

Soup'er Up'er

for the
Four State QRP Group
Bayou Jumper



Sidetone Generator
Receive Audio Mute (during Xmit)
Fine Tuning
by
David Martin – NA1MH

and

Hi-Per-Mite CW Filter by David Cripe – NM0S
adapted for the Bayou Jumper

This add on board for the Bayou Jumper does NOT require cutting any traces on the Bayou Jumper's circuit board.

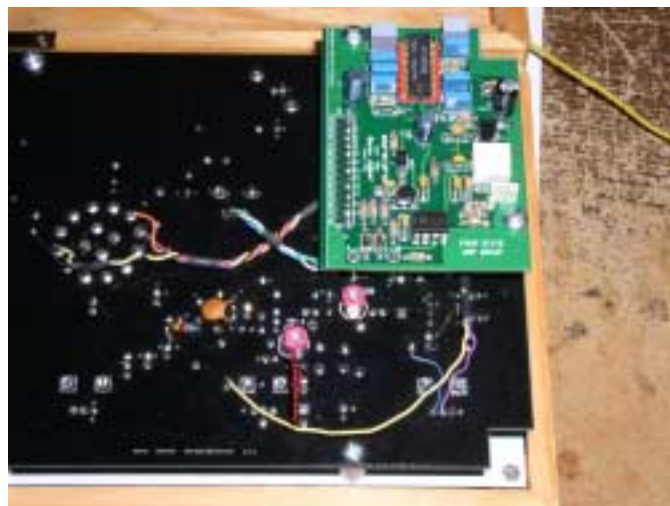
Issue date: 06/06/2017 a

Tools / Materials needed:

| | | |
|------------------------------|---|---------------------------------|
| Soldering Iron | Side Cutters | Needle Nose Pliers |
| Screw Drivers | Wrenches | Exacto Knife w/NEW Blade |
| Electric Drill | Scissors | 1/16" Drill Bit for pilot holes |
| 17/64" or 9/32" Drill Bit | 1/4" Drill Bit | 3/32" Drill Bit |
| 5/64" Drill Bit | Tack Hammer & small Finishing Nail, or Center Punch | |
| Solder Wick or Solder Sucker | Masking Tape or Blue Painters Tape | |
| Soft dry cloth | Toothpick or Tweezers | Clear Acrylic Spray Paint |
| Dummy Load or Antenna | Power Supply | Headphones |
| Volt-Ohm Meter or DVM | Chassis Nibbler or Rat Tail File | |

Notes:

1. While installing the resistors and capacitors, save the trimmed leads and some will be used later while installing the board.
2. Photos used in this instruction manual are of the designers Bayou Jumper and may contain some wiring and components that are extraneous to the addition of the Soup'er Up'er kit.
3. When referencing Bayou Jumper Schematics, use the Receiver schematic version 1.4, and the Transmitter schematic version 1.4



The Soup'er Up'er installed in a Bayou Jumper will look similar to this when your are finished.

(Photo is NA1MH's Bayou Jumper and Prototype Soup'er Up'er board)

Check each item (✓) when completed.

Install all the fixed Resistors:

Hi-Per-Mite Section

- () R1 1 Meg (Brn | Blk | Grn)
- () R2 33 K (Org | Org | Org)
- () R3 33 K (Org | Org | Org)
- () R4 47 K (Yel | Vio | Org)
- () R5 47 K (Yel | Vio | Org)
- () R6 36 K (Org | Blu | Org)
- () R7 36 K (Org | Blu | Org)
- () R8 10 K (Brn | Blk | Org)
- () R9 1 Meg (Brn | Blk | Grn)
- () R10 1 K (Brn | Blk | Red)
- () R11 N/A
- () R12 2.2 K (Red | Red | Red)
- () R13 2.2 K (Red | Red | Red)

Receive Audio Mute Section

- () R14 10 K (Brn | Blk | Org)
- () R15 10 K (Brn | Blk | Org)

Fine Tuning Section

- () R22 20 K (Red | Blk | Org)
- () R23 20 K (Red | Blk | Org)
- () R24 2.2 K (Red | Red | Red)
- () R25 2.2 K (Red | Red | Red)
- () R26 470 K (Yel | Vio | Yel)

Side Tone Section

- () R31 2.2 K (Red | Red | Red)
- () R32 2.2 K (Red | Red | Red)
- () R33 1 K (Brn | Blk | Red)
- () R34 390 K (Org | Wht | Yel)
- () R36 2.2 K (Red | Red | Red) See errata #1 at end of this manual.

