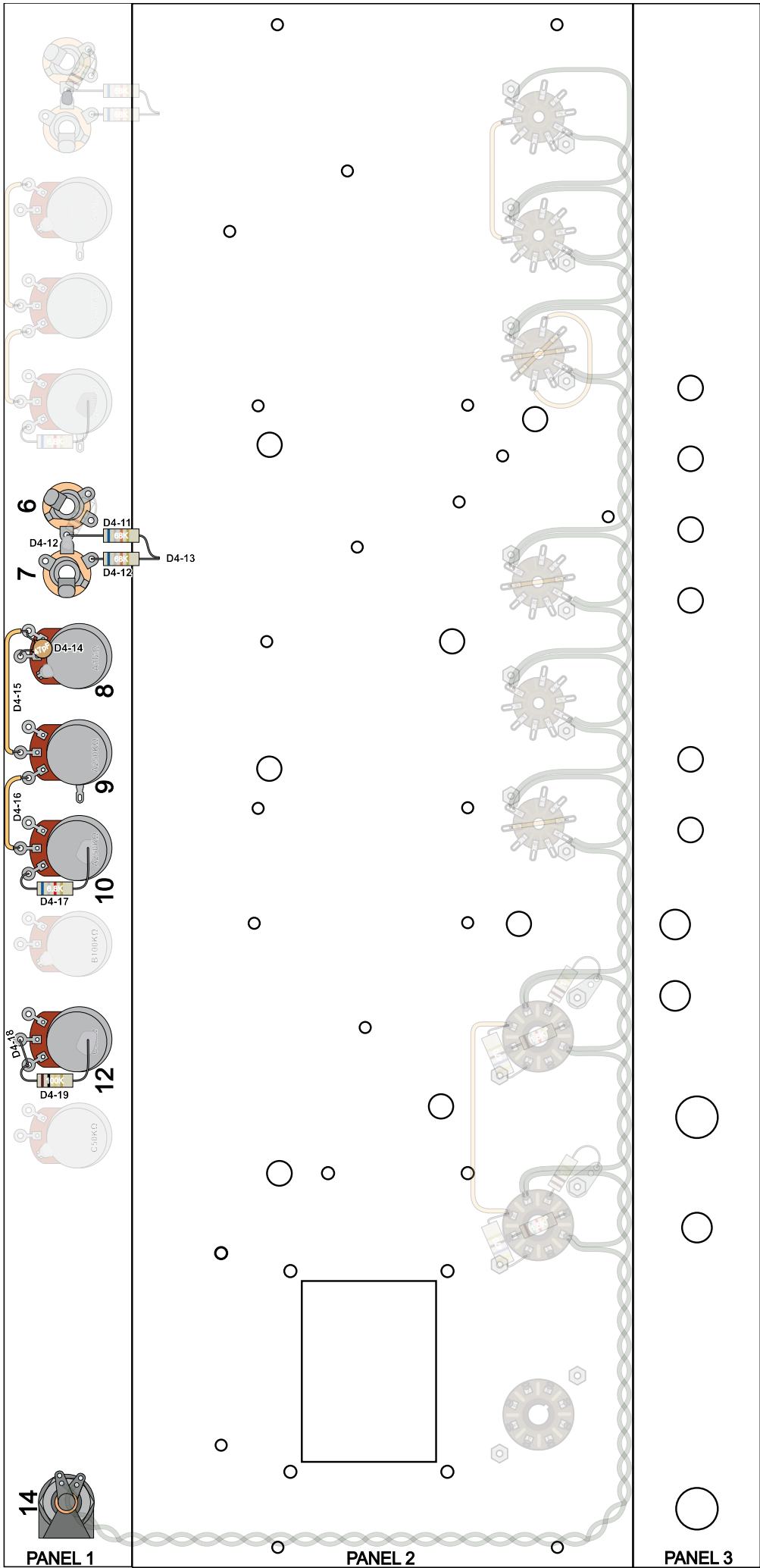
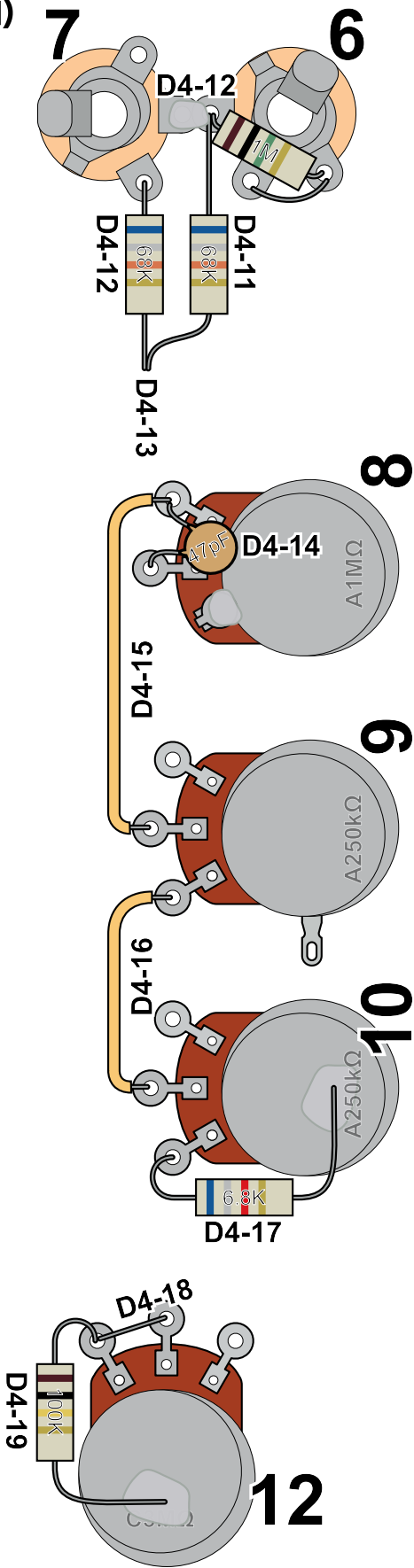
D4-15: Cut a 2.5" piece of yellow wire. Use this to connect lug 3 of the pot at hole 8 to lug 2 of the pot at hole 9. Solder both connections now.

D4-16: Cut a 2" piece of yellow wire. Use this to connect lug 1 of the pot at hole 9 to lug 2 of the pot at hole 10. Solder lug 1 of the pot at hole 9 now.

D4-17: Locate a 6.8kΩ resistor. Its color bands are blue, gray, red, gold. Connect it from lug 1 of the pot at hole 10 to the back of the pot. First wrap the resistor to lug 1 of the pot. Do not solder lug 1 at this point. Then solder the other lead to the back of the pot. Be sure to sufficiently heat both the lead and the back of the pot before attempting to apply solder. It can sometimes be helpful to lightly sand or scuff the back of the pot so the solder can bond to it more easily.

D4-18: Cut a 1/2" piece of bus wire. Use this to connect lug 1 to lug 2 of the pot at hole 12. Solder lug 2 of the pot at hole 12 now.

D4-19: Locate a 100kΩ resistor. Its color bands are brown, black, yellow, gold. Connect it from lug 1 of the pot at hole 12 to the back of the pot. First solder lug 1 of the pot. Then solder the other lead to the back of the pot. Be sure to sufficiently heat both the lead and the back of the pot before attempting to apply solder. It can be helpful to lightly sand or scuff the back of the pot so the solder can bond to it more easily.



Chassis-Mounted Components: Panels 1 & 2

Part 5: Power Transformer Mounting & Partial Wiring

D5-1: Locate the power transformer. Mount it in hole 68 of panel 2 with the red wire cluster oriented towards holes 66 and 67. Leave the four preinstalled transformer nuts in place.

D5-2: Locate four #8 solder lugs. Slide these onto the mounting screws of the power transformer at holes 66, 67, 69 and 70.

D5-3: Locate four 8-32 nuts. Thread these onto each mounting screw of the transformer. Use a nut driver to completely tighten each down.

D5-4: Locate the two yellow wires on the power transformer. Tightly twist the entire length of these wires. Once twisted, trim these to connect to pins 2 and 8 of the octal socket at hole 72. Solder pin 2 now.

D5-5: Locate the two red wires on the power transformer. Tightly twist the entire length of these wires. Once twisted, trim these to connect to pins 4 and 6 of the octal socket at hole 72. Solder both pins now.

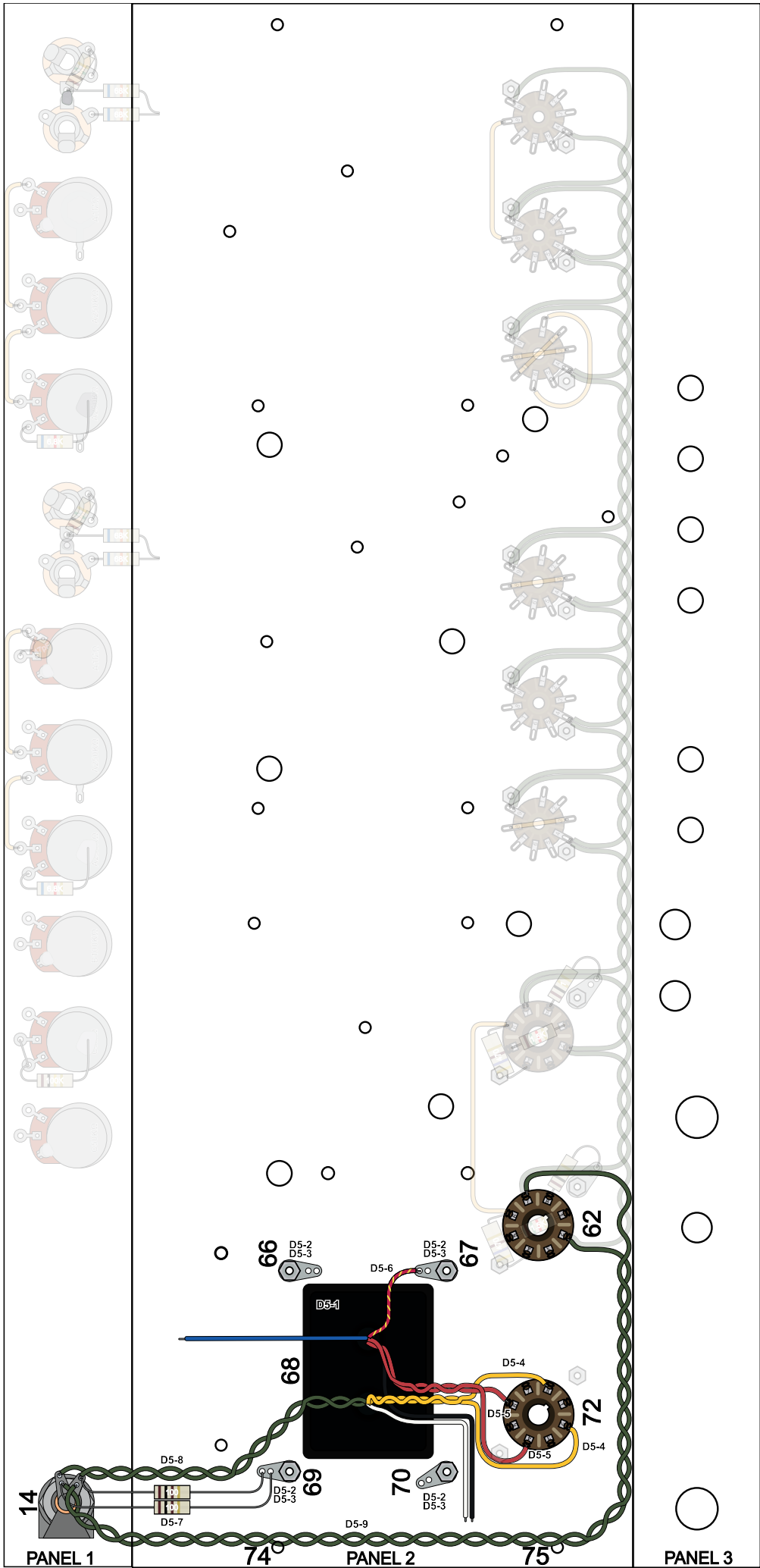
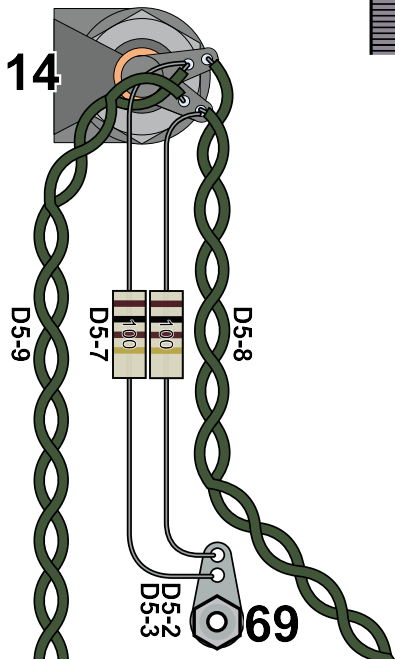
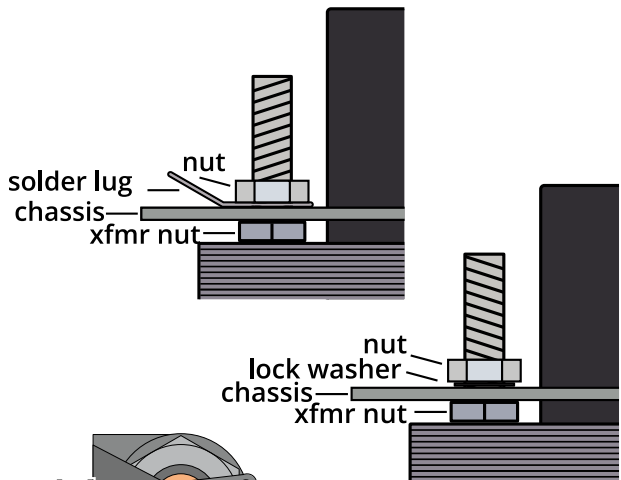
D5-6: Locate the yellow-striped red wire on the power transformer. Trim it to connect to the #8 solder lug at hole 67. Solder this lug now.

D5-7: Locate the two 100Ω resistors. Their color bands are brown, black, brown, gold. Connect one from lug 1 of the pilot light holder to the #8 solder lug at hole 69. Connect the other from lug 2 of the pilot light holder to the #8 solder lug at hole 69.

D5-8: Locate the two green wires on the power transformer. Tightly twist the entire length of these wires. Once twisted, trim these to connect one wire to lug 1 and the other to lug 2 of the pilot light holder.

D5-9: Locate the two twisted green wires coming from the octal socket at hole 62. Trim these to connect one to lug 1 and the other to lug 2 of the pilot light holder. Polarity does not matter. Solder both holes on both lugs of the pilot light holder now.

D5-10: Make sure that none of these wires are blocking holes 74 and 75 on panel 2 of the chassis. Reposition the wires if necessary.



Chassis-Mounted Components: Panels 1 & 2

Part 6: Reverb Transformer Mounting & Partial Wiring

D6-1: Locate a 1/4" rubber grommet. Attach it to hole 30 on panel 2 of the chassis.

D6-2: On the outside of the chassis, mount the reverb driver transformer with the blue and red wires oriented towards the socket at hole 26 and the green and black wires oriented towards the socket at hole 37. Pull all of the wires of the reverb driver transformer through the 1/4" grommet at hole 30.

D6-3: Locate two 3/8" 6-32 screws. These two screws will mount through the transformer and then through holes 32 and 34 on the outside of panel 2.

D6-4: Locate two #6 lock washers and two 6-32 nuts. First slide the lock washers over the threading of the two 6-32 screws on the inside of the chassis. Secure both screws using the 6-32 nuts. Make sure the green filament wires are not pinched by the hardware at hole 34 when tightening.

D6-5: Locate the blue wire of the reverb driver transformer. Trim and connect this wire to pin 6 of the noval socket at hole 26. Solder this connection now.



Part 7: Output Transformer Mounting & Partial Wiring

D7-1: Locate two 1/4" rubber grommets. Attach them to holes 52 and 57 on panel 2 of the chassis.

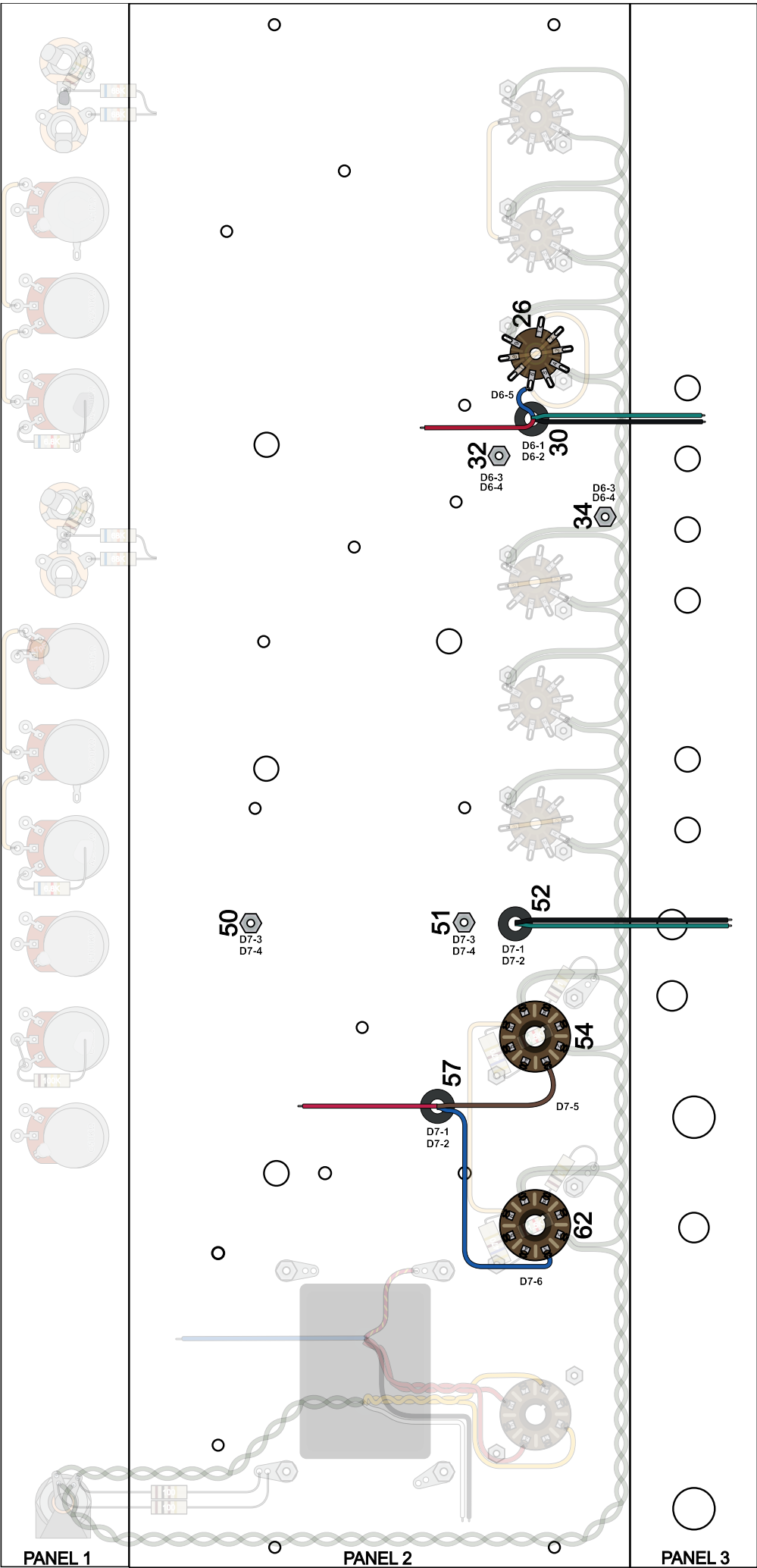
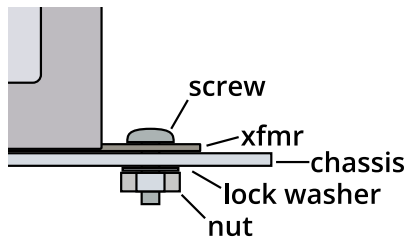
D7-2: On the outside of the chassis, mount the output transformer with the blue, brown, and red wire cluster oriented towards the power transformer. Pull these three wires of the output transformer through the 1/4" grommet at hole 57. Pull the green and black wires through the 1/4" grommet at hole 52.