Install all Diodes:

Fine Tuning Section

- () D21 1N4148
- () D22 1N4148

Receive Audio Mute Section

- () D23 1N4001

Install Potentiometer:

Side Tone Section

- () R35 10 K Trimmer Potentiometer

Hi-Per-Mite Section

() C1 0.1 uF (104)

Fine Tuning Section

() C21 0.1 uF (104)

() C22 0.1 uF (104)

() C25 0.1 uF (104)

Side Tone Section

() C32 0.1 uF (104)

() C33 0.1 uF (104)

() C34 0.01 uF (103)

Hi-Per-Mite Section

() C2 0.047 uF (47nJ63) ¹

() C3 0.001 uF (1nJ63) ¹

() C4 0.036 uF (36n) ¹

() C5 0.001 uF (1nJ63) ¹

() C6 0.039 uF (39n) ¹

() C7 0.001 uF (1nJ63) ¹

() C8 0.0022 uF (2n2J63) ¹

() C9 0.0022 uF (2n2J63) ¹

() C11 220 uF @ 25V Electrolytic ²

Side Tone Section

() C12 4.7 uF @ 25V Electrolytic ²

() C31 0.22 uF (.22K63) ¹ [labeled 224]

Fine Tuning Section

() C23 4.7 uF @ 25V Electrolytic ²

Notes:

1 – Do not substitute the recommended part. A part with higher tolerance or different capacitance may affect performance.

2 - Do not substitute the recommended part. A different part may not fit the holes on the pcb.

Install Semiconductors/IC's:

Fine Tuning Section

() U11 78L08 - Position the device 'Flat Side' towards the Flat Line on the PCB Silkscreen.

Receive Mute Section

() Q1 2N7000 - Position the device 'Flat Side' towards the Flat Line on the PCB Silkscreen.

Fine Tuning & Side Tone Section(s):

() U21 LM358 - Position the semi-circle on the end of the IC in the same direction as indicated on the PCB Silkscreen.

Hi-Per-Mite Section:

() U1 LM324 - Position the semi-circle on the end of the IC in the same direction as indicated on the PCB Silkscreen.

Installation Instructions

Do not get in a rush, the instructions that follow differ depending on which version Bayou Jumper you have. There are 2 versions of the Bayou Jumper – the original (White Face), and the Rev. “A” (Green Face) that began shipping after April 17, 2017.

For either version of the Bayou Jumper, you will be drilling holes in the Front Panel of your Bayou Jumper, take the time to ensure you fully understand the instructions and hole sizes before starting.

Start Here (either version of Bayou Jumper):

Separate the Bayou Jumper Front Panel and Circuit Board, you will need to drill some holes so don't leave these two connected in any manner. You may also want to temporarily remove the “Built-In” Key from the Bayou Jumper Front Panel.

On the Bayou Jumper Circuit Board, remove Resistor R9 and Capacitor C9. Using solder wick or a solder sucker, make sure the solder pads (of the removed components) are free and clear to accept the wiring from the Soup'er Up'er.

Be careful, you do not want to apply a lot of heat for a long time trying to accomplish this, the last thing you want to do is cause a solder pad to delaminate from the circuit board.

Also, if a component lead does not want to freely slip out of a hole while heat is applied, do NOT force it, it is possible to pull the “Plate-Thru” from the hole thus removing the electrical connection from the hole that connects the 2 sides of the board for that circuit.

Drilling the Front Panel to accept the Filter Switch and Fine Tuning Pot Shaft:

For the original Bayou Jumpers, use the Drilling Template supplied to spot the locations to drill the Front Panel to accept the shafts Filter In/Out Toggle Switch, and the Fine Tuning Pot. (The drilling templates are available from the Soup'er Up'er kit webpage on www.4sqrp.com)

For Bayou Jumper Rev. "A" has cross-hairs on the back side of the Front Panel (shown below) for locating where to drill holes for the Fine Tuning Pot & Filter Sw., but does not indicate where to drill the hole for the 'locating tab' for the switch flat washer. Using the drilling template will help locate where to drill that hole.

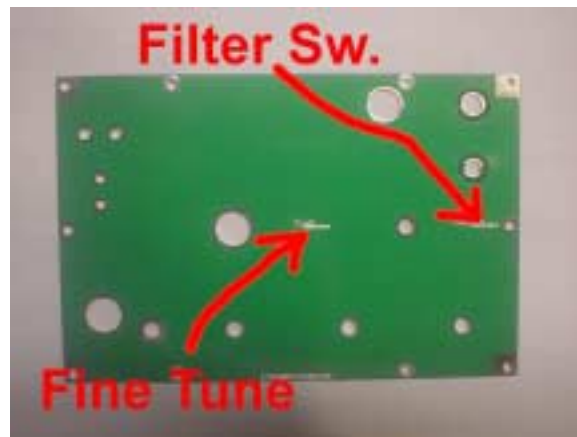


Photo 2

After printing the Drilling Template, check the called out dimensions with a ruler to verify the page from your printer is a mechanical match. Use tape to hold the template in place while center punching the holes to be drilled.

- Notice there will be two holes drilled for the Filter Switch.
- **On the Front Panel, you are drilling 3 Holes ONLY.**
- Center punch the panel to accurately spot the point for drilling the pilot hole.
- Use the 1/16 inch drill bit first for ALL holes to provide a pilot hole for the larger drill bits.
- Drill each hole to the size indicated on the template.
- Don't forget to deburr all holes once drilled to their final size.

Applying Filter & Fine Tune Decals to Front Panel:

!!! WARNING !!! The holes for the Fine Tuning Pot and Filter Switch **MUST** already be at their final size (requiring no additional drilling) prior to applying the Decals. The circle on the Decals is **NOT** an indicator of required hole size for either device. The purpose of the circle on the Decals is for alignment with the drilled hole while applying the Decal. **!!! end of WARNING !!!**

Clean the front surface of the Front Panel to remove grease, oil and dust.

If supplied, apply the labeling Decals for the Fine Tuning Pot and Filter Toggle Switch, one at a time.

Since the decals will be applied over the drilled holes, make **VERY** sure there are no burrs left from the drilling operation on the front surface of the Front Panel.

Applying the decals requires some delicate handling and patience.

- Each Decal includes a circle to help position it.
- Once positioned, lightly dab the decal with a soft cloth to squeeze out excess water between the Decal and Front Panel. Be very careful while squeezing out the excess water, inspecting the decal position frequently.
- Allow each Decal to dry, on the Front Panel for at least an hour.
- Use an Exacto Knife with a new SHARP blade to carefully trim the decal material away from the inner diameter of the holes. Again, take your time and be very careful.
- Now, spray one very Light coat of clear acrylic spray over the entire face of the Front Panel.
- When this first coat is DRY, apply some masking tape or painter's blue tape to the back of the Front Panel to cover the screw holes for the built-in Key and the 10 mounting screw holes. Put the tape on the back surface only.
- Now apply several more light coats of clear acrylic to seal the decals on the front surface of the Front Panel, following the paint mfg's instructions.
- When you are satisfied you have a sufficient number of coats applied, please allow it to dry 6 hours or more.

Remove the Tape from the backside of the Front Panel.

Re-attached the built-in Key to the Front Panel.

For Rev. "A" Bayou Jumper (Green Face) skip ahead to Page 14.....

Mounting the Filter In/Out Switch:

For Original Bayou Jumper:

Insert (*carefully, the decal is not indestructable*) the Single Pole Double Throw (SPDT) switch in the Filter Switch hole on the Front Panel from the backside.

Add the switch's keyed flat washer, lock washer and nut, and tighten using the appropriate sized box end wrench. BE CAREFUL, don't scratch your freshly painted Front Panel !!

Cut 3 pieces of 26ga. insulated wire, approximately 5 & 1/2 inches long and twist together.

You will want to strip and solder one end of these wires to the Filter Switch so the wires are leaving the switch in the direction of the holes for the Power Connector, Earphone Jack and Antenna connector.



Photo 3

As you can see in the photo above, you need to keep the wire connections close to the switch and leaving the switch perpendicular to the solder lugs. This is necessary because we only have 5/8" space between the Front Panel and the Circuit Board. The yellow line indicates the routing of the wires leaving the switch and their path toward the Soup'er Up'er that will be mounted underneath the circuit board.

You should notice, in the photo, there are no nuts or washers between the switch body and the Front Panel, this is so the switch does not hang down too far when the two boards are fastened together.

Drilling the "Original" Bayou Jumper Circuit Board to accept the Fine Tuning Potentiometer:

Pay attention, these drilling instructions are for the Original (White Face) Bayou Jumper....

Use the Drilling Template supplied to spot the locations to drill the Circuit Board for mounting the Fine Tuning Potentiometer.

You will want to place the template on the bottom (solder side) of the Circuit Board.