D7-3: Locate two 3/8" 6-32 screws. These two screws will mount through the transformer and then through holes 50 and 51 on the outside of panel 2. You may need to slightly angle the screws to fit through both holes.

D7-4: Locate two #6 lock washers and two 6-32 nuts. First slide the lock washers over the threading of the two 6-32 screws on the inside of the chassis. Secure both screws using the 6-32 nuts.

D7-5: Locate the brown wire on the output transformer. Trim this to connect to pin 3 of the octal socket at hole 54. Solder this connection now.

D7-6: Locate the blue wire on the output transformer. Trim this to connect to pin 3 of the octal socket at hole 62. Solder this connection now.



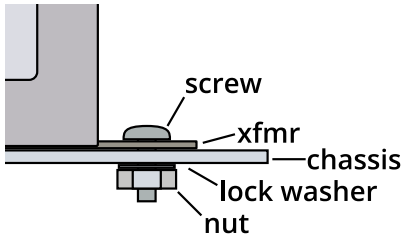
Chassis-Mounted Components: Panels 1 & 2

Part 8: Choke Mounting

D8-1: On the outside of the chassis, mount the choke with the black wires oriented towards the output transformer. The transformer will be mounted using holes 59 and 60. Pull the wires of the output transformer through the 1/4" grommet at hole 57.

D8-2: Locate two 3/8" 6-32 screws. These two screws will mount through the transformer and then through holes 59 and 60 on the outside of panel 2.

D8-3: Locate two #6 lock washers and two 6-32 nuts. First slide the lock washers over the threading of the two 6-32 screws on the inside of the chassis. Secure both screws using the 6-32 nuts.

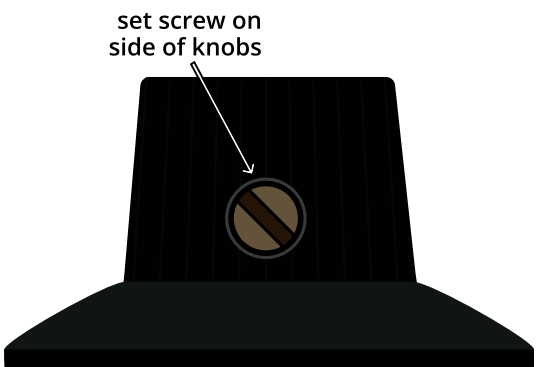
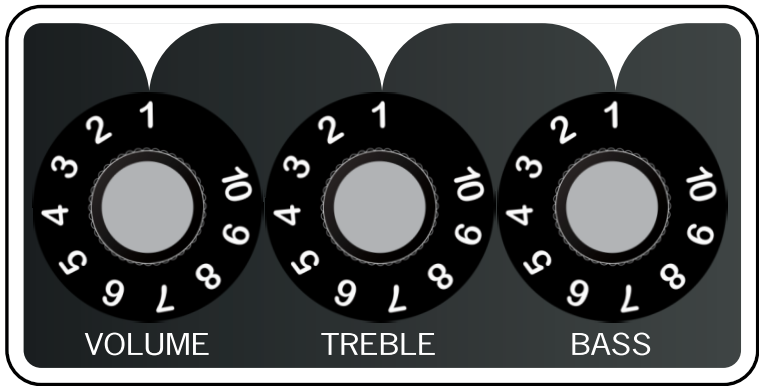


Completed Low-Profile Chassis Hardware: Inspection

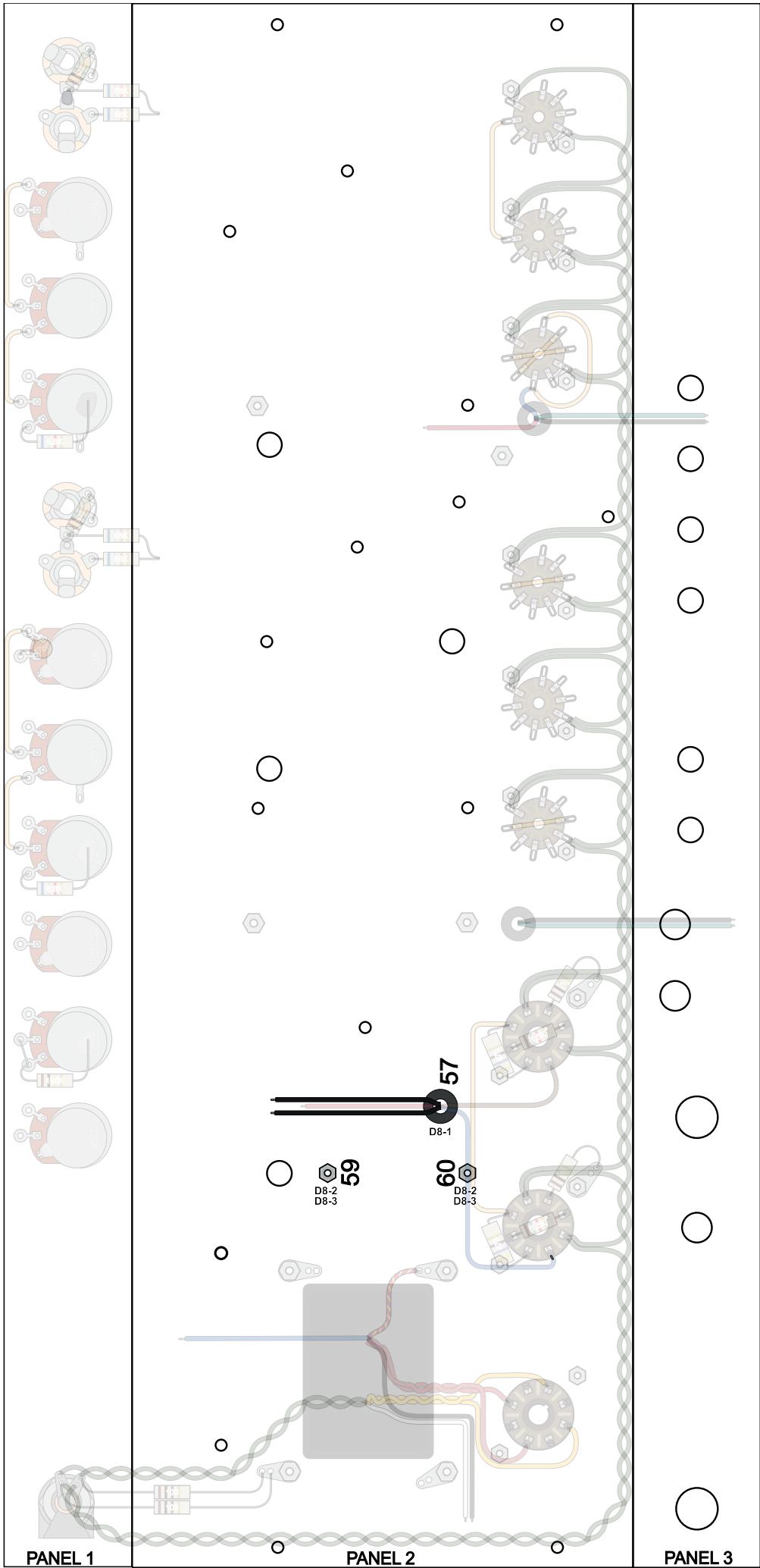
The hardware mounting and wiring of this section is now completed. Please take some time to thoroughly check the connections, parts placement, and solder joints. Ensure all components are in their correct positions according to the wiring diagram. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked.

Front Panel Control Knobs

Attach the knobs to the potentiometers. Turn the pot shafts fully counter-clockwise, then align the knobs so the 1 on the skirt lines up with the white vertical line on the front panel. Tighten the set screw. Rotate the knobs to ensure that they are fully attached and are not slipping.



Use page 82 to record any chassis constructions notes for panels 1-3.



Fiberboard Mounting & Partial Wiring

Locate the completed fiberboards. The following steps will guide you through mounting the fiberboard into the chassis and wiring its connections.

Part 1: Mounting the Main Fiberboard

E1-1: Locate three 1/4" rubber grommets. Attach them to holes 31, 39, and 44 on panel 2 of the chassis.

E1-2: Line up the bottom main fiberboard with the top main fiberboard. Make sure the three empty holes match the same position on both boards. Be careful not to disturb any of the unsoldered connections on the main board.

E1-3: Locate three 1/2" 4-40 screws, three #4 flat washers, and three 4-40 nuts. Slide the flat washers onto the screws and then insert the screws through the top of the main fiberboard at holes D, L, and W. On the bottom side of the bottom board, thread the nuts onto the screws. These only need to be finger tight.

E1-4: Carefully lower the fiberboard assembly into the chassis so that the ends of the 1/2" screws pass through holes 20, 35, and 56 of the chassis.

E1-5: Locate three 4-40 nuts and #4 lock washers. On the outside of the chassis, slide the lock washers onto the 1/2" screws and then secure them using the nuts.

E1-6: Double check that all non-soldered connections are still in place. This includes:

- The bus wire at eyelet 9, 22, 46, 47, and 48
- The yellow wire routed through Y to eyelet 46
- The yellow and red wires routed through X to eyelet 23
- The 82kΩ and 100kΩ resistors at eyelet 45
- The yellow wire routed through Z to eyelet 48
- The 10MΩ, 220kΩ, and 100kΩ resistors at eyelet 65

Part 2: Mounting the Capacitor Fiberboard

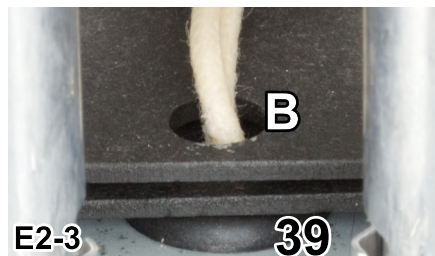
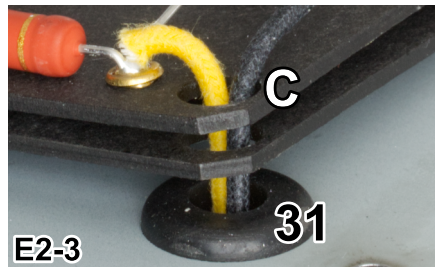
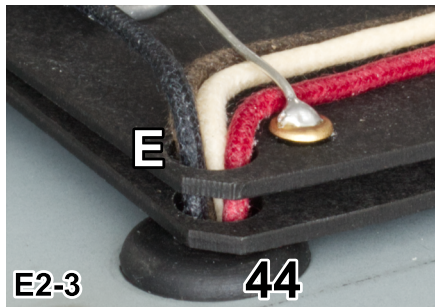
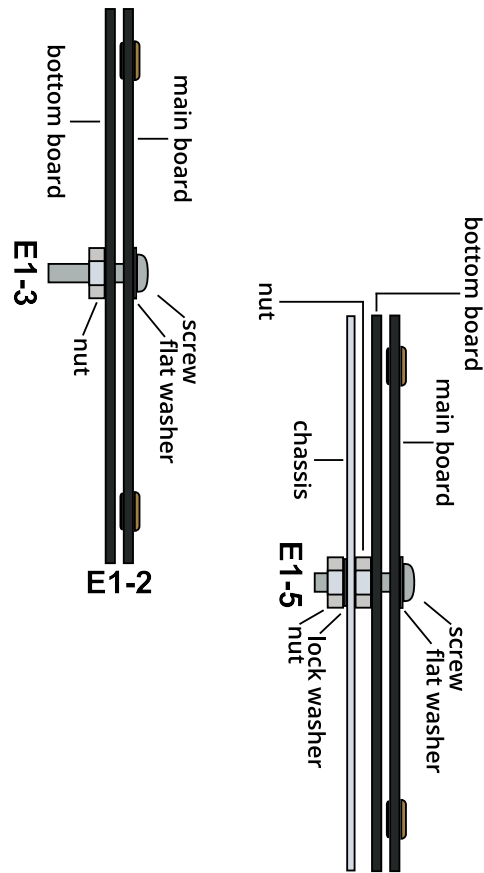
E2-1: Line up the bottom capacitor fiberboard with the top main fiberboard. Make sure the five empty holes match the same position on both boards. Feed the wires at holes B, C and E through the corresponding holes on the bottom fiberboard.

E2-2: Locate two 1/2" 4-40 screws, two #4 flat washers, and two 4-40 nuts. Slide the flat washers onto the screws and then insert the screws through the top of the capacitor fiberboard at holes A and D. On the bottom side of the bottom board, thread the nuts onto the screws. These only need to be finger tight.

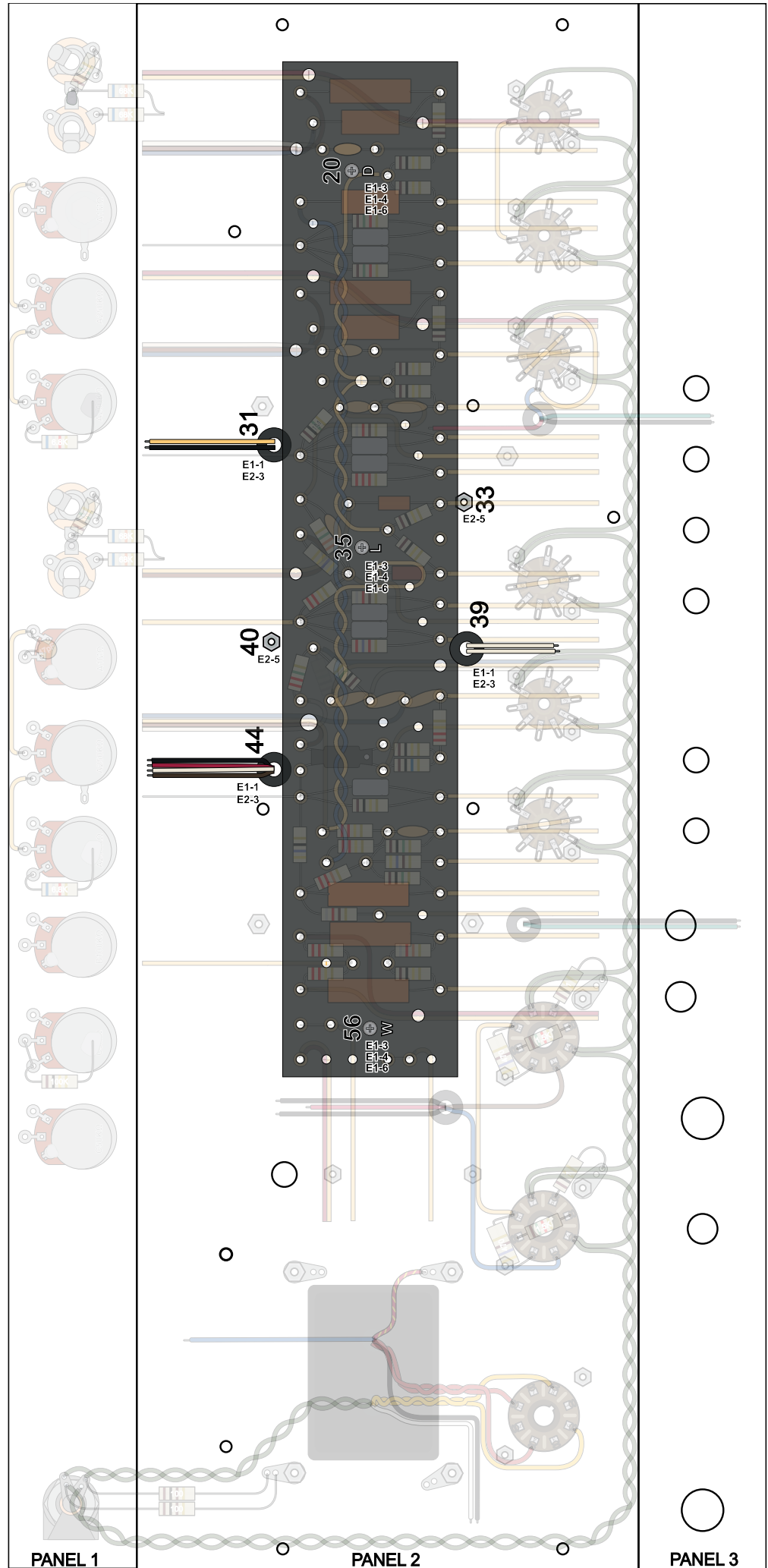
E2-3: On the outside of the chassis feed the wires from hole B through chassis hole 39, the wires from hole C through chassis hole 31, and the wires from hole E through chassis hole 44.

E2-4: Carefully lower the fiberboard assembly into the chassis so that the ends of the 1/2" screws pass through holes 33 and 40 of the chassis. Make sure that the wires from holes B, C, and E are completely through their respective holes.

E2-5: Locate two 4-40 nuts and #4 lock washers. On the inside of the chassis, slide the lock washers onto the 1/2" screws and then secure them using the nuts.



AB763 22W Chassis Kit



Fiberboard Mounting & Partial Wiring

Part 3: Main and Capacitor Fiberboards Wired Connections

E3-1: Connect the bus wire at eyelet 5 to the 3/8" solder lug at hole 3 of the chassis. Solder the 3/8" solder lug at hole 3 now.

E3-2: Connect the bus wire at eyelet 10 to the 3/8" solder lug at hole 5 of the chassis.

E3-3: Trim and connect the black wire at chassis hole 31 to the 3/8" solder lug at hole 5 of the chassis. Solder the 3/8" solder lug at hole 5 now.

E3-4: Trim and connect yellow wire at eyelet 13 to the sleeve lug of the jack at chassis hole 7. Solder the sleeve lug of the jack at hole 7 now.

E3-5: Connect the bus wire at eyelet 18 to the 3/8" solder lug at hole 9 of the chassis. Solder the 3/8" solder lug at hole 9 now.

E3-6: Locate the yellow and red wires at hole A. Twist these until a ~1" long twist forms starting at the fiberboard.

E3-7: Trim and connect the red wire from hole A to the twisted leads of the two 68kΩ resistors that are connected to the jacks at holes 1 and 2. Make sure that the red wire is securely wrapped around the leads before soldering. Once the connection is soldered, trim the excess resistor leads.