Use the mounting screw holes indicated on the template to locate the template on the circuit board.

Do what is necessary, cutting holes, trimming away excess template paper, to allow the template to lay flat against the board surface.

Use tape to hold the template in place while center punching the holes to be drilled.

- Use the 1/16" drill bit first for ALL holes to provide a pilot hole for the larger drill bits.
- Drill each hole to the size indicated on the template.
- Don't forget to deburr all holes once drilled to their final size.

The circuit board needs a notch to allow the Filter In/Out Switch wires to pass from the top side of the circuit board to the bottom side for connection to the Soup'er Up'er board.

Use a "chassis nibbler" or "Rat Tail File" to make the notch.

The photo below illustrates where to make that notch.



Photo 4

There are 5 holes for mounting the potentiometer, 2 are larger mounting holes and 3 are smaller holes for the variable resistor leads.

The 2 mounting holes should be half on and half off the copper ground plane on the bottom (solder) side of the circuit board.

Using an Exacto knife, scrape off solder mask (on the bottom side of the board) from the half of the

holes in the area of the copper ground plane.

Scrape a sufficient area on each to allow soldering the pot mounting tabs securely to the circuit board, since this will be the primary mechanical attachment of the pot to the circuit board.

Before mounting the pot, let's attach the wires.

Cut 3 pieces of 26ga. insulated wire 2 & 1/2 inches long.

Strip and tin approximately 1/8 inch on one end of each wire.

Lightly tin each of the 3 pot leads.

You will need to lay these wires along the side of each lead and solder so the wire appears to be an extension of the pot lead. As shown in photo below.



Photo 5

We don't want a lot of excess solder on these 3 leads. Now cut 3 pieces of heat-shrink tubing 5/16 inch long and apply one to each of the soldered leads. This is to eliminate the possibility of the potentiometer leads coming into contact with exposed copper on the inside of the drilled holes.

Slip the pot wires through the holes making sure the pot will match up to the 2 mounting holes.

It might help to temporarily install the stand-offs and Front Panel to help make sure the Trim Pot shaft is centered in the hole on the Front Panel.

Visually check the pot leads (with heat-shrink) and make sure both ends of each heat-shrink is extending beyond the top and bottom sides of the circuit board.

When satisfied the pot is centered and fully inserted into the circuit board, solder the 2 mounting tabs on the pot.

Twist together the 3 wires from the potentiometer.

End of Fine Tuning Pot Instructions **specific to the Original Bayou Jumper.**

Reattach Front Panel:

Now reassemble the Front Panel to the main Circuit Board, with all stand-offs, connectors and built-in Key in place.

Attaching wiring to Soup'er Up'er circuit board on the Original Bayou Jumper:

Cut 3 pieces of 26 ga. insulated wire 7 inches long and twist together.

- On one end, strip and tin 1/8 inch of each wire.
- Solder one wire into J7 pin 25
- Solder the second wire into J7 pin 17
- Solder the last wire into J7 pin 11

Cut 4 pieces of 26 ga. insulated wire 4 inches long and twist together.

- On one end, strip and tin 1/8 inch of each wire.
- Solder one wire into J7 pin 15
- Solder the second wire into J7 pin 13
- Solder the third wire into J7 pin 9
- Solder the last wire into J7 pin 7

Strip and tin 1/8 inch on the free end of each wire coming from the Fine Tuning potentiometer.

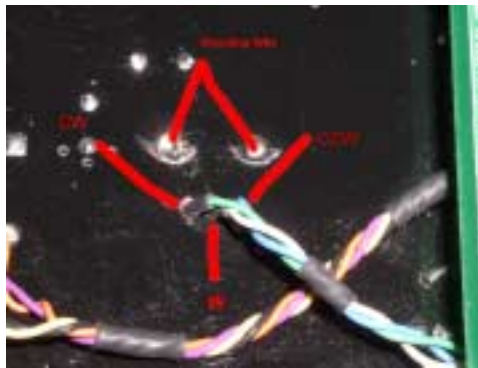


Photo 6

Using the photo above:

- Solder the wire from CW to the J7 pin 1
- Solder the wire from W to the J7 pin 3
- Solder the wire from CCW to the J7 pin 5

Strip and tin 1/8 inch on the free end of each wire coming from the Filter In/Out Toggle Switch:

- Solder the wire from top lug (closest toward the antenna connector) to the J7 pin 21
- Solder the wire from middle lug to the J7 pin 23
- Solder the wire from bottom (closest toward the Volume Control) lug to the J7 pin 19

At this point you can mount the Soup'er Up'er pcb to the Bayou Jumper circuit board. If you haven't already installed the supplied 1/2 inch stand-offs, do so now, removing the screws on the right end of the circuit board, and on the top right near the antenna connector. Use the screws to fasten the Soup'er Up'er board to the new stand-offs.

In the trimmed leads saved from the resistors and capacitors, look for 2 leads 3/4 inch long.

- On both leads, bend one end, about 1/16 inch width, to near 90 degrees.
- Insert one wire into point “A” on the board and that end should drop into the R9 hole immediately below “A”. The bend in the wire should hold the wire for soldering, and keep it from dropping through. Solder the wire to the Soup'er Up'er, then solder the other end of the wire.
- Insert one wire into point “B” on the board and that end should drop into the R9 hole immediately below “B”. The bend in the wire should hold the wire for soldering, and keep it from dropping through. Solder the wire to the Soup'er Up'er, then solder the other end of the wire.
- When done, your two wires should look similar to the photo below.

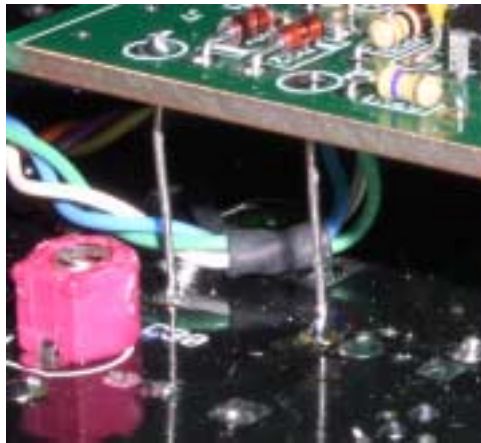


Photo 7

You now have two groups of wire left, one is 3 wires twisted, the other 4 wires twisted together.

The set of 3 twisted wires should be routed towards the bottom of the Bayou Jumper circuit board (towards the Volume Control).

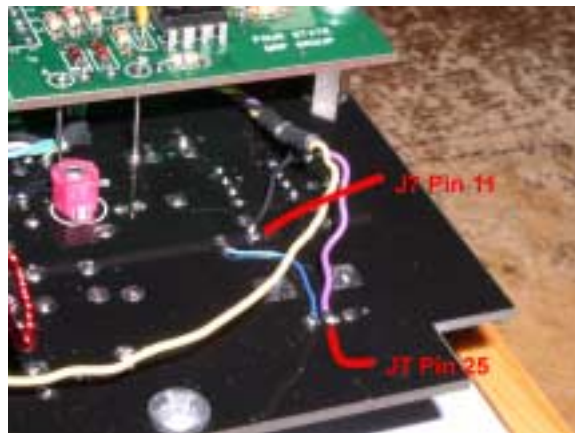


Photo 8

Using the photo above:

- The Sidetone output, from J7 Pin 11 connects to the junction of C13 and R7 on the Bayou Jumper.
- The wire from J7 Pin 25 connects to the Wiper on R6 of the Bayou Jumper.

Using the photo below:

- The wire from J7 Pin 17 connects to the positive (square) pad for C9 on the Bayou Jumper.
- Make sure this did NOT also make a connection to the other pad that was for C9.



Photo 9

The last set of twisted wires contains 4 wires and should be routed to the left toward the middle of the Bayou Jumper circuit board (towards the Off/Receive/Transmit [Rotary] Switch).

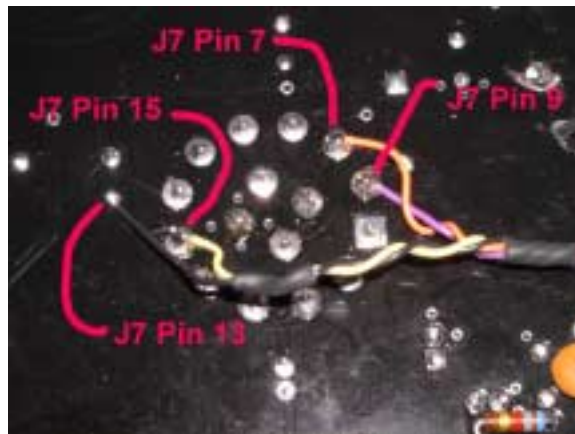


Photo 10

Using the photo above:

- Solder the wire from J7 Pin 9 to SW1-D “RX-Vcc”
- Solder the wire from J7 Pin 7 to SW1-D “TX-Vcc”
- Solder the wire from J7 Pin 15 to SW1-C “RX”
- Solder the wire from J7 Pin 13 to junction of L2, R17 and SW1-A “TX”

Installation of the Soup'er Up'er for the Original Bayou Jumper is complete and only one adjustment is needed.