E3-8: Trim and connect the yellow wire from hole A to lug 2 of the potentiometer at hole 3. Solder lug 2 of the potentiometer at hole 3 now.

E3-9: Locate the white, brown, and blue wires at hole C. Twist these until a ~3" long twist forms starting at the fiberboard.

E3-10: Trim and connect the white wire from hole C to lug 3 of the potentiometer at hole 4. Solder lug 3 of the potentiometer at hole 4 now.

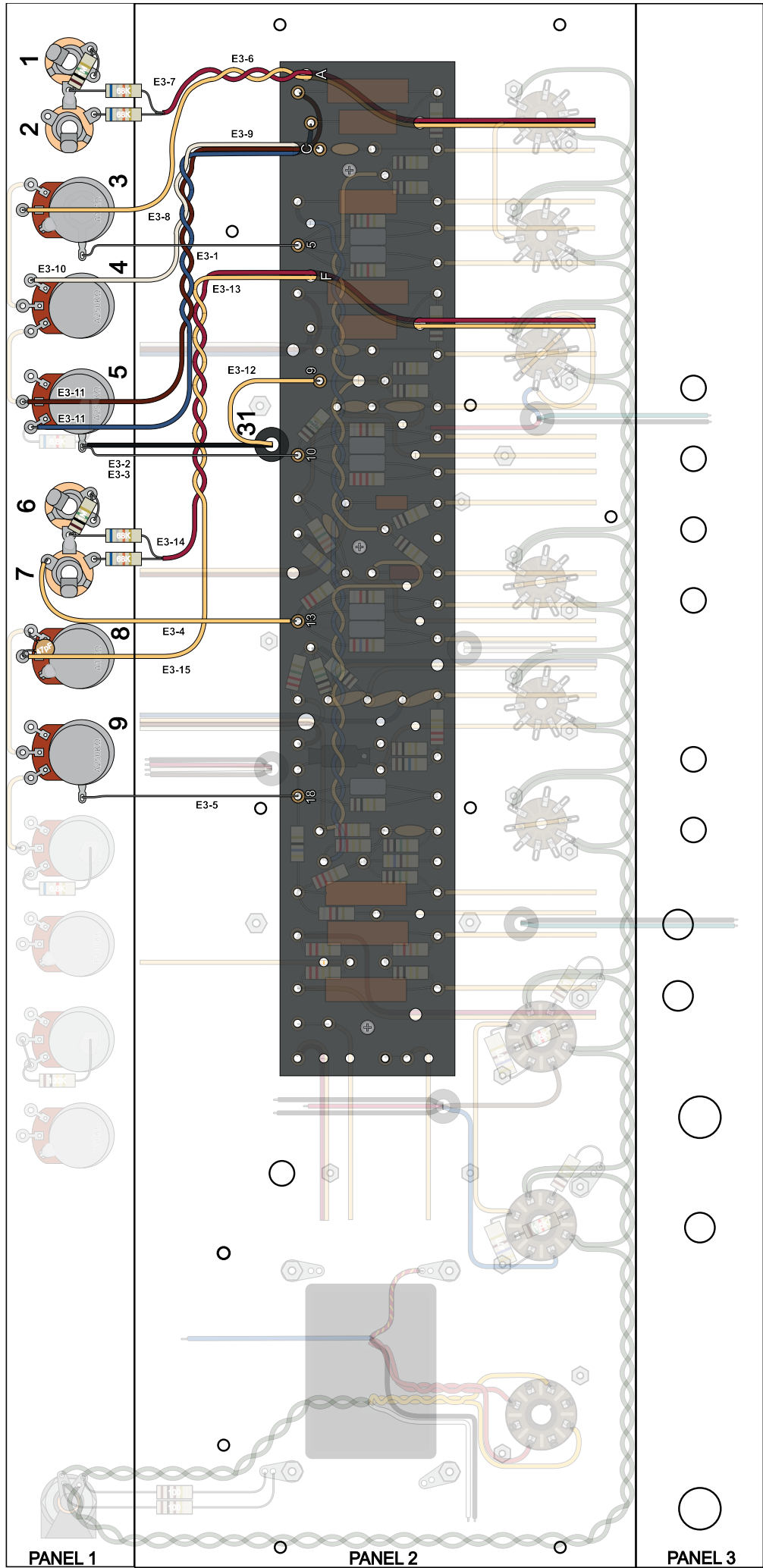
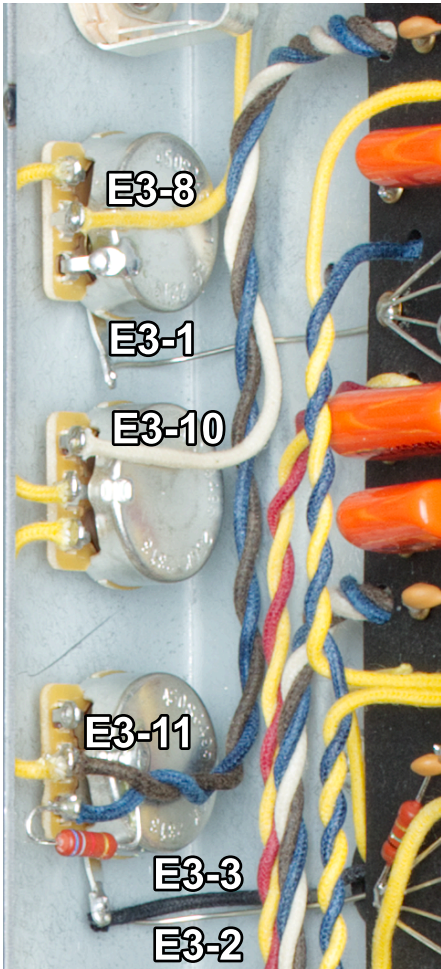
E3-11: Twist the remaining lengths of the brown and blue wires from hole C. Trim these to connect the brown wire to lug 2 of the potentiometer at hole 5 and the blue wire to lug 1 of the potentiometer at hole 5. Solder both connections now.

E3-12: Trim and connect the yellow wire at chassis hole 31 to eyelet 9 of the fiberboard. Solder eyelet 9 now.

E3-13: Locate the yellow and red wires at hole F. Twist these until a ~5" long twist forms starting at the fiberboard.

E3-14: Trim and connect the red wire from hole F to the twisted leads of the two 68kΩ resistors that are connected to the jacks at holes 6 and 7. Make sure that the red wire is securely wrapped around the leads before soldering. Once the connection is soldered, trim the excess resistor leads.

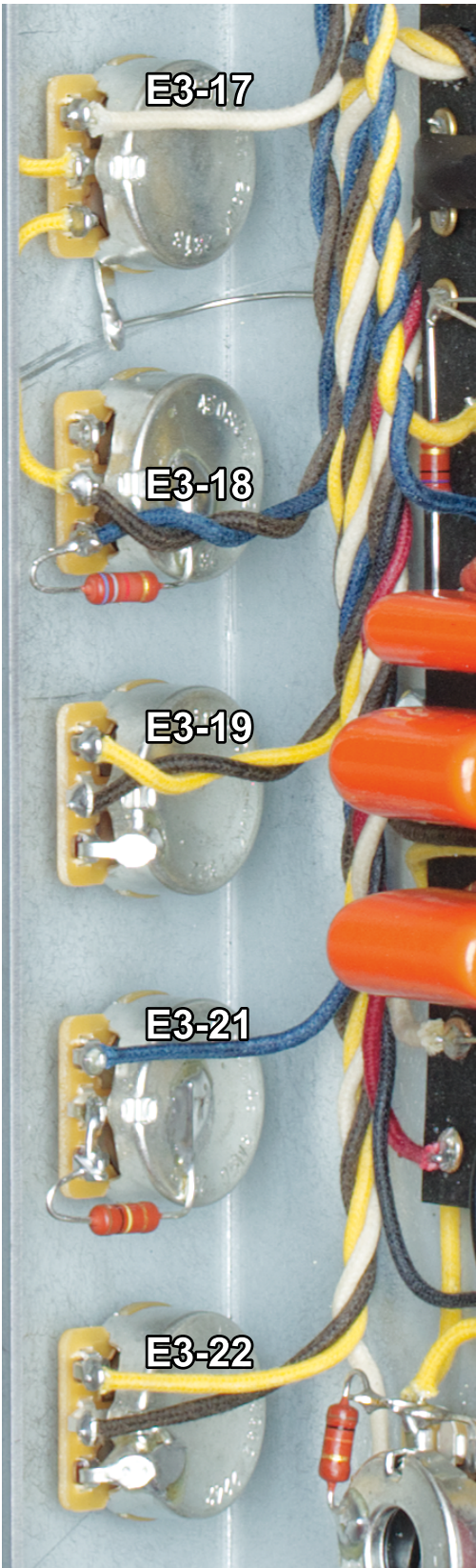
E3-15: Trim and connect the yellow wire from hole F to lug 2 of the potentiometer at hole 8. Solder lug 2 of the potentiometer at hole 8 now.



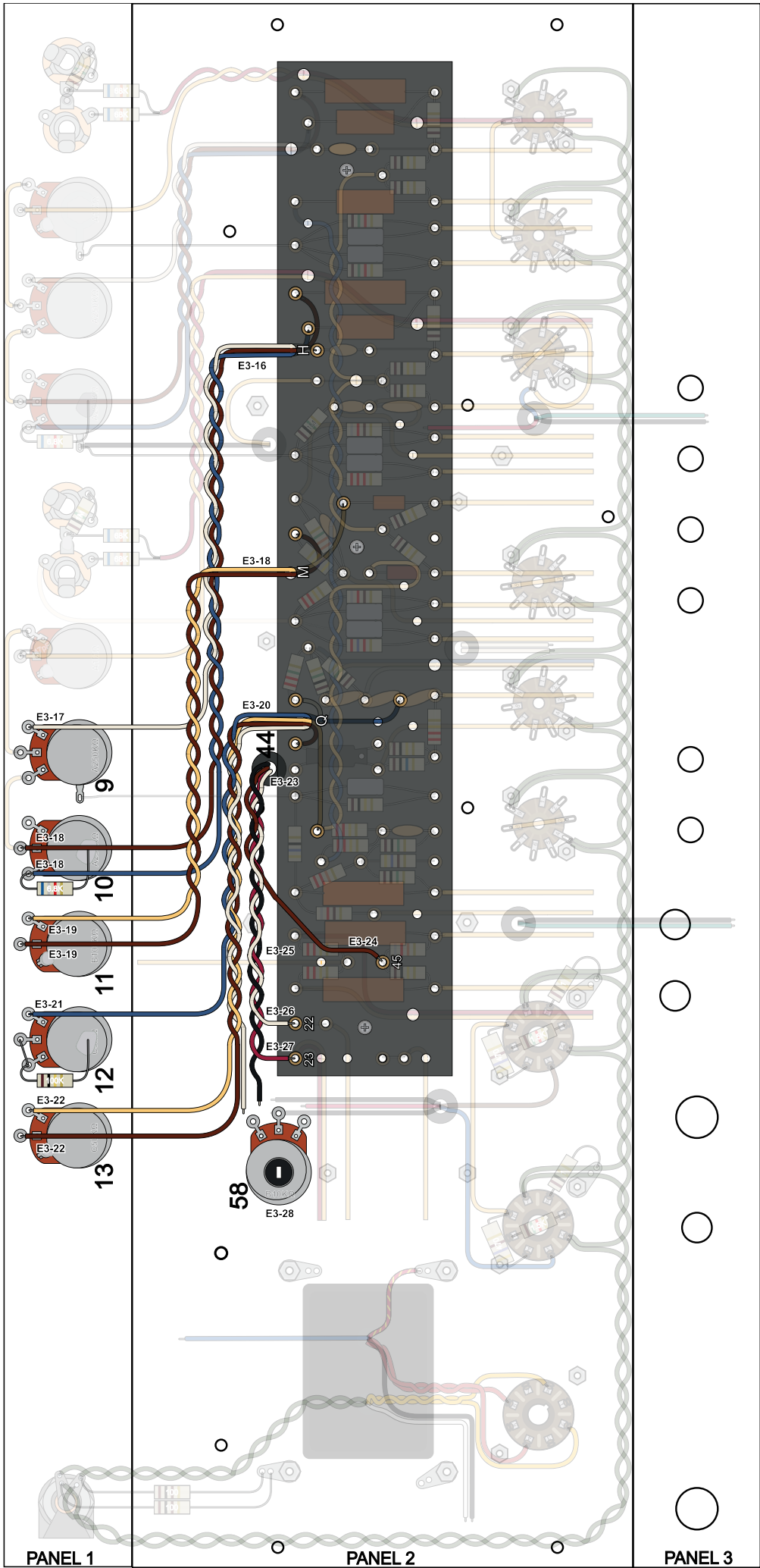
Fiberboard Mounting & Partial Wiring

Part 3: Main and Capacitor Fiberboards Wired Connections (Continued)

- E3-16:** Locate the white, brown, and blue wires at hole H. Twist these until a ~7" long twist forms starting at the fiberboard.
- E3-17:** Trim and connect the white wire from hole H to lug 3 of the potentiometer at hole 9. Solder lug 3 of the potentiometer at hole 9 now.
- E3-18:** Twist the remaining lengths of the brown and blue wires from hole H. Trim these to connect the brown wire to lug 2 of the potentiometer at hole 1 and the blue wire to lug 1 of the potentiometer at hole 10. Solder both connections now.
- E3-19:** Locate the brown and yellow wires at hole M. Twist the full length of these wires. Trim these to connect the brown wire to lug 2 of the potentiometer at hole 11 and the yellow wire to lug 3 of the potentiometer at hole 11. Solder both connections now.
- E3-20:** Locate the yellow, white, brown, and blue wires at hole Q. Twist these until a ~5" long twist forms starting at the fiberboard.
- E3-21:** Trim and connect the blue wire from hole Q to lug 3 of the potentiometer at hole 12. Solder lug 3 of the potentiometer at hole 12 now.
- E3-22:** Twist a 2" segment using the remaining yellow, brown and white wires from hole Q. Trim the yellow and brown wires to connect the brown wire to lug 2 of the potentiometer at hole 13 and the yellow wire to lug 3 of the potentiometer at hole 13. Solder both connections now. The white wire will connect to the bias board later in the instructions.
- E3-23:** Locate the white, red, brown, and black wires at chassis hole 44. Twist these until a ~3" long twist forms at the grommet.
- E3-24:** Trim and connect the brown wire from chassis hole 44 to eyelet 45 of the main fiberboard. Solder eyelet 45 now.
- E3-25:** Twist a 1" segment using the remaining white, red, and black wires from chassis hole 44.
- E3-26:** Trim and connect the white wire from chassis hole 44 to eyelet 22 of the main fiberboard. Solder eyelet 22 now.
- E3-27:** Trim and connect the red wire from chassis hole 44 to eyelet 23 of the main fiberboard. Solder eyelet 23 now.
- E3-28:** Locate the B10kΩ bias trimmer potentiometer and the 3/8-32 nut. Mount this trimmer pot to hole 58 on panel 2 of the chassis with the lugs facing the main fiberboard. Attach the nut on the outside of the chassis.



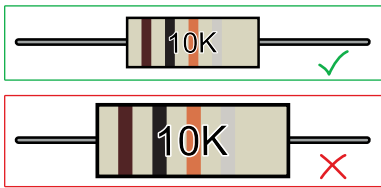
AB763 22W Chassis Kit



Fiberboard Mounting & Partial Wiring

Part 3: Main and Capacitor Fiberboards Wired Connections (Continued)

E3-29: Locate a 2W(smaller) 10kΩ resistor. Its color bands are brown, black, orange, gold. Connect it from lug 1 of the trimmer pot at hole 58 to the back of the pot. First solder lug 1 of the pot. Then solder the other lead to the back of the pot. Be sure to sufficiently heat both the lead and the back of the pot before attempting to apply solder. Be careful not to drip any solder into the opening on the back of the pot.



E3-30: Locate the yellow wire at hole U of the fiberboard. Trim and connect it to lug 2 of the trimmer pot at hole 58. Solder lug 2 of the trimmer pot at hole 58 now.

E3-31: Trim and connect the black wire from chassis hole 44 to the #8 solder lug at hole 66 on panel 2 of the chassis. Solder the #8 solder lug at hole 66 on panel 2 of the chassis now.

E3-32: Locate the red wire at hole X of the fiberboard. Trim and connect it to lug 8 of the octal socket at hole 72. Solder lug 8 of the octal socket at hole 72 now.

E3-33: Locate the yellow wire at hole X of the fiberboard. Route this wire towards hole 82. It will connect to the SPST switch mounted at hole 82 later in the instructions.

E3-34: Locate either of the black wires of the choke coming from hole 57 of the chassis. Trim and connect it to eyelet 46. Set aside the unused wire clipped from this choke. It will be used later in these instructions. Solder eyelet 46 now.

E3-35: Locate the yellow wire at hole Y of the fiberboard. Trim and connect it to lug 6 of the octal socket at hole 54. Solder lug 6 of the octal socket at hole 54 now.