Connect Headphones, Power Supply and Dummy Load or Antenna to the Bayou Jumper.

You can plug in a crystal, but it is not really needed for this adjustment.

- Set the Bayou Jumper selector switch to the “Transmit” position.
- Hold down the transmit “Key” on the Bayou Jumper while listening to the Headphones.
- Adjust the Trimmer Pot on the Soup'er Up'er board to your desired audio level for the Sidetone when you are transmitting.

And finally, turn the “Fine Tuning” control, on the Bayou Jumper's front panel, to full Clockwise or full Counter Clockwise.

Now turn the control in the opposite direction being mindful of how the pot shaft feels, we are looking for the detent position.

You will feel a click in the shaft at the detent position, and this will be middle of the pot's rotation range.

With the pot in the detent position, place the knob on the pot shaft with the white stripe pointing toward the 12 o'clock position, and tighten the knob's set screw.

Installation of the Soup'er Up'er on your original Bayou Jumper is now complete.

Re-install your “Original” Bayou Jumper in it's box and have fun.

~~~~~

## Installing the Soup'er Up'er circuit board on the Rev. "A" Bayou Jumper:

For the Rev "A" Bayou Jumper, we can mount the Fine Tuning Potentiometer (R21) and Filter In/Out Toggle Switch (SW2) directly to the Bayou Jumper's Main Circuit Board.

In the same manner as the other controls mounted on the Bayou Jumper circuit board, we will want to mount the Pot and Switch so the leads inserted into the circuit board are flush with the Back Side (solder side) of the board. If you still have one of the little "Crystal PCB's" you have not used, you can use it as a shim underneath the circuit board for the part you are mounting. Or, any piece of scrap pcb that is  $\geq 1/16$ " thick may be used.

With the shim in place, insert the part to be soldered and use something to make sure it is square with the board. Solder at least 2 points on the device sufficiently so you can turn the board over and the device will stay in place and square with the board.

Just so we know right now, partially assemble the Circuit Board and the Front Panel to make sure the 2 devices we added are square and properly align with each device's hole in the Front Panel. Make any necessary adjustments now to these 2 devices before we proceed.

Flip the board over, to the Back Side (solder side), and finish soldering the first component. Now install the other device, either R21 or SW2 in the same manner we just installed the first device.

Before mounting the Soup'er Up'er board to the Bayou Jumper, we will be adding wiring to those Bayou Jumper solder pads that will be covered by the Soup'er Up'er when it's mounted.

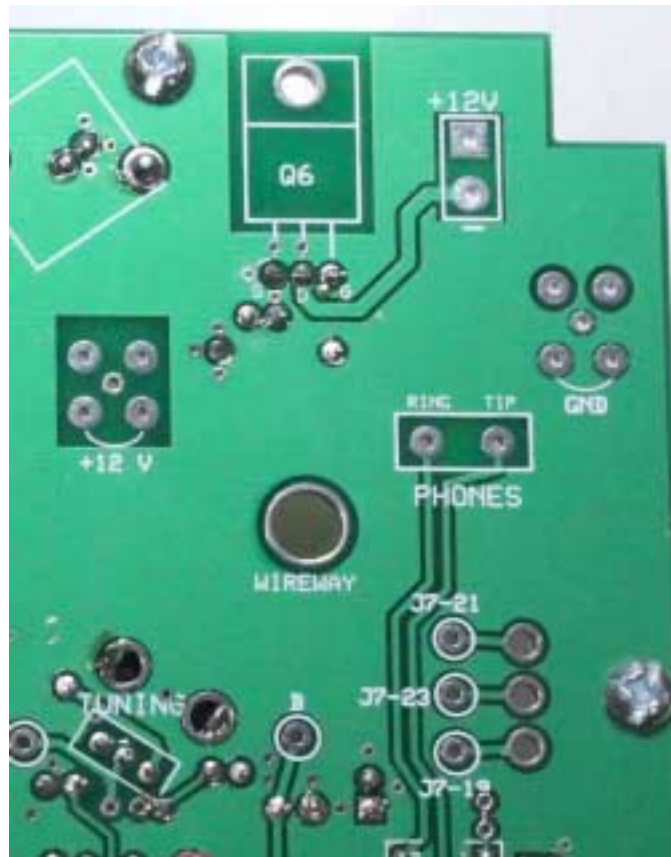


Photo 11

This is the section of the Bayou Jumper board that will be inaccessible after the Soup'er Up'er is mounted.

Cut 3 each, 3 inch pieces of wire, of different colors.

On 1 end of each wire, strip 1/8 inch of insulation, make sure the strands are twisted together, and then lightly tin the exposed wire.

Solder these wires into the pads on the Bayou Jumper for the Filter Switch. Record in the table below the color for each connection.

|                                |                   |
|--------------------------------|-------------------|
| <b>J7-21</b>                   |                   |
| <b>J7-23</b>                   |                   |
| <b>J7-19</b>                   |                   |
| <b>Bayou Jumper Solder Pad</b> | <b>Wire Color</b> |

Filter Switch Wire Colors – Table 1

With the wires attached to the Bayou Jumper circuit board, twist them together and put a piece of tape on them to temporarily hold them together until we come back to them.