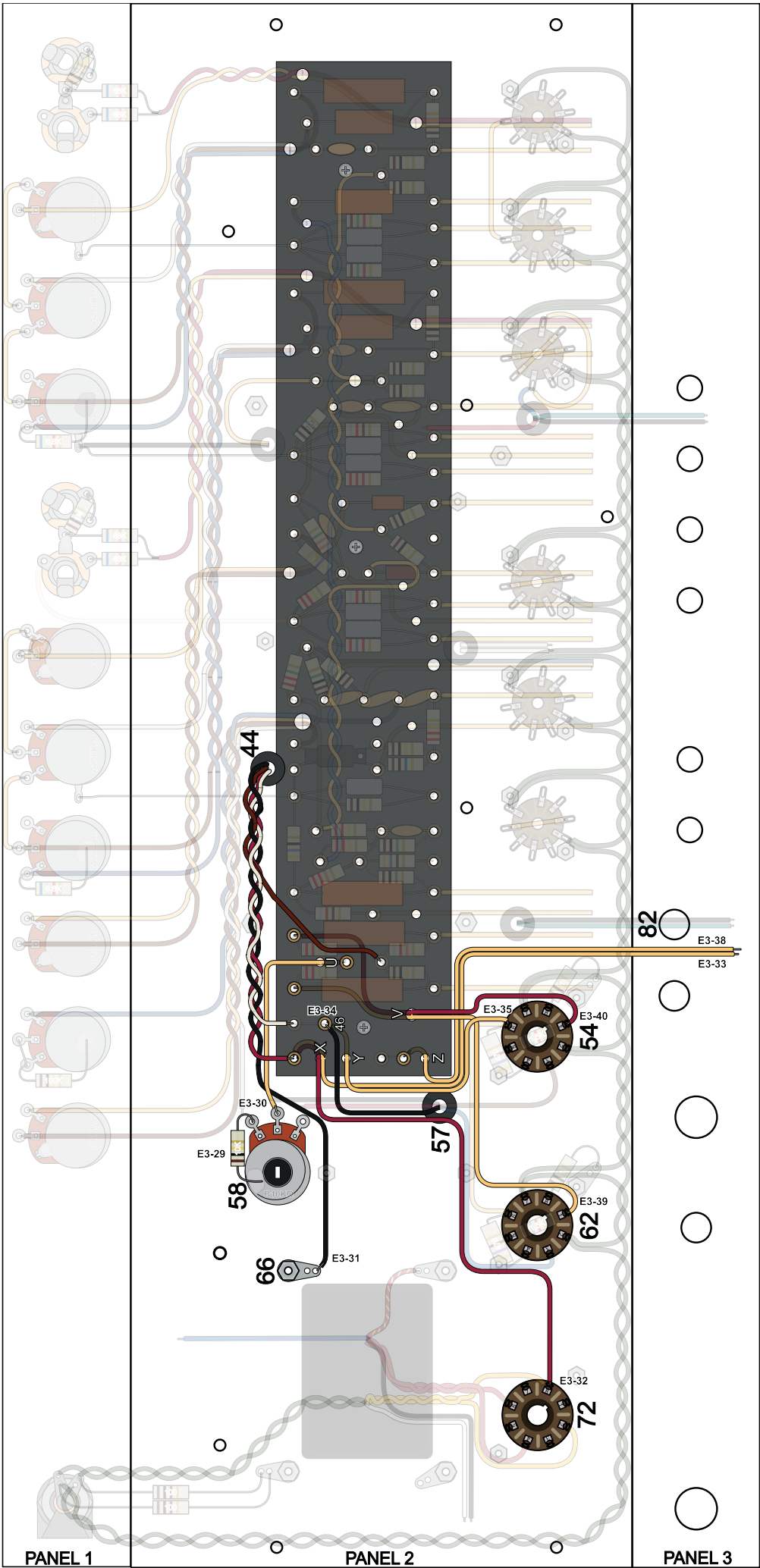
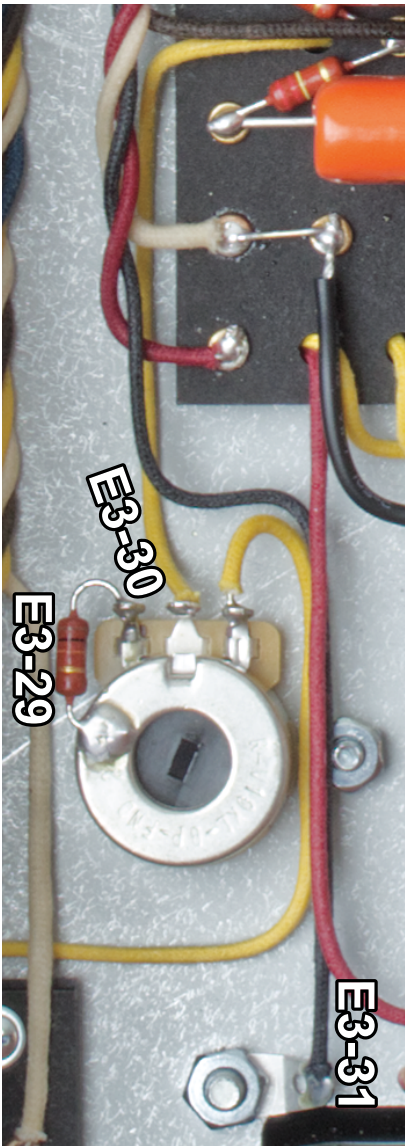
E3-36: Locate the red wire of the output transformer coming from hole 57 of the chassis. Trim and connect it to eyelet 47. Solder eyelet 47 now.

E3-37: Locate the other black wire of the choke coming from hole 57 of the chassis. Trim and connect it to eyelet 48. Solder eyelet 48 now.

E3-38: Locate the yellow wire at hole Z of the fiberboard. Route this wire towards hole 82. It will connect to the SPST switch mounted at hole 82 later in the instructions.

E3-39: Locate the yellow wire at hole V of the fiberboard. Trim and connect it to lug 1 of the octal socket at hole 62. Solder lug 1 of the octal socket at hole 62 now.

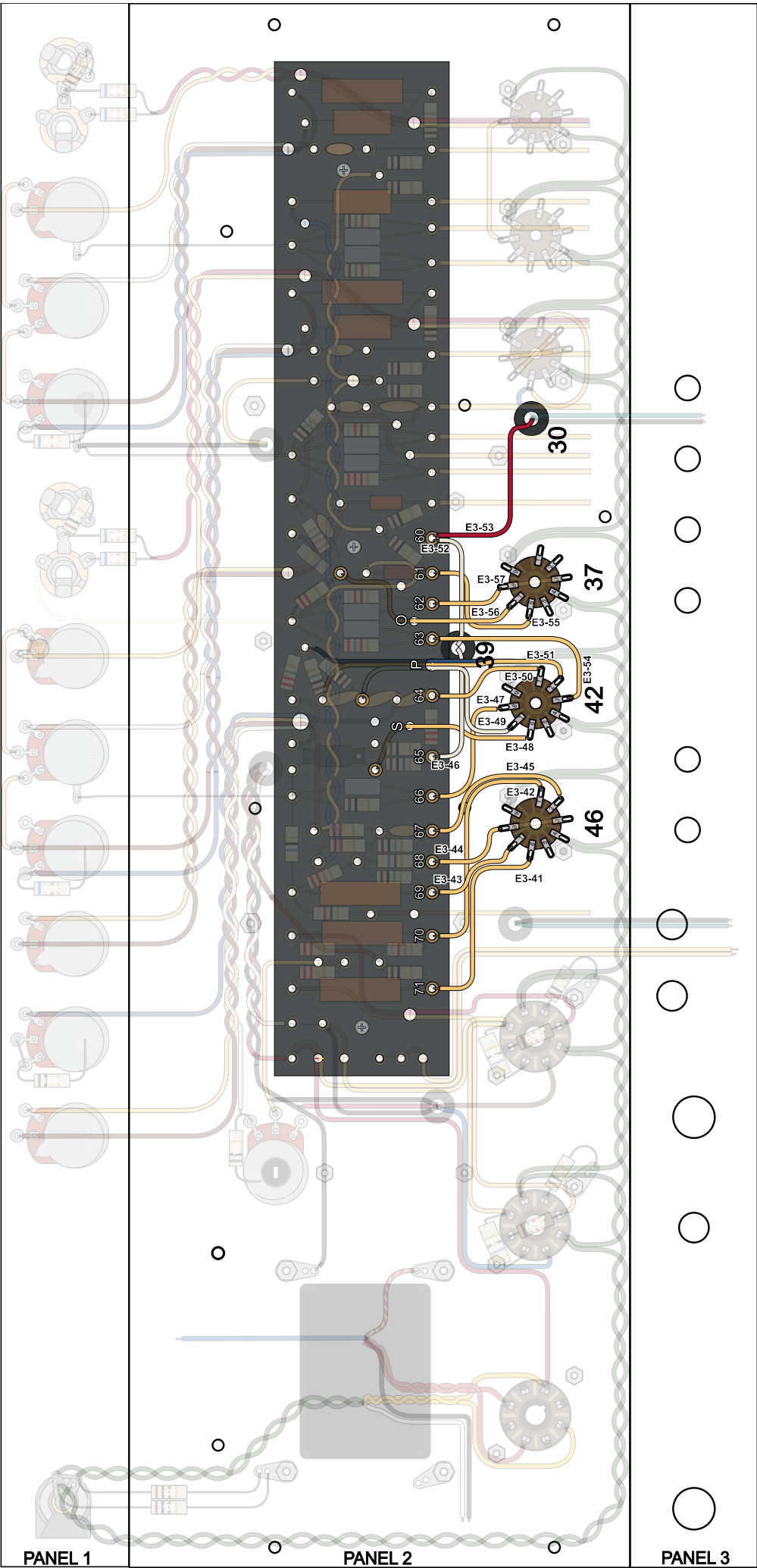
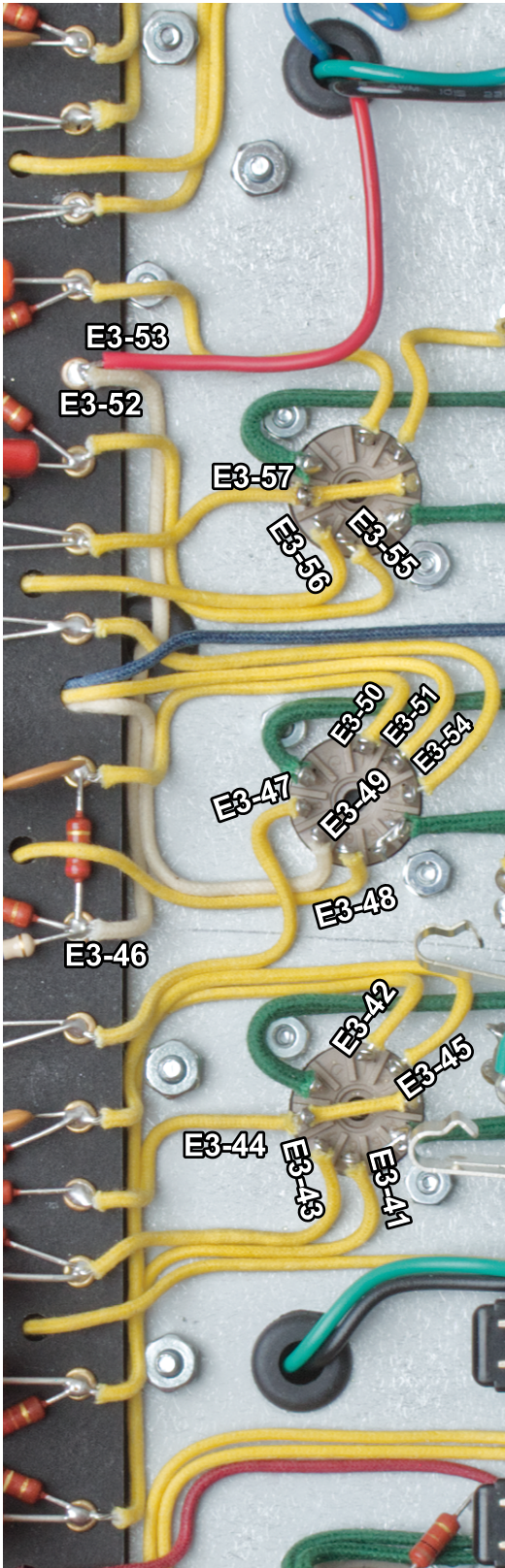
E3-40: Locate the red wire at hole V of the fiberboard. Trim and connect it to lug 1 of the octal socket at hole 54. Solder lug 1 of the octal socket at hole 54 now.



Fiberboard Mounting & Partial Wiring

Part 3: Main and Capacitor Fiberboards Wired Connections (Continued)

- E3-41:** Locate the yellow wire at eyelet 71. Trim and connect it to lug 6 of the noval socket at hole 46. Solder lug 6 of the noval socket at hole 46 now.
- E3-42:** Locate the yellow wire at eyelet 70. Trim and connect it to lug 1 of the noval socket at hole 46. Solder lug 1 of the noval socket at hole 46 now.
- E3-43:** Locate the yellow wire at eyelet 69. Trim and connect it to lug 7 of the noval socket at hole 46. Solder lug 7 of the noval socket at hole 46 now.
- E3-44:** Locate the yellow wire at eyelet 68. Trim and connect it to lug 8 of the noval socket at hole 46. Solder lug 8 of the noval socket at hole 46 now.
- E3-45:** Locate the yellow wire at eyelet 67. Trim and connect it to lug 2 of the noval socket at hole 46. Solder lug 2 of the noval socket at hole 46 now.
- E3-46:** Locate either of the white wires coming from hole 39 of the chassis. Trim and connect it to eyelet 65. Solder eyelet 65 now.
- E3-47:** Locate the yellow wire at eyelet 66. Trim and connect it to lug 8 of the noval socket at hole 42. Solder lug 8 of the noval socket at hole 42 now.
- E3-48:** Locate the yellow wire at hole S of the fiberboard. Trim and connect it to lug 6 of the noval socket at hole 42. Solder lug 6 of the noval socket at hole 42 now.
- E3-49:** Locate the white wire at hole P of the fiberboard. Trim and connect it to lug 7 of the noval socket at hole 42. Solder lug 7 of the noval socket at hole 42 now.
- E3-50:** Locate the yellow wire at eyelet 64. Trim and connect it to lug 1 of the noval socket at hole 42. Solder lug 1 of the noval socket at hole 42 now.
- E3-51:** Locate the yellow wire at hole P of the fiberboard. Trim and connect it to lug 2 of the noval socket at hole 42. Solder lug 2 of the noval socket at hole 42 now.
- E3-52:** Locate the other white wire coming from hole 39 of the chassis. Trim and connect it to eyelet 60.
- E3-53:** Locate the red wire of the reverb driver transformer coming from hole 30 of the chassis. Trim and connect it to eyelet 60. Solder eyelet 60 now.
- E3-54:** Locate the yellow wire at eyelet 63. Trim and connect it to lug 3 of the noval socket at hole 42. Solder lug 3 of the noval socket at hole 42 now.
- E3-55:** Locate the yellow wire at eyelet 61. Trim and connect it to lug 6 of the noval socket at hole 37. Solder lug 6 of the noval socket at hole 37 now.
- E3-56:** Locate the yellow wire at hole O of the fiberboard. Trim and connect it to lug 7 of the noval socket at hole 37. Solder lug 7 of the noval socket at hole 37 now.
- E3-57:** Locate the yellow wire at eyelet 62. Trim and connect it to lug 8 of the noval socket at hole 37. Solder lug 8 of the noval socket at hole 37 now.



Fiberboard Mounting & Partial Wiring

Part 3: Main and Capacitor Fiberboards Wired Connections (Continued)

E3-58: Locate the yellow wire at eyelet 59. Trim and connect it to lug 1 of the noval socket at hole 37. Solder lug 1 of the noval socket at hole 37 now.

E3-59: Locate the yellow wire at eyelet 58. Trim and connect it to lug 8 of the noval socket at hole 26. Solder lug 8 of the noval socket at hole 26 now.

E3-60: Locate the yellow wire at hole K of the fiberboard. Trim and connect it to lug 7 of the noval socket at hole 26. Solder lug 7 of the noval socket at hole 26 now.

E3-61: Locate the yellow wire at eyelet 57. Trim and connect it to lug 8 of the noval socket at hole 22. Solder lug 8 of the noval socket at hole 22 now.

E3-62: Locate the yellow wire at eyelet 56. Trim and connect it to lug 6 of the noval socket at hole 22. Solder lug 6 of the noval socket at hole 22 now.

E3-63: Locate the yellow wire at eyelet 55. Trim and connect it to lug 1 of the noval socket at hole 22. Solder lug 1 of the noval socket at hole 22 now.

E3-64: Locate the yellow wire at hole G of the fiberboard. Trim and connect it to lug 7 of the noval socket at hole 22. Solder lug 7 of the noval socket at hole 22 now.

E3-65: Locate the red wire at hole G of the fiberboard. Trim and connect it to lug 2 of the noval socket at hole 22. Solder lug 2 of the noval socket at hole 22 now.

E3-66: Locate the yellow wire at eyelet 53. Trim and connect it to lug 3 of the noval socket at hole 22. Solder lug 3 of the noval socket at hole 22 now.

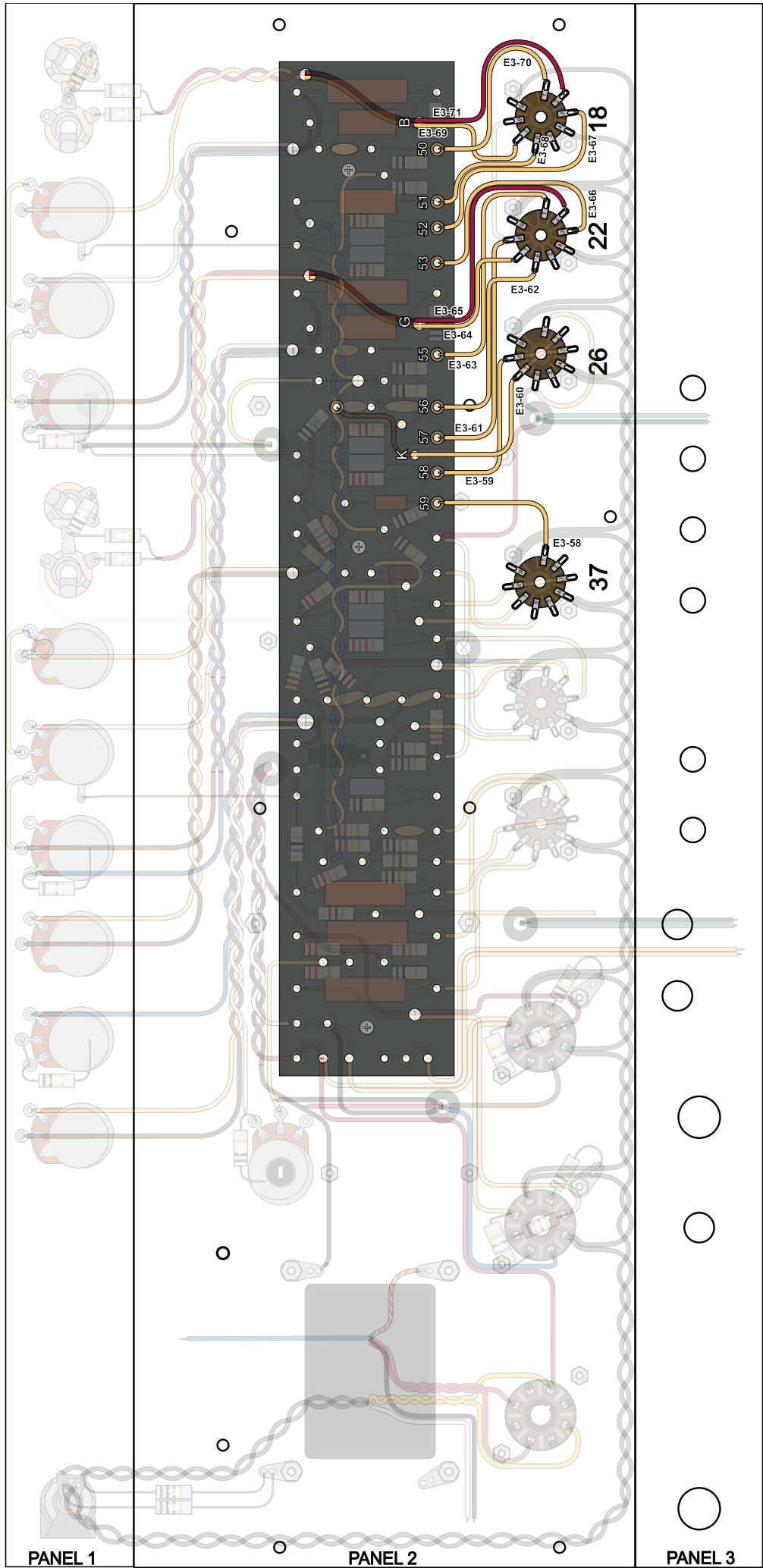
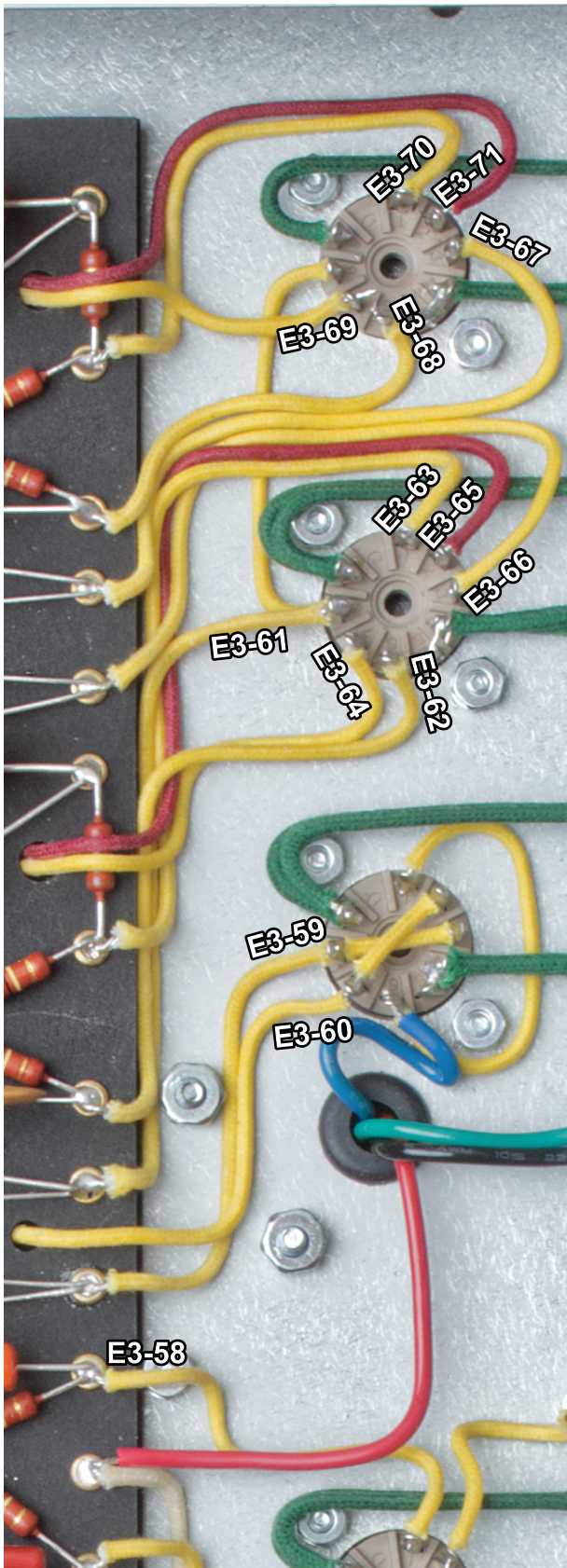
E3-67: Locate the yellow wire at eyelet 52. Trim and connect it to lug 3 of the noval socket at hole 18. Solder lug 3 of the noval socket at hole 18 now.

E3-68: Locate the yellow wire at eyelet 51. Trim and connect it to lug 6 of the noval socket at hole 18. Solder lug 6 of the noval socket at hole 18 now.

E3-69: Locate the yellow wire at hole B of the fiberboard. Trim and connect it to lug 7 of the noval socket at hole 18. Solder lug 7 of the noval socket at hole 18 now.

E3-70: Locate the yellow wire at eyelet 50. Trim and connect it to lug 1 of the noval socket at hole 18. Solder lug 1 of the noval socket at hole 18 now.

E3-71: Locate the red wire at hole B of the fiberboard. Trim and connect it to lug 2 of the noval socket at hole 18. Solder lug 2 of the noval socket at hole 18 now.



Fiberboard Mounting & Partial Wiring

Part 4: Mounting the Bias Fiberboard

- E4-1:** Line up the bottom bias fiberboard with the top bias fiberboard. Make sure the two empty holes match the same position on both boards.
- E4-2:** Locate two 1/2" 4-40 screws, two #4 flat washers, and two 4-40 nuts. Slide the flat washers onto the screws and then insert the screws through the top of the bias fiberboard at holes B and C. On the bottom side of the bottom board, thread the nuts onto the screws. These only need to be finger tight.
- E4-3:** Carefully lower the fiberboard assembly into the chassis so that the ends of the 1/2" screws pass through holes 64 and 65 of the chassis. The screw at B should be passing through hole 64 and the screw at C through hole 65.
- E4-4:** Locate two 4-40 nuts and #4 lock washers. On the outside of the chassis, slide the lock washers onto the 1/2" screws and then secure them using the nuts.
- E4-5:** Double check that all non-soldered connections are still in place. This includes:

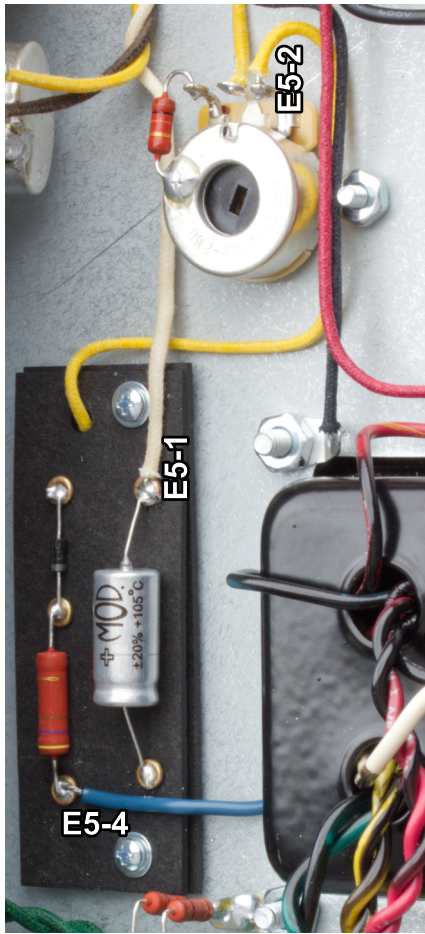
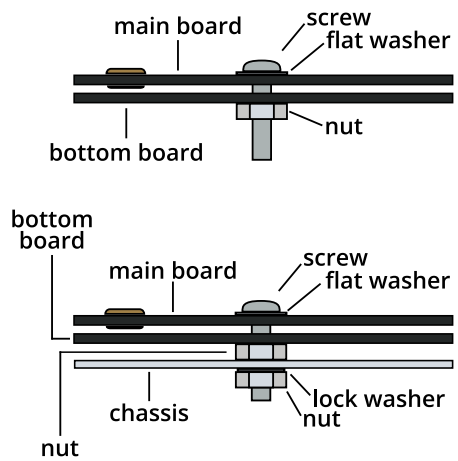
- The bus wire at eyelet 4
- The negative lead of the capacitor at eyelet 4
- The 470Ω resistor at eyelet 3

Part 5: Bias Fiberboard Wired Connections

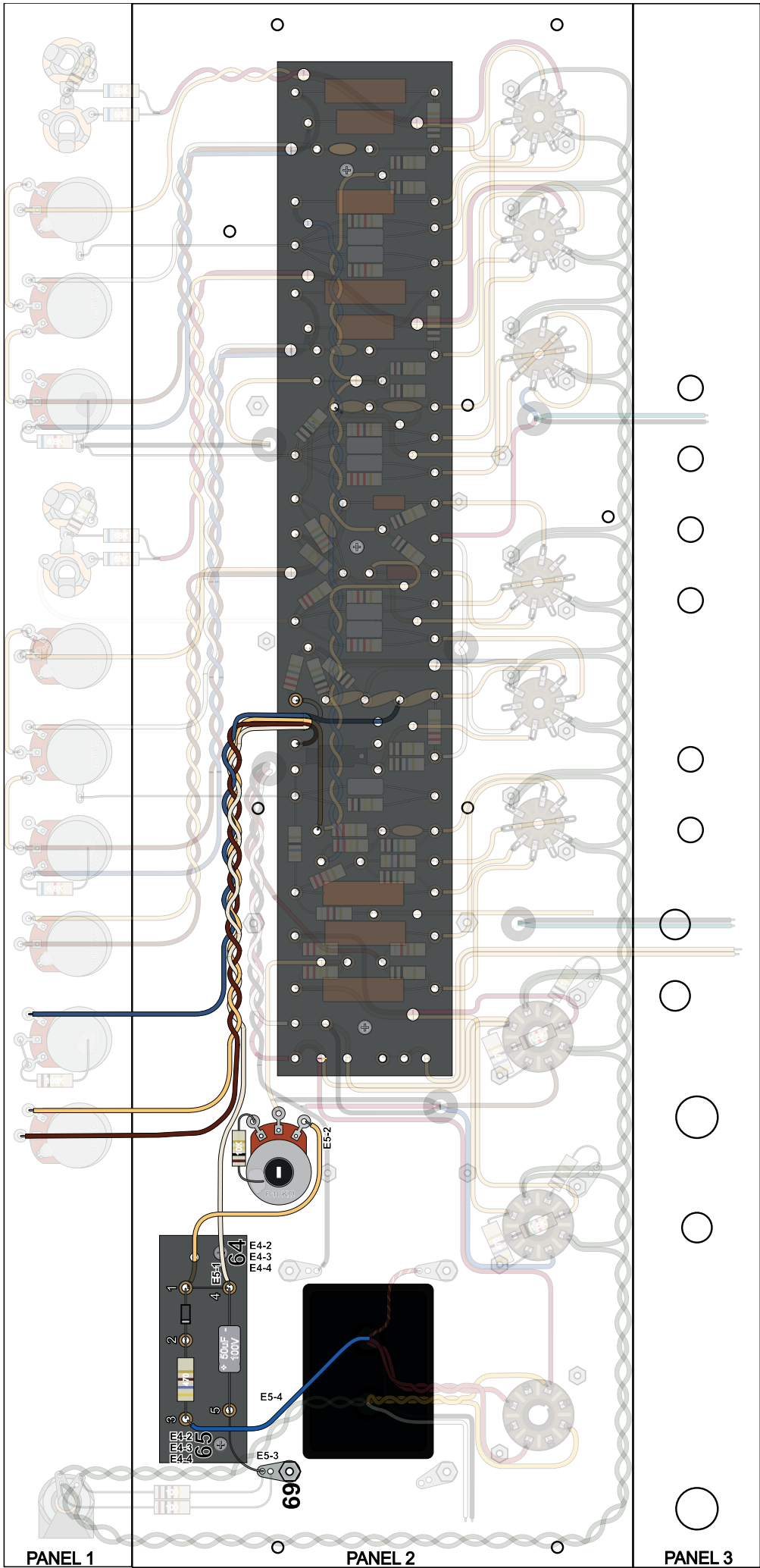
- E5-1:** Locate the white wire at hole Q of the main fiberboard. Trim and connect it to eyelet 1 of the bias fiberboard. Solder eyelet 4 of the bias fiberboard now.
- E5-2:** Locate the yellow wire at hole A of the bias fiberboard. Trim and connect it to lug 3 of the bias trimmer potentiometer at hole 58. Solder lug 3 of the bias trimmer potentiometer at hole 58 now.
- E5-3:** Locate the bus wire coming from eyelet 5 of the fiberboard. Trim and connect it to the #8 solder lug at hole 69 on panel 2 of the chassis. Solder the #8 solder lug at hole 69 on panel 2 of the chassis now.
- E5-4:** Locate the blue wire on the power transformer. Trim and connect it to eyelet 3 of the bias fiberboard. Solder eyelet 3 of the bias fiberboard now.

Completed Fiberboard Mounting & Partial Wiring: Inspection

Ensure all components are in their correct positions according to the wiring diagram. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked.



AB763 22W Chassis Kit



Chassis-Mounted Components: Panel 3

Locate the rear panel. The following steps will guide you through mounting the rear panel and its components onto the chassis and wiring their connections.

Part 1: Mounting the Rear Faceplate & Controls

F1-1: Locate the rear faceplate. Line it up with the corresponding holes of panel 3 on the outside of the chassis. The following steps detail how to secure the faceplate to the chassis using the rear panel hardware. These components will pass through both the chassis and the faceplate at the corresponding holes. Loosely secure each piece of hardware at first, ensuring all items are mounted on panel 3 before fully tightening. Be careful not to scratch the panel when tightening the front panel hardware.

F1-2: Locate the four RCA jacks. Remove all hardware from each jack. First slide the teardrop shaped ground lug onto each jack's bushing. Next add the flat washers on each jack and then insert them from the inside of the chassis to holes 76, 77, 78, and 79. The nuts are attached on the outside of the chassis.

F1-3: Locate the non-switched 1/4" jack. Mount this to hole 80 on panel 3. The nut is attached on the outside of the chassis. The included flat washer is not required and can be discarded. Orient the jack as shown in the drawing on page 77.

F1-4: Locate a switched 1/4" jack. Mount this to hole 81 on panel 3. The nut is attached on the outside of the chassis. The included flat washer is not required and can be discarded. Orient the jack as shown in the drawing on page 77.

F1-5: Locate an SPST toggle switch. This will mount to hole 82. First remove both nuts. Thread the circular nut onto the bushing until it is fully threaded onto the bushing. Then secure the SPST toggle switch to the chassis with the hex nut. Make sure that the lugs are oriented upward.

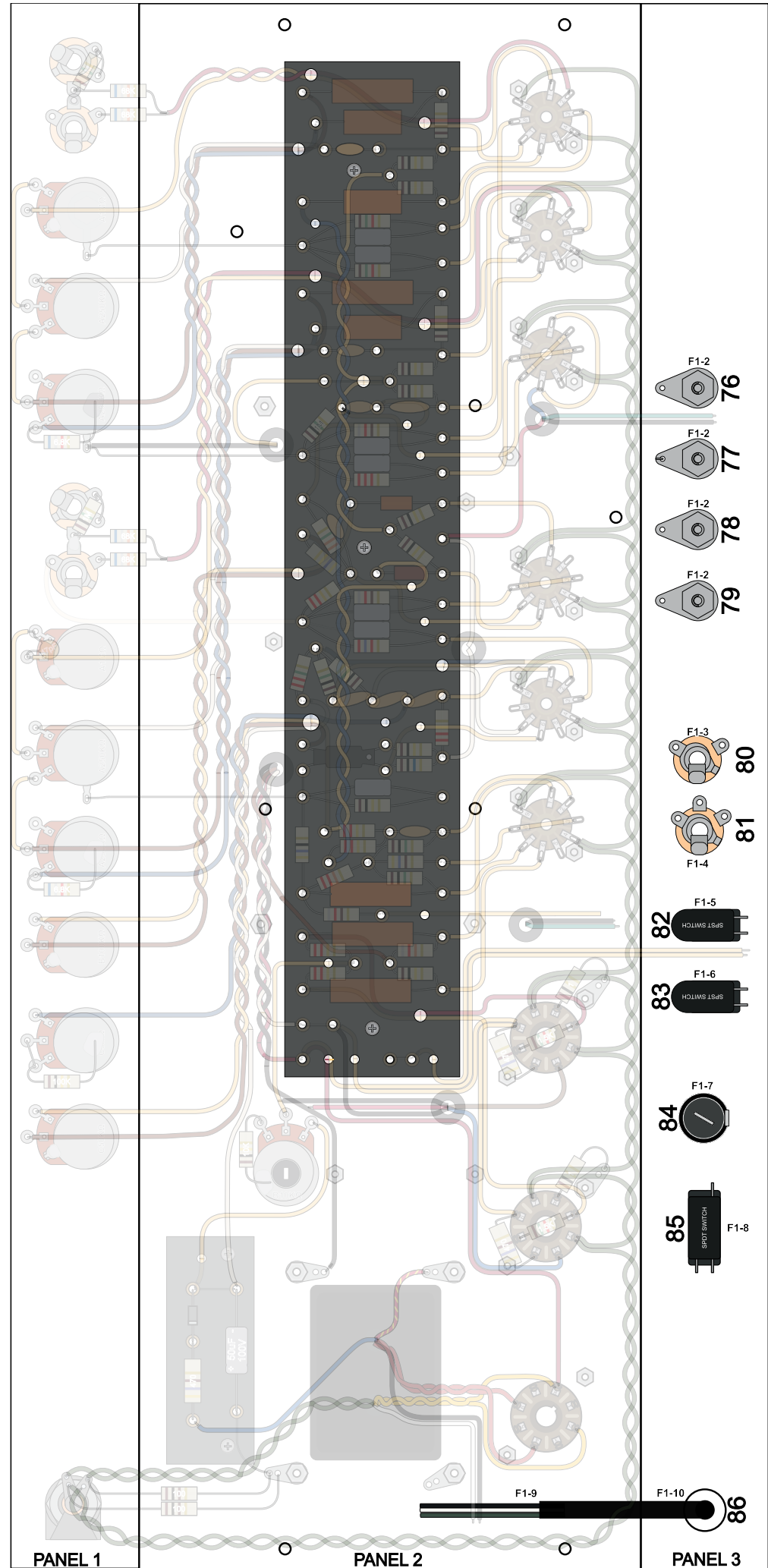
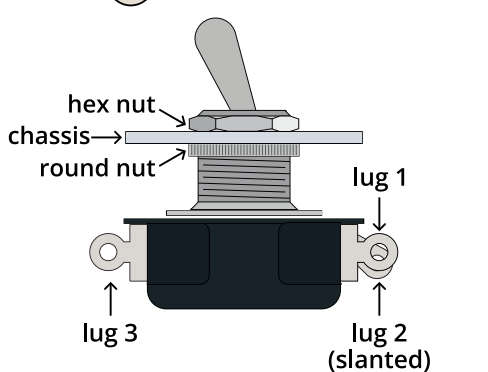
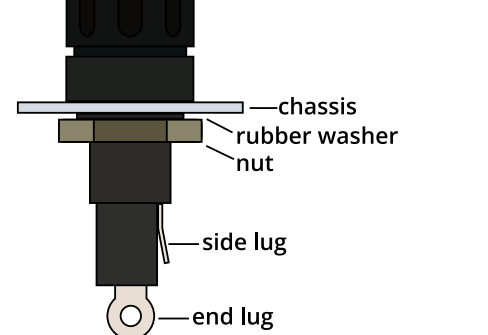
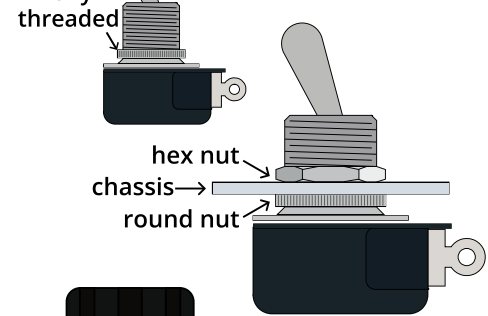
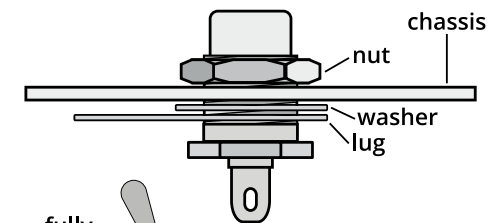
F1-6: Locate an SPST toggle switch. This will mount to hole 83. First remove both nuts. Thread the circular nut onto the bushing until it is fully threaded onto the bushing. Then secure the SPST toggle switch to the chassis with the hex nut. Make sure that the lugs are oriented upward.