**Some preliminary information about wiring the “A” & “B” connections for the Fine Tuning.**

On the Soup'er Up'er board you will find two solder pads, one labeled “A” and the other “B”. These two connections insert the Soup'er Up'er Fine Tune circuit signals into the Bayou Jumper's tuning circuit completing the tuning circuit path where the Bayou Jumper's R9 had been.

With the Bayou Jumper Version “A”, there are two methods to tie the Soup'er Up'er fine tuning to the Bayou Jumpers tuning circuit.

-----  
 (1) When the Soup'er Up'er is mounted on the Bayou Jumper, the Soup'er Up'er “A” & “B” pads should be almost directly above the solder pads for R9 on the Bayou Jumper. On the version “A” board these pads shifted by 0.025 inches, but are close enough to allow you to use a couple of trimmed component leads, and make the connections as illustrated in Photo 7 earlier in this manual.

If using this method, you may want to wait until all other wiring is completed.

-----  
 (2) The other method to wire this circuit would be to use insulated wires, and use the special pads available on the Bayou Jumper version “A”. This method will more easily allow the Soup'er Up'er to be unmounted from the Bayou Jumper if needed in the future.

Cut 2 each pieces of insulated wire at least 2.5 inches long, of different color wire.

On one end of each wire, strip 1/8 inch of insulation from the wire, make sure the strands are twisted together, and then lightly tin the exposed wire.

Using photo 11 above, you see a Bayou Jumper solder pad labeled “B”, and on the board to the left of the Tuning Pot you will find another solder pad labeled “A”.

Solder one wire in each and record the wire color in the table below.

|                                |                   |
|--------------------------------|-------------------|
| <b>“A”</b>                     |                   |
| <b>“B”</b>                     |                   |
| <b>Bayou Jumper Solder Pad</b> | <b>Wire Color</b> |

Fine Tuning Wire Colors – Table 2



## **Mounting the Soup'er Up'er Circuit Board.**

At this point we can mount the Soup'er Up'er to the Bayou Jumper. You can leave it unmounted, but mounting it makes measuring and positioning the wires easier, and there is sufficient room between the Soup'er Up'er and the Bayou Jumper to insert wires through the bottom side of Soup'er Up'er and make the installation look a little more tidy.

To mount the Soup'er Up'er you will use the two 6-32 X 1/2 inch Hex Stand-Offs supplied with the Soup'er Up'er kit.

The Bayou Jumper uses 5/8 inch Hex Stand-Offs between the Main Circuit Board and the Front Panel.

Using photo 11 above, remove the two 6-32 screws visible in the photo, and replace them with the two 6-32 X 1/2 inch Hex Stand-Offs. Position the Soup'er Up'er over the 2 new stand-offs with the component side of the Soup'er Up'er facing away from the Bayou Jumper, and use the 6-32 screws to secure the Soup'er Up'er to the Bayou Jumper.

## **Connecting the Filter Switch.**

Connect the Filter Switch wires to the Soup'er Up'er. Refer to Table 1 above and connect each color wire to the same connection label on the Soup'er Up'er. [If you have excess wire and prefer to shorten the wires, feel free to proceed as you see fit] For example, if you connected a red wire to J7-21 on the Bayou Jumper, you will connect that same red wire to J7-21 on the Soup'er Up'er. Repeat for the other 2 wires to complete connecting the Filter Switch to the Soup'er Up'er.

## **Connecting the Fine Circuit.**

If you chose to use insulated wires for the "A" & "B" connections for the Fine Tuning circuit, then refer back to table 2 and wire them to the appropriate point on the Soup'er Up'er. Again, feel free to trim excess wire as you see fit so you end up with a tidy looking project. You may also want to twist together even if it is just a few turns.

## **Connecting Side Tone.**

Next to be wired is a connection to the Bayou Jumper Audio Amplifier. Measure (do not cut yet) a piece of wire to connect J7-11 on the Soup'er Up'er to J7-11 on the Bayou Jumper. It will be around 2 inches. Cut the wire to the length you determined, strip and tin both ends and solder to the boards to connect J7-11 on both boards.