F1-7: Locate the fuse holder. This will mount to hole 84. The holder is inserted through the outside of the chassis. Slide the rubber washer over the bushing inside the chassis and then secure the fuse holder with the nut. Make sure that the side lug is oriented upward.

F1-8: Locate the SPDT toggle switch. This will mount to hole 85. First remove both nuts. Thread the circular nut onto the bushing until 3/16" of the threading is exposed. Then secure the DPST toggle switch to the chassis with the hex nut. Make sure that the side with one lug is facing hole 84 and the side with two lugs is facing hole 86.

F1-9: Locate the three prong power cord. Trim back 8 inches of the black outer insulation from the bare end. Self adjusting wire strippers are the best tool for this but careful use of cutters can work.

F1-10: From the outside of the chassis, thread this cord through hole 86 on panel 3 of the chassis until roughly 1/2" of the black outer insulation is inside the chassis.

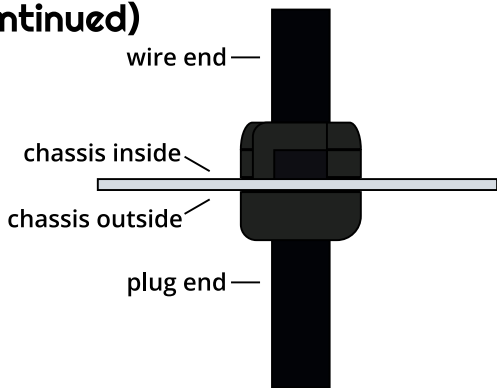


Chassis-Mounted Components: Panel 3

Part 1: Mounting the Rear Faceplate & Controls (Continued)

F1-11: Locate the strain relief. Attach it to the power cord at the outside of the chassis. Strain relief pliers are the ideal tool to compress the cord in the strain relief but careful use of standard pliers can accomplish this. Feed the strain relief into hole 86 until it snaps into place.

F1-12: Now that all of the rear panel components have been mounted, tighten down all mounting hardware.



Part 2: Rear Panel Wiring

F2-1: Locate the green wire of the reverb driver transformer at hole 30 of panel 2. Trim and connect this wire to the tip lug of the RCA jack at hole 76. Solder the tip lug of the RCA jack at hole 76 now.

F2-2: Locate the black wire of the reverb driver transformer at hole 30 of panel 2. Trim and connect this wire to the ground lug of the RCA jack at hole 77. You may find it easier to lift RCA jacks' the ground lugs away from the chassis using pliers before attempting to wire them. Solder the ground lug of the RCA jack at hole 77 now.

F2-3: Locate a 220kΩ resistor. Its color bands are red, red, yellow, gold. Connect this resistor from the tip lug of the RCA jack at hole 77 to the ground lug of the RCA jack at hole 78. Solder the ground lug of the RCA jack at hole 78 now.

F2-4: Cut a 1.5" piece of bus wire. Use this to connect the tip lug of the RCA jack at hole 77 to the tip lug of the RCA jack at hole 78. Solder the tip lug of the jack at hole 77 now.

F2-5: Connect a 3" piece of yellow wire to the tip lug of the RCA jack at hole 78. Solder the tip lug of the RCA jack at hole 78 now.

F2-6: Locate the yellow wire at the tip lug of the RCA jack at hole 78. Trim and connect it to lug 2 of the noval socket at hole 37. Solder lug 2 of the noval socket at hole 37 now.

F2-7: Locate the blue wire at hole P of the main fiberboard. Trim and connect it to the tip lug of the RCA jack at hole 79. Solder the tip lug of the RCA jack at hole 79 now.

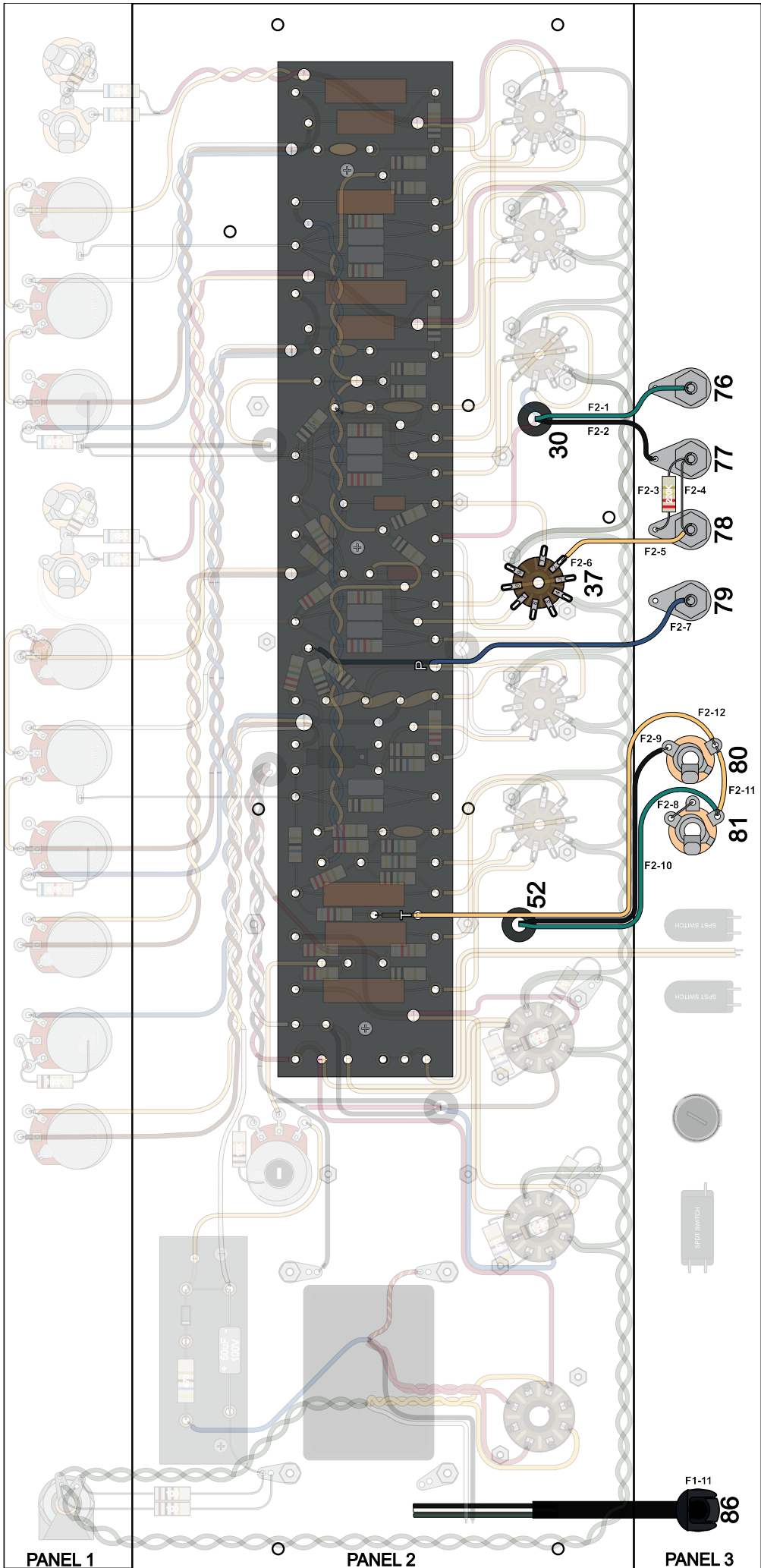
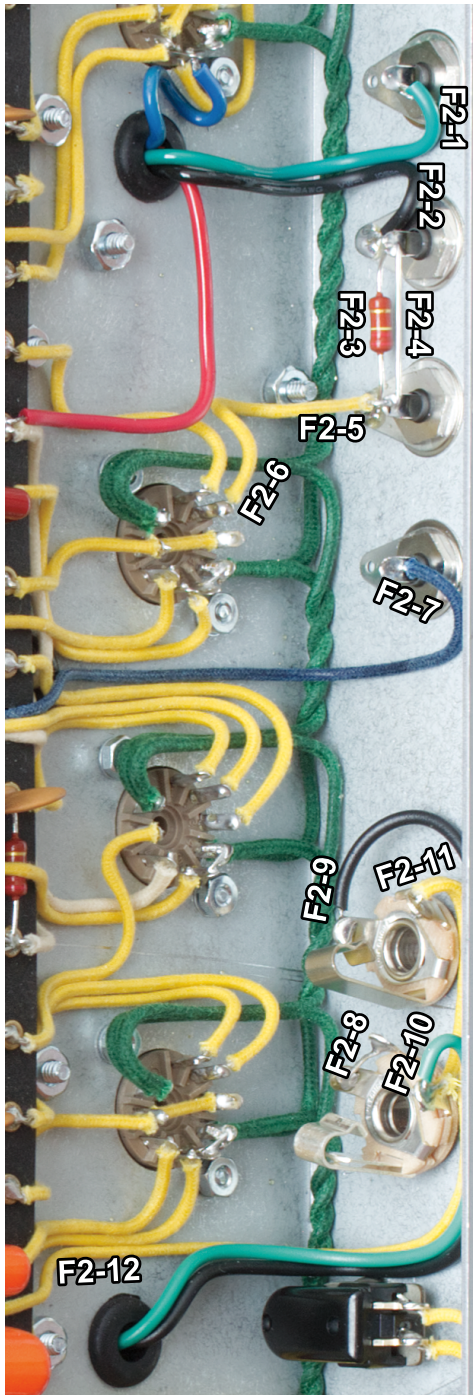
F2-8: Cut a 3/4" piece of bus wire. Use this to connect the switch lug to the sleeve lug on the jack at hole 81. Solder both the switch lug and sleeve lug of the output jack at hole 81 now.

F2-9: Locate the black wire of the output transformer at hole 52 of panel 2. Trim and connect this wire to the sleeve lug of the jack at hole 80. Solder the sleeve lug of the jack at hole 80 now.

F2-10: Locate the green wire of the output transformer at hole 52 of panel 2. Trim and connect this wire to the tip lug of the jack at hole 81.

F2-11: Cut a 2" piece of yellow wire. Use this to connect the tip lug of the jack at hole 80 to the tip lug of the jack at hole 81. Solder the tip lug of the jack at hole 81 now.

F2-12: Locate the yellow wire at hole T of the main fiberboard. Trim and connect it to the tip lug of the jack at hole 80. Solder the tip lug of the jack at hole 80 now.



Chassis-Mounted Components: Panel 3

Part 2: Rear Panel Wiring (Continued)

- F2-13:** Locate the yellow wire at hole X of the fiberboard. Trim and connect it to lug 1 of the SPST switch at hole 82. Solder lug 1 of the SPST switch at hole 82 now.
- F2-14:** Locate the yellow wire at hole Z of the fiberboard. Trim and connect it to lug 2 of the SPST switch at hole 82. Solder lug 2 of the SPST switch at hole 82 now.
- F2-15:** Locate the black wire on the power transformer. Trim this wire to connect to lug 1 of the SPST switch at hole 83. Solder lug 1 now.
- F2-16:** Locate the black wire from the choke set aside earlier in the instructions. Cut a 3" length of this wire. Connect it to lug 2 of the SPST switch at hole 83. Solder lug 2 now.
- F2-17:** Locate the black wire connected to lug 2 of the SPST switch. Gently lift the side lug of the fuse holder up a few millimeters away from its body then connect this wire to the side lug on the fuse holder. Solder the side lug now.
- F2-18:** Locate the white wire on the power transformer. Trim this wire to connect to lug 1 of the SPDT switch at hole 85. Solder lug 1 now.
- F2-19:** Locate the green wire of the power cord. Trim and connect it to the #8 solder lug at hole 70. Solder the #8 solder lug at hole 70 now. Alternatively, the solder lug can be temporarily removed from the chassis for easier access when soldering.
- F2-20:** Locate the white wire of the power cord. Trim and connect it to lug 1 of the SPDT switch at hole 85. Solder lug 1 of the SPDT switch now.
- F2-21:** Locate the black wire of the power cord. Trim and connect it to the end lug of the fuse holder at hole 84. Solder the end lug now.

Completed Build: Inspection

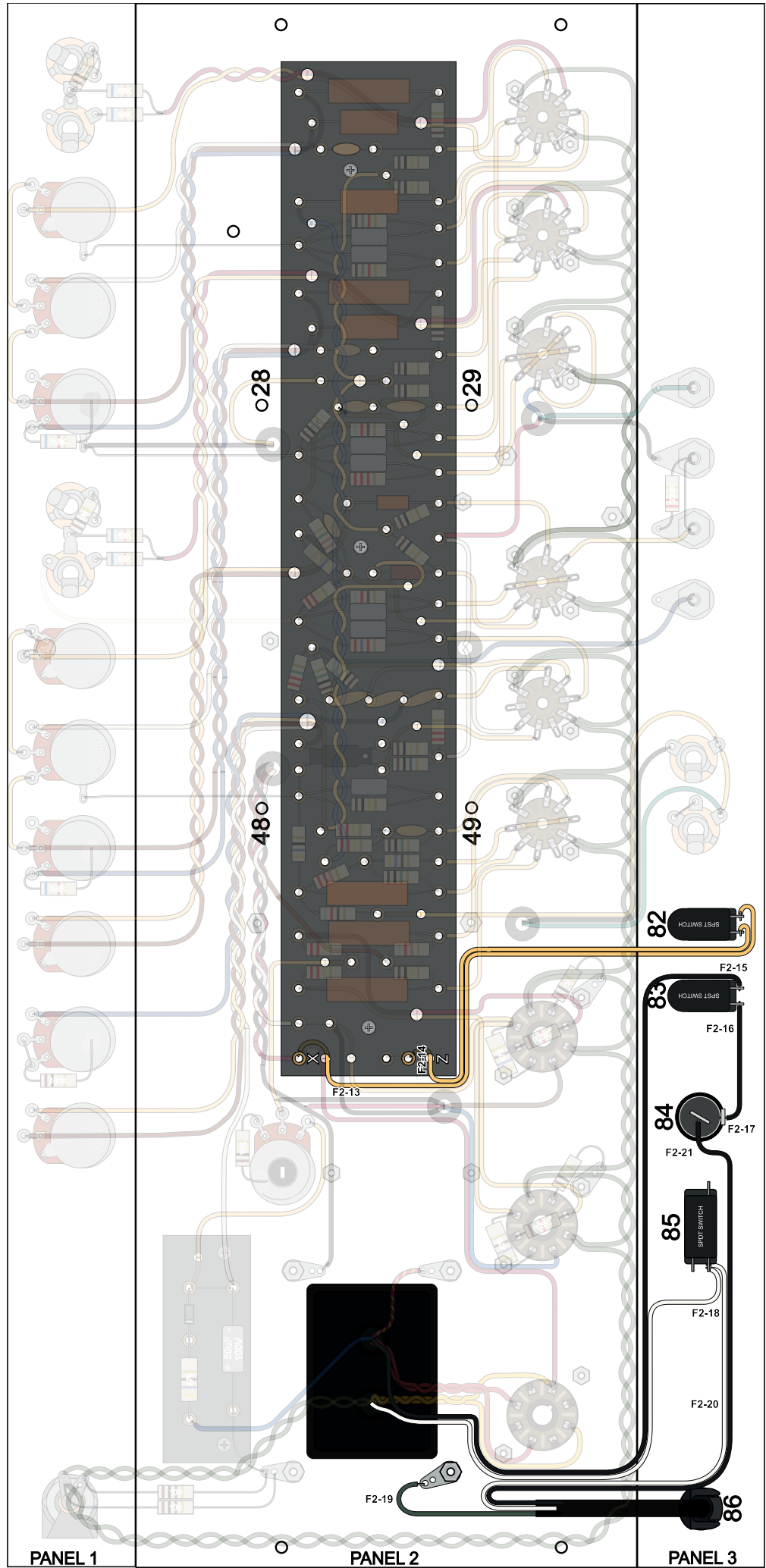
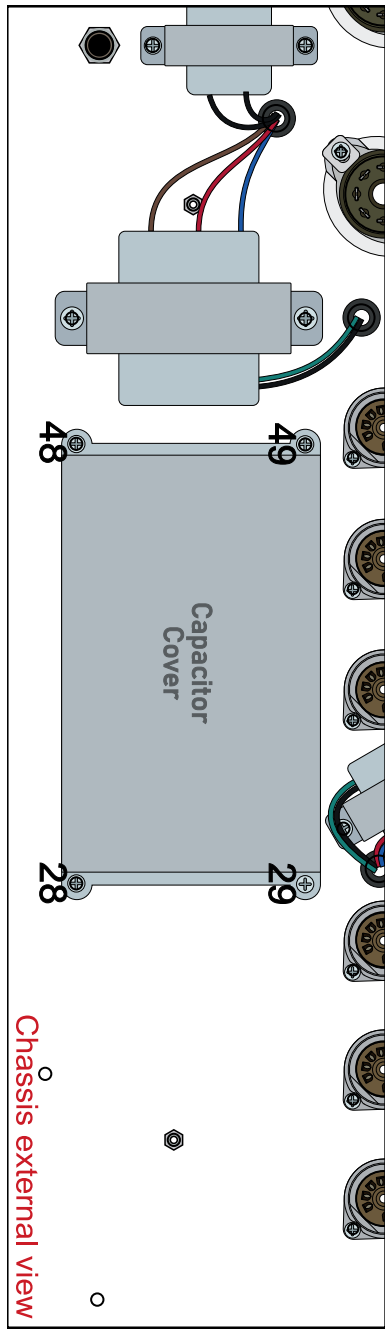
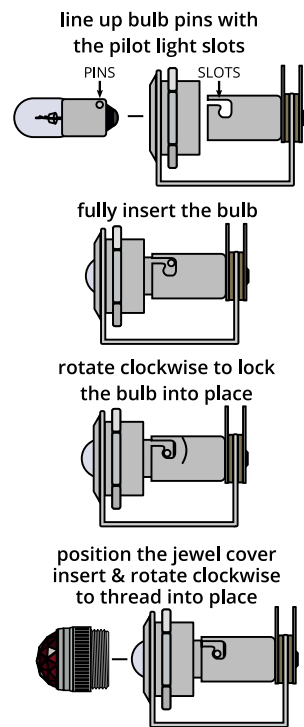
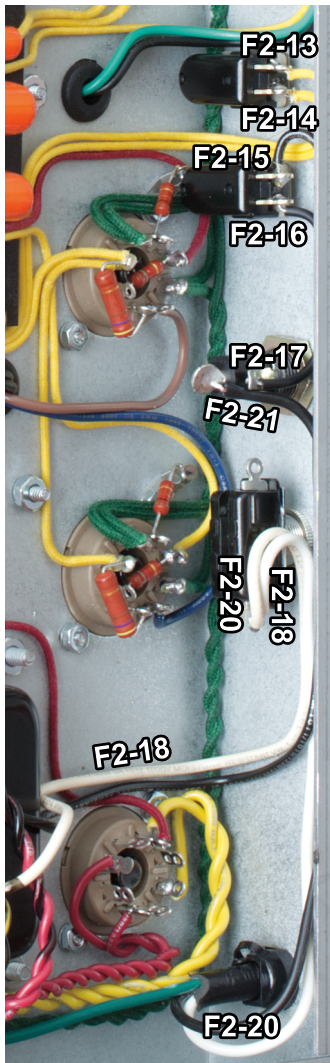
The chassis of the AB763 22W is now completed. Please take some time to thoroughly check all of the connections, parts placement, and solder joints. Ensure all components are in their correct positions according to the wiring diagram, with electrolytic capacitors oriented correctly for polarity. Verify that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked. Make sure no debris or clippings are left floating around in the chassis, as these could cause shorts or other issues.

Install the Pilot Light Bulb and Jewel

Insert the bulb into the pilot light socket ensuring it is securely in place. Position the jewel cover over the bulb and screw it on gently until it is firmly attached.

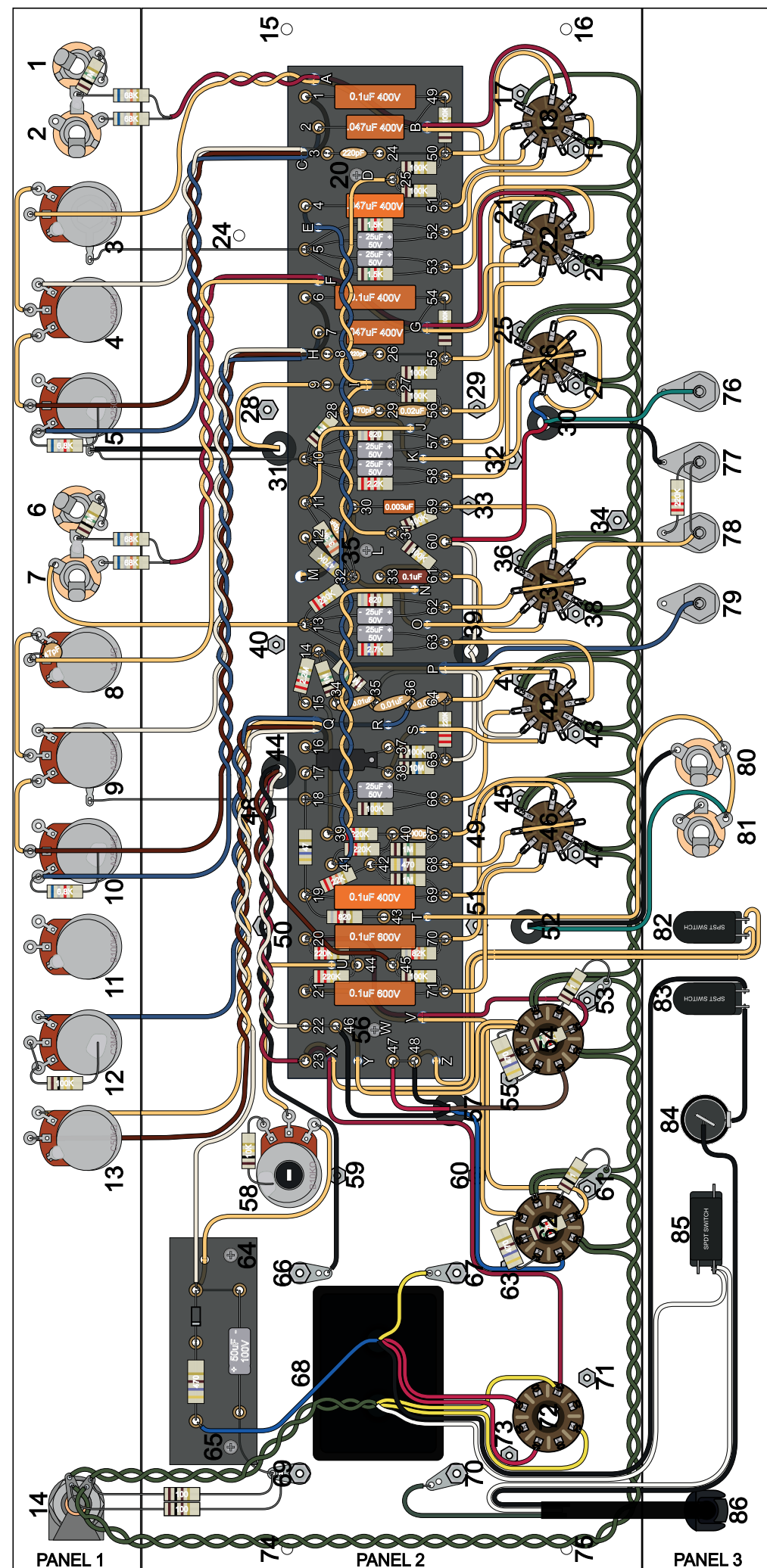
Attach the Capacitor Cover

Locate the capacitor cover, four 3/8" 6-32 screws, four 6-32 nuts, four #6 lock washers. This will be used to cover the capacitor board on the outside of the chassis. Orient the face with the hole towards the output transformer. Align the four mounting holes of the cover with holes 28, 29, 48, and 49 on panel 2 of the chassis. Mount the four screws through the outside of the chassis. Use the lock washers and nuts on the inside of the chassis to secure the cover to the chassis. Make sure no wires are pinched beneath the hardware on the inside of the chassis before tightening down.



AB763 22W Chassis Build Notes

Use this page to record any notes on the chassis construction.

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Reverb Tank RCA Cables

This section provides instructions for wiring the RCA cables for use with the reverb tank.

Part 1: Preparing the RCA Cables

G1-1: Locate the 8ft piece of braided 22AWG wire. Cut this to a 3ft and 5ft length.

G1-2: Push back the metal braid to expose 3/4" of black cloth wire on each. You may need to slightly unravel the ends of the braid to get it to separate from the black cloth beneath it.

G1-3: On each end, carefully push the cloth cover back to expose ~1/4" of the bare wire. Try to avoid fraying the cloth when pushing it back.

G1-4: Secure an end of one of the wires using helping hands or a similar tool.

G1-5: Slide an RCA plug over the black cloth cover until the full length of exposed wire exits the tip of the plug. Solder the tip of the plug now. Once cooled, trim any excess wire from the tip.

G1-6: Using the helping hands or similar tool, position the jack so that the tip is pointing down. Push down the braid until it makes contact with the sleeve of the RCA plug. Solder the shield to the sleeve of the jack.

G1-7: Repeat this process for the remaining ends of each wire. Once completed, check that all solder joints are smooth and shiny, and free of cold joints, which can appear dull or cracked.

Part 2: Testing the cables

G2-1: Using the continuity test on a multimeter, check that the tip of each RCA jack does not make a connection with its sleeve on each end of both cables.

G2-2: Using the same setting on the multimeter, check that the sleeves of the RCA jack on each end of the 3ft cable cable make a connection. Check that the sleeves of the RCA jack on each end of the 5ft cable cable make a connection.

G2-3: Using the same setting on the multimeter, check that the tips of the RCA jack on each end of the 3ft cable cable make a connection. Check that the tips of the RCA jack on each end of the 5ft cable cable make a connection.

G2-4: With these tests completed, you have successfully verified proper functionality of the RCA cables for use with the reverb tank.



Speaker Wiring (optional)

This optional section provides instructions for wiring the stock speaker when using the stock cabinet with the amplifier. If a different speaker or cabinet will be used, this section can be skipped.

Part 1: Preparing the Speaker Wire

H1-1: Locate the black and white 18AWG wires. Push back the cloth sleeving to expose 3/8" of bare wire on each.

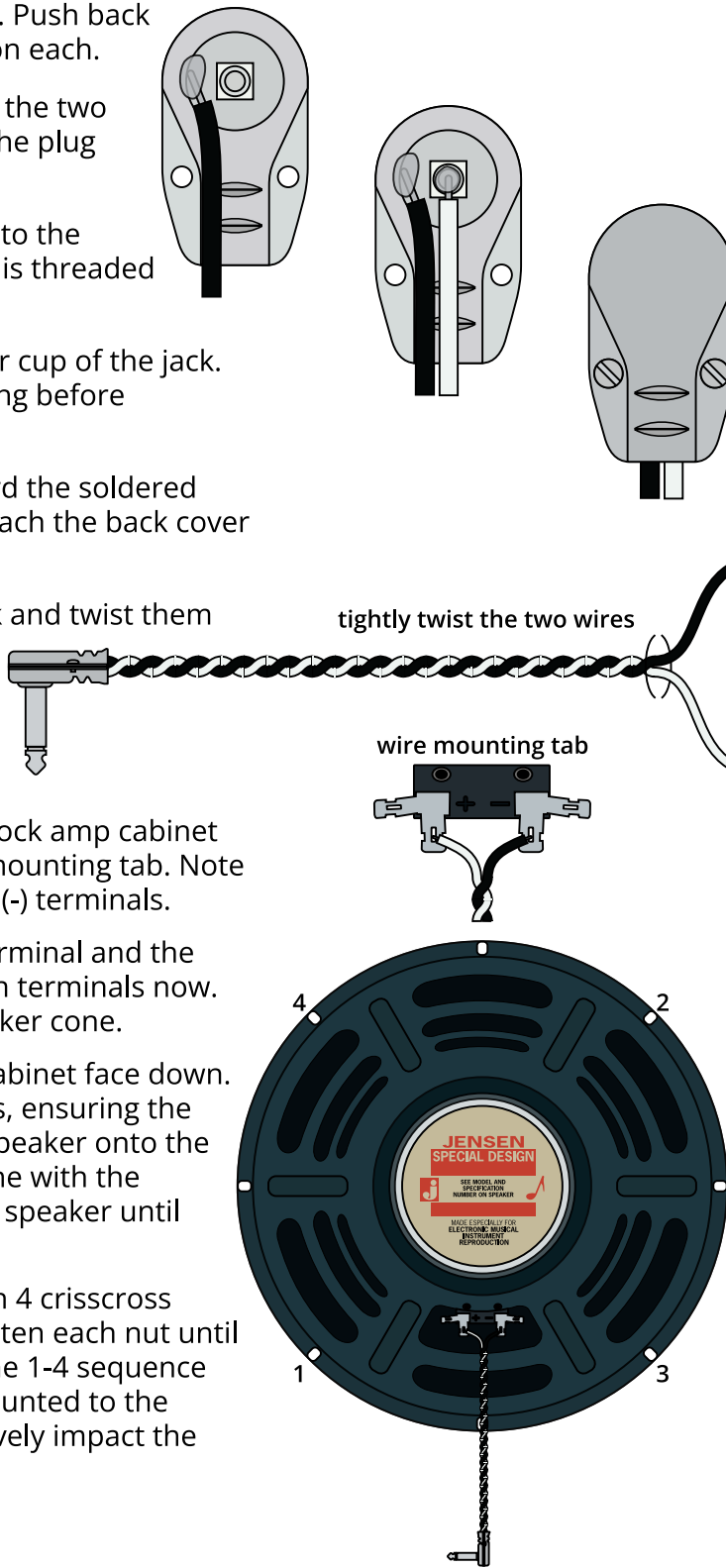
H1-2: Locate the right angle 1/4" plug. Remove the two screws to open the case. Secure the half with the plug using helping hands or a similar tool.

H1-3: Take the black wire and solder it directly to the inside of the jack's frame. Ensure that the wire is threaded through the opening before soldering.

H1-4: Solder the white wire to the center solder cup of the jack. Ensure the wire is threaded through the opening before soldering.

H1-5: Slide the sleeving back up the wire toward the soldered connections. Then, use the two screws to reattach the back cover of the jack

H1-6: Grip the two wires at the base of the jack and twist them leaving only 1/2" of each wire untwisted.



Part 2: Wiring the Speaker

H2-1: Locate the 12" 8Ω speaker used in the stock amp cabinet for the AB763 22W. Identify the speaker wire mounting tab. Note the orientation of the positive (+) and negative (-) terminals.

H2-2: Connect the white wire to the positive terminal and the black wire to the negative terminal. Solder both terminals now. Be careful not to drip any solder onto the speaker cone.

H2-3: Remove the back panels and place the cabinet face down. Align the speaker's holes with the baffle screws, ensuring the wire tab is at the bottom. Carefully lower the speaker onto the screws. Be very careful not to puncture the cone with the screws. Once all screws are through, lower the speaker until it's flush with the baffle

H2-4: Attach the 6-32 Kep nuts in the 1 through 4 crisscross pattern shown on the graphic to the right. Tighten each nut until it just touches the speaker. Then go through the 1-4 sequence with half turns until the speaker is securely mounted to the baffle. Avoid over-tightening as this can negatively impact the speaker's performance.

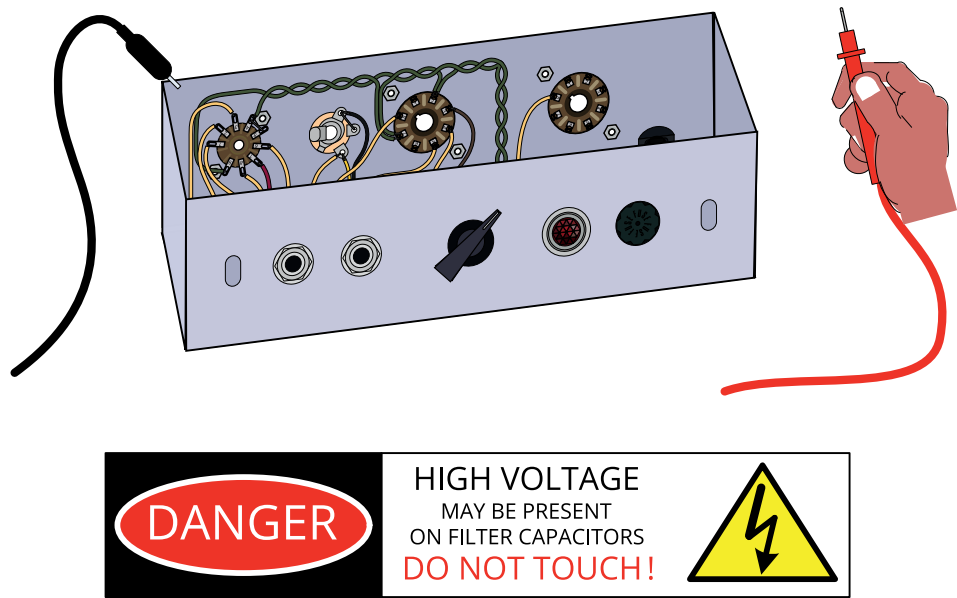
Safety

Tube amps operate at high voltages that have the potential to injure and kill. Please remember the following when working on this project.

- Only work on tube amps when you are wide awake and sober
- Do not plug the amp in until you have gone through all of the instructions, checking and rechecking each step.
- Be aware that tubes become very hot when the amp is on and can take several minutes to cool down after power is turned off.
- Work in a ventilated area when soldering.
- Always follow the one hand rule when working with an amp that is connected to power or may have voltage present. (Any amp that has been plugged in at one time may have high voltage present)

One Hand Rule

The one hand rule is a safety precaution for working on an amp that is plugged in or could potentially have high voltages present. Use an alligator clip on the negative lead of your DMM and secure it to the chassis. With a standard 2mm probe on the positive lead, test the various points using one hand. This practice prevents a fatal shock by avoiding current passing through your heart. (Many people even put their other hand in their pocket or behind their back).



Always probe a tube amp for dangerous voltages present on the filter capacitors before working on it, even if it has been turned off and unplugged for months.



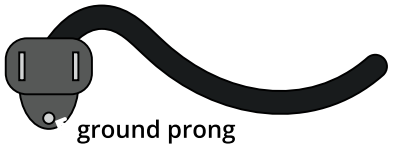
Preliminary Testing

At this stage, it's crucial to double-check and triple-check all connections, solder joints, and parts placement. It's highly recommended to review each step of the instructions to ensure all steps have been accurately completed. Incorrect wiring or misplaced components can permanently damage the amplifier. Once you are confident that the build is fully completed, you can begin preliminary testing.

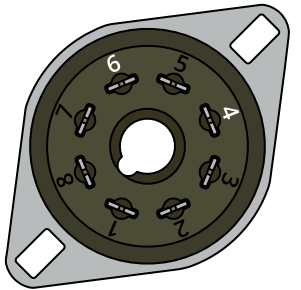
Power Transformer Verification

I1-1: If any of the test results differ from the provided information, immediately stop and unplug the amplifier. Review all connections to locate and fix the fault before proceeding further.

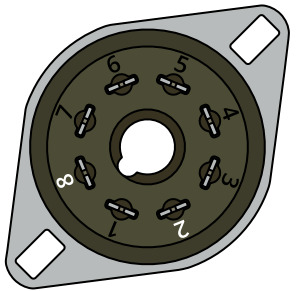
I1-2: Using the continuity test on a multimeter, check that the ground prong of the power cord has continuity with the chassis. Once verified, place the chassis in a clean work area with the open side facing down. A bench mat will help prevent slipping. The amp should be fully stable.



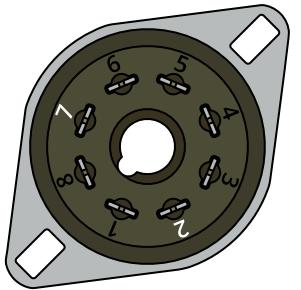
I1-3: Insert the 1A fuse into its holder. Set the multimeter to measure volts AC and attach standard 2mm pin test leads. Insert the probes into pins 4 and 6 of the rectifier's octal socket at hole 72. Make sure that the metal probes are not touching the tube clamp or one another. Flip the power switch and standby switch into the off position.



I1-4: Plug the power cord into an outlet. The meter should read 0VAC but might show ~1-100mV. This is OK. flip the power switch into the on position. The pilot light should be lit and the meter should now read ~700VAC. Flip the power switch into the off position. Unplug the amp from the outlet.



I1-5: Remove the probes from pins 4 and 6 of the rectifier's octal socket and insert them into pins 2 and 8 of the same socket. Plug the power cord into the outlet. The meter should read 0VAC. Flip the power switch into the on position. The meter should now read ~5.4VAC. Flip the power switch into the off position. Unplug the amp from the outlet.



I1-6: Remove the probes from pins 4 and 6 of the rectifier's octal socket and insert them into pins 2 and 7 of the output tube's octal socket at hole 54. Plug the power cord into the outlet. The meter should read 0VAC. Flip the power switch into the on position. The meter should now read ~6.8VAC. Flip the power switch into the off position. Unplug the amp from the outlet.

I1-7: With these tests completed, you have successfully verified proper functionality of the power transformer in your amplifier. Measuring 700VAC confirms that the AC voltage, which will be rectified into the B+, is reaching the rectifier tube. The measurement of 5.4VAC ensures that the filament voltage is properly supplied to the rectifier tube. Similarly, the 6.8VAC measurement confirms that the 6.3V filament voltage is correctly distributed. Additionally, the functionality of the 6.3V filament is further validated by the pilot light, which is powered by the same 6.3V supply as the audio tubes.

DC Voltage Testing

Remember to follow the one-hand rule when working on an amp that is plugged in or may have high voltages present. Use an alligator clip on the negative lead of your DMM and secure it to the chassis. With a standard 2mm probe on the positive lead, test the various points using one hand. This practice prevents a fatal shock by avoiding current passing through your heart.

Rectifier Check

J1-1: If any of the test results differ from the provided information, immediately stop and unplug the amplifier. Review all connections to locate and fix the fault before proceeding further.

J1-2: Keep the chassis on the clean work area with the open side facing down. Switch your negative test lead to an alligator clip style lead. Secure the negative lead of the multimeter directly to the chassis. Hole 15, 16, 74 or 75 on panel 2 of the chassis works well for this.

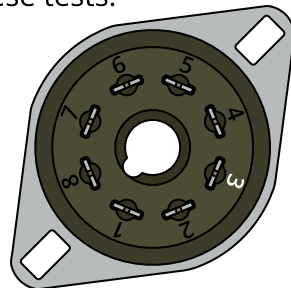
J1-3: Insert the GZ34 tube into the rectifier socket at hole 72. Make sure that the key on the tube aligns with the corresponding slot on the socket. Gently bend the clamp away from the tube and carefully insert it into place.

J1-4: Insert the positive probe of the multimeter into pin 3 of the power tube's octal socket at hole 54, ensuring the metal probe does not touch the tube clamp. Set the multimeter to measure DC volts. Plug the power cord into the outlet and then flip the power switch to the on position. Wait ~30 seconds then flip the standby switch to the on position. Observe the DC voltage as it rises. It should stabilize around 500VDC. This is the plate voltage for the 6V6 output tubes. It will read high without the tube installed but will drop down to approximately 440VDC with the tubes installed.

J1-5: Flip the power switch into the off position. Unplug the amp from the outlet. Leave the multimeter connected and observe the voltage. Notice how slowly it decreases; this is the charge held by the capacitors. Even though the amp is unplugged and off, dangerous voltages are still present. Be mindful of this and be sure to use the one-hand rule throughout these tests.

J1-6: Leave everything in place and allow the voltage to drop before continuing. This may take up to an hour. It should eventually settle around 5VDC.

J1-7: Carefully remove the positive probe from pin 3 of the output tube's socket. Be careful not to touch the metal retainer with the probe.



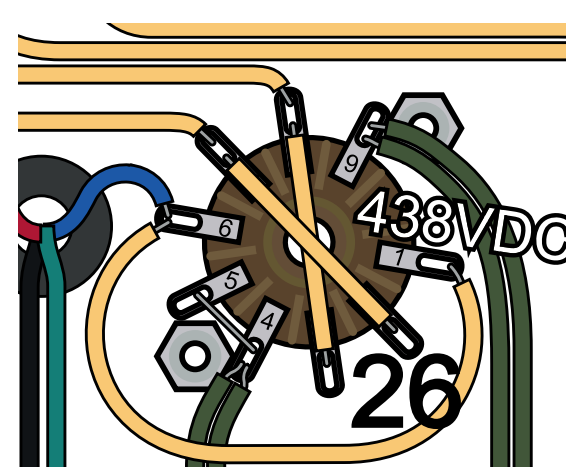
DC Voltage Test Measurements

J2-1: Insert the 6V6 tubes into the octal socket at holes 62 and 54. Insert the four 12AX7 tubes into the noval sockets at 18, 22, 37, and 42. Insert the two 12AT7 into the noval sockets at 26 and 46. Attach the noval socket shield covers to each tube

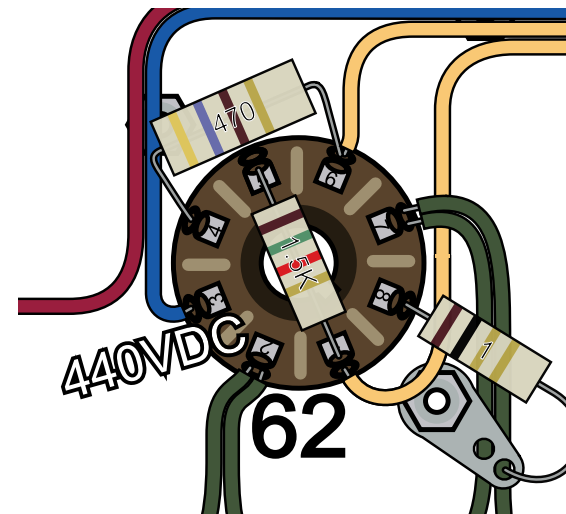
J2-2: Position the amplifier with the open side facing up. Use wooden blocks or similar supports to keep the chassis level and prevent the tubes from touching the bench. It is crucial to ensure the amplifier chassis is completely stable before proceeding to the next steps.

J2-3: Make sure the negative lead of the multimeter is still securely connected to the metal chassis. Turn all of the knobs to their lowest setting. Use a flathead screwdriver to set the bias trimmer to the middle position. The slot should line up with lug 2. Connect an 8Ω speaker to the output jack at hole 81. Set the multimeter to volts DC. Plug the power cord into the outlet and flip the power switch to the on position. Wait roughly 30-60 seconds then flip the Standby switch into the on(up) position. The speaker might have a very faint 60hz hum but should otherwise be silent.

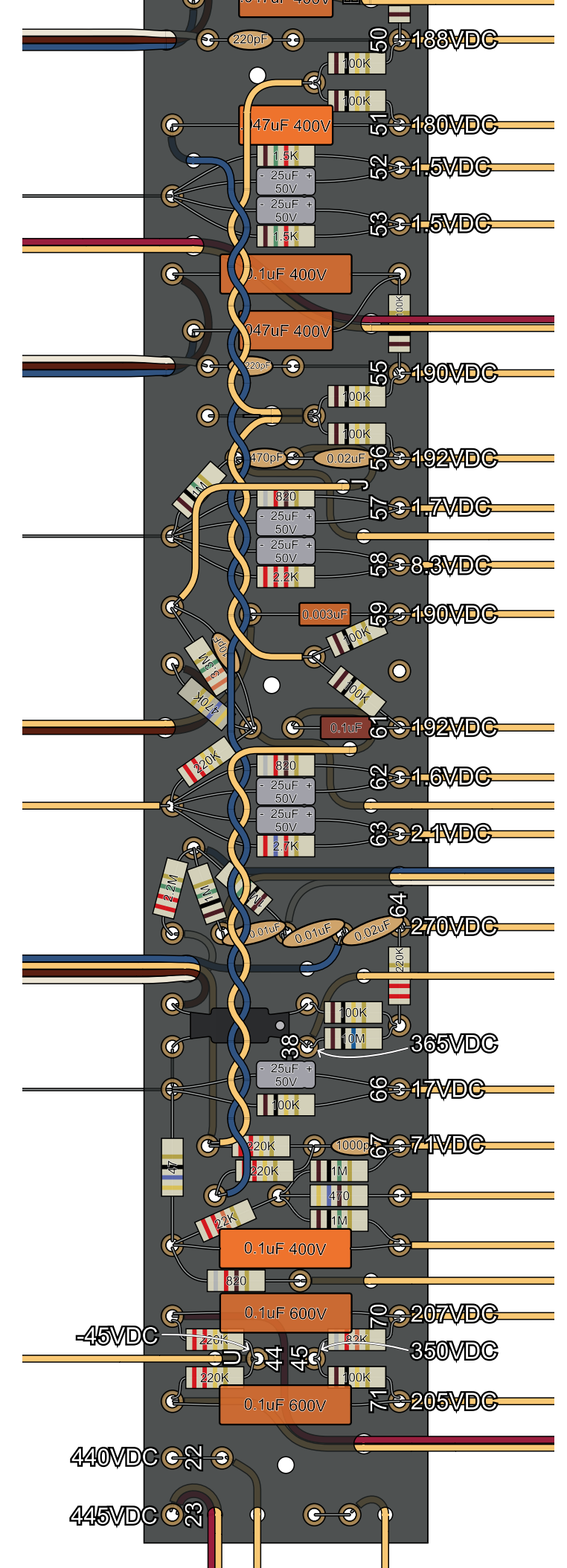
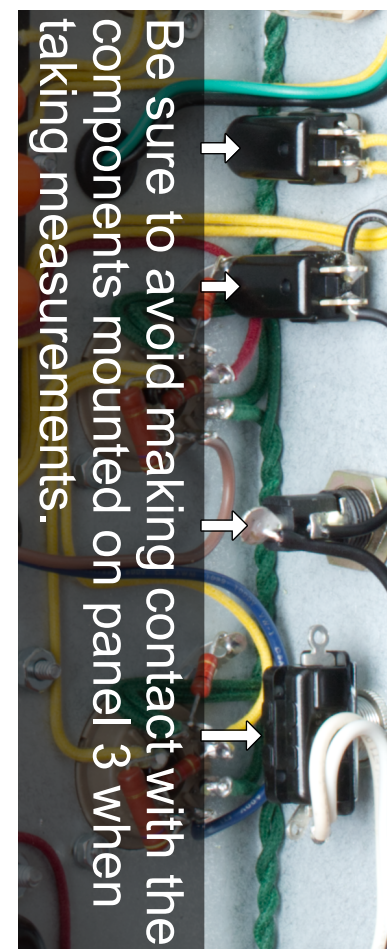
Voltage test procedures continued on page 90.



J2-18



J2-26



AB763 22W DC Voltage Testing

DC Voltage Testing

DC Voltage Test Measurements (Continued)

J2-4: Carefully measure the voltage at eyelet 23* using the positive lead of the multimeter (DMM). The meter should read approximately 445VDC.

J2-5: Carefully measure the voltage at eyelet 22. The meter should read approximately 440VDC.

J2-6: Carefully measure the voltage at eyelet 44. The meter should read approximately -45VDC.

J2-7: Carefully measure the voltage at eyelet 71*. The meter should read approximately 205VDC.

J2-8: Carefully measure the voltage at eyelet 45*. The meter should read approximately 350VDC.

J2-9: Carefully measure the voltage at eyelet 70*. The meter should read approximately 207VDC.

J2-10: Carefully measure the voltage at eyelet 67*. The meter should read approximately 71VDC.

J2-11: Carefully measure the voltage at eyelet 66. The meter should read approximately 17VDC†.

J2-12: Carefully measure the voltage at eyelet 38*. The meter should read approximately 365VDC†.

J2-13: Carefully measure the voltage at eyelet 64*. The meter should read approximately 270VDC†.

J2-14: Carefully measure the voltage at eyelet 63. The meter should read approximately 2.1VDC†.

J2-15: Carefully measure the voltage at eyelet 62. The meter should read approximately 1.6VDC.

J2-16: Carefully measure the voltage at eyelet 61*. The meter should read approximately 192VDC.

J2-16: Carefully measure the voltage at eyelet 59*. The meter should read approximately 190VDC.

J2-17: Carefully measure the voltage at eyelet 58. The meter should read approximately 8.3VDC.

J2-18: Carefully measure the voltage at pin 1* of the noval socket at hole 26. The meter should read approximately 438VDC.

J2-19: Carefully measure the voltage at eyelet 57. The meter should read approximately 1.7VDC.

J2-20: Carefully measure the voltage at eyelet 56*. The meter should read approximately 192VDC.

J2-21: Carefully measure the voltage at eyelet 55*. The meter should read approximately 190VDC.

J2-22: Carefully measure the voltage at eyelet 53. The meter should read approximately 1.5VDC.

J2-23: Carefully measure the voltage at eyelet 52. The meter should read approximately 1.5VDC.

J2-24: Carefully measure the voltage at eyelet 51*. The meter should read approximately 180VDC.

J2-25: Carefully measure the voltage at eyelet 50. The meter should read approximately 188VDC.

J2-26: Being mindful of the mains connections nearby on panel 3, carefully measure the voltage at pin 3 of the octal oval socket at hole 62 using the positive lead of the multimeter. Exercise caution and avoid touching any exposed wires or components. The meter should read approximately 440VDC. Write down the exact reading. This will be referenced when biasing the amp.

J2-27: Flip the power switch to the off position. Unplug the power cord. Turn off the standby switch. Carefully remove the alligator clip from the vibrato jack and chassis.

*Be prepared for the speaker to make a popping sound when the probe makes contact with this eyelet.

†This measurement will pulse up and down. This is normal.

Biasing the Power Tubes

Remember to follow the one-hand rule when working on an amp that is plugged in or may have high voltages present. This section will use an alligator clip on both the positive and negative leads of your DMM. Secure the negative lead to the chassis. Secure the positive lead to the various points as instructed below using one hand. This practice prevents a fatal shock by avoiding current passing through your heart.

Bias Check

K1-1: If any of the results differ from the provided information, immediately stop and unplug the amplifier. Review all connections to locate and fix the fault before proceeding further.

K1-2: Go to <https://www.amplifiedparts.com/tech-articles/tube-amplifier-bias-calculator>. Type in the recorded voltage from step J2-26 into the Plate Voltage field. Select 6V6GT as the output tube and click submit. When the results load, write down the 70% Bias Point. This should be something like 22.27mA.

K1-3: With the amp off and unplugged, position it with the open side facing up. Use wooden blocks or similar supports to keep the chassis level and prevent the tubes from touching the bench. It is crucial to ensure the amplifier chassis is completely stable before proceeding to the next steps.

K1-4: Make sure the negative lead of the multimeter is still securely connected to the metal chassis. Switch your positive test lead to an alligator clip style lead. Turn all of the knobs to their lowest setting. Connect an 8Ω speaker to the output jack at hole 81. Set the multimeter to millivolts DC.

K1-5: Locate the 1Ω resistor connected from pin 8 of the octal socket at hole 62 to the #6 solder lug at hole 61. Carefully secure the positive lead of the multimeter to the side of this resistor that connects to lug 8 of the socket.

K1-6: Plug the power cord into the outlet and flip the power switch to the on position. Wait roughly 30-60 seconds then flip the Standby switch into the on(up) position. The speaker might have a very faint 60hz hum but should otherwise be silent.

K1-7: Observe the millivolts reading on your multimeter. Once it stabilizes, compare it to the mA measurement recorded from the bias calculator website. Using the one hand rule and a flathead screwdriver, carefully adjust the bias trimmer potentiometer at hole 58 until the mV number is as close as possible to the mA number. For our example bias number, this would be ~22.2mV.

K1-8: Flip the power switch to the off position. Unplug the power cord. Turn off the standby switch.

K1-9: Locate the 1Ω resistor connected from pin 8 of the octal socket at hole 54 to the #6 solder lug at hole 53. Carefully secure the positive lead of the multimeter to the side of this resistor that connects to lug 8 of the socket.

K1-10: Plug the power cord into the outlet and flip the power switch to the on position. Wait roughly 30-60 seconds then flip the Standby switch into the on(up) position.

K1-11: Observe the millivolts reading on your multimeter. Once it stabilizes, compare it to the mA measurement recorded from the bias calculator website and the mV measurement taken on the other tube socket. It should be very close to the previous mV number. If this number is slightly greater than the mA number from the website, use the one hand rule and a flathead screwdriver, carefully adjust the bias trimmer potentiometer at hole 58 until the mV number is as close as possible to the mA number. If it is slightly less than the mA number from the website, no adjustment is required.

K1-12: Flip the power switch to the off position. Unplug the power cord. The amp has successfully been biased.

Functionality Testing

Sound Test

L1-1: Carefully remove the multimeter and flip the amplifier so the open side faces down. Ensure the amp is securely positioned and the speaker remains connected. Set the Treble and Bass knobs between 5 and 6 and make sure that Volume, Reverb, Speed, and Intensity controls are turned fully counter-clockwise.

L1-2: Locate the reverb tank and remove the foam from the springs. Position it open side down behind the amp chassis. Make sure the speaker is not close to it as this can cause feedback.

L1-3: Connect the 5ft RCA cable to the Reverb Input jack on the rear panel. Connect the 3ft RCA cable to the Reverb Output jack on the rear panel.

L1-4: Connect the other end of the 5ft RCA cable to the reverb tank's In jack. Connect the other end of the 3ft RCA cable to the reverb tank's Out jack.

L1-5: Locate the footswitch and connect it to the pedal RCA jacks on the rear panel. The red plug connects to the Reverb Pedal jack and the white plug connects to the Vibrato Pedal jack.

L1-6: The Normal channel will be checked first. This is the group of controls in the block labeled Normal on the front panel. Connect a guitar to an instrument cable and plug it into the Normal 1 jack. Make sure that you have enough cable to play the guitar without pulling on the amp.

L1-7: Plug the power cord into the outlet and then flip the power switch to the on position. Wait roughly 30-60 seconds then flip the Standby switch into the on(up) position. Slowly increase the Volume knob closest to the Normal jacks until the guitar can be heard clearly.

L1-8: Play around with the different levels. The amp should have fairly clean headroom at a high volume before the tube distortion kicks in. Adjust the nearby Treble and Bass controls to hear the variety of sounds they offer. The Treble adjusts the higher frequencies and the Bass adjusts the lower frequencies of the signal.

L1-9: Turn the Volume control fully counter-clockwise and flip the standby switch into the off position. Unplug the cable from the Normal 1 jack and plug it into the Normal 2 jack. Flip the standby switch to the on position. Play with the levels again. This should sound roughly the same as Normal 1 input but quieter. When satisfied that this input is working correctly, turn the Volume control fully counter-clockwise and flip the standby switch into the off position.

L1-10: Now to check the Vibrato channel. This is the group of controls in the block labeled Vibrato on the front panel. Plug the instrument cable into the Vibrato 1 jack. Flip the standby switch to the on position. Slowly increase the Volume knob closest to the Vibrato jacks until the guitar can be heard clearly.

L1-11: Play around with the different levels. The amp should have fairly clean headroom at a high volume before the tube distortion kicks in. Adjust the nearby Treble and Bass controls to hear the variety of sounds they offer. The Treble adjusts the higher frequencies and the Bass adjusts the lower frequencies of the signal.

Functionality Testing

Sound Test (Continued)

L1-12: Slowly turn up the Intensity knob while playing a sustained note on the guitar. The volume should start pulsing at a slow and steady rate. If not, press the Vibrato footswitch button to activate the effect. With the Intensity at ten, adjust the Speed knob to hear the different tremolo rates it offers. Low settings will be slower and high settings are faster. Play around with both the Speed and Intensity to hear the variety of sounds provided by this effect.

L1-13: Turn the Intensity knob fully counter clockwise to remove the tremolo effect. Slowly increase the Reverb knob to bring in this effect. If the reverb is not heard, press the Reverb footswitch button to activate the effect. Play around all of the settings now to hear how they interact with the reverb. Note that the tremolo effect also reduces the reverb volume since it takes place after the reverb.

L1-14: Turn the Volume control fully counter-clockwise and flip the power switch into the off position. Unplug the cable from the Vibrato 1 jack and plug it into the Vibrato 2 jack. Flip the power switch to the on position. Play with the levels again. This should sound roughly the same as Vibrato 1 input but quieter. When satisfied that this input is working correctly, flip the power switch to the off position.

L1-15: You have now fully tested the functionality of the amplifier. Unplug the amp from the outlet.

L1-16: You can now install the amplifier into its cabinet. It's a good idea to remove the tubes and reverb tank before mounting the chassis to avoid potential damage. Allow the tubes to cool to room temperature before attempting to remove them.



Thanks for selecting a Mod® Electronics amp kit. We hope you had as much fun building this amplifier as we had designing it for you. Mod® Electronics is a small business and your support means the world to us. Learn more about what else we do at modelectronics.com. Keep rocking.