## **Connecting Fine Tuning Potentiometer circuit.**

Cut 3 each pieces of wire about 3 & 1/2 inches long, each of a different color.

Strip and tin both ends of each wire.

Solder one wire to J7-1 on the Bayou Jumper. Continue with the other 2 wires on J7-3 & J7-5.

Twist the 3 wires together and route toward the Soup'er Up'er board. Solder each color wire to its corresponding circuit connection on the Soup'er Up'er, 1 to 1, 3 to 3 and 5 to 5. Again, trim wire lengths as needed to make it neat and tidy.

## **Connecting CW filter circuit.**

Measure from the Bayou Jumper J7-25 to the same connection on the Soup'er Up'er. It is around 5 inches. Cut 2 wires of different colors to the length you measured.

Strip and tin one end of each and connect them to J7-17 and J7-25 on the Bayou Jumper.

Twist the 2 wires together and route toward the Soup'er Up'er.

Cut each wire to the necessary length to reach its corresponding connection on the Soup'er Up'er, 17 to 17 & 25 to 25, and solder to the Soup'er Up'er.

### **Connect Key, RX\_Vcc, TX\_Vcc & Receive Mute Trigger.**

For the next 4 wires, use a different color for each insulated wire.

Cut two wires about 5 inches long. Strip and tin about 1/8 inch on one end of each wire.

Solder one wire to J7-13 on the Bayou Jumper.

Solder the second wire to J7-15 on the Bayou Jumper.

Cut two wires about 4 & 1/2 inches long. Strip and tin about 1/8 inch on one end of each wire.

Solder one wire to J7-7 on the Bayou Jumper.

Solder the second wire to J7-9 on the Bayou Jumper.

Route all four wires toward the Soup'er Up'er and twist all 4 four together.

One by one, separate one wire and route that particular color wire toward it's designated solder pad on the Soup'er Up'er. Trim the wire slightly longer than required to reach the pad then strip and tin about 1/8 inch. Solder the wire to it's pad on the Soup'er Up'er. Repeat for the other 3 wires. On all four wires, each color wire should have both ends connected to the same labeled connection on the Bayou Jumper and the Soup'er Up'er.

### **Finished ?**

If you have not already wired the "A" & "B" connections on the Soup'er Up'er, then it should be done now. Refer back to page 16 for instructions for wiring "A" & "B", and you can look at photo 7 where one of the methods of connection is illustrated.

You are as good as done !

Installation of the Soup'er Up'er for the Bayou Jumper rev. "A" is complete and only one adjustment is needed.

Connect Headphones, Power Supply and Dummy Load or Antenna to the Bayou Jumper.

You can plug in a crystal, but it is not really needed for this adjustment.

- Set the Bayou Jumper selector switch to the "Transmit" position.
- Hold down the transmit "Key" on the Bayou Jumper while listening to the Headphones.
- Adjust the Trimmer Pot on the Soup'er Up'er board to your desired audio level for the Sidetone when you are transmitting.

And finally, turn the "Fine Tuning" control, on the Bayou Jumper's front panel, to full Clockwise or full Counter Clockwise.

Now turn the control in the opposite direction being mindful of how the pot shaft feels, we are looking for the detent position. You will feel a click in the shaft at the detent position, and this will be middle of the pot's rotation range.

With the pot in the detent position, place the knob on the pot shaft with the white stripe pointing toward the 12 o'clock position, and tighten the knob's set screw.

Congratulations, enjoy your Four State QRP Group Bayou Jumper and thank you for purchasing the Soup'er Up'er for your Spy Radio.

## Errata

1. Soup'er Up'er PCB version 1.42 exhibited an issue where the sidetone did not work correctly when the crystal was plugged into the Bayou Jumper (any version Bayou Jumper). To correct this issue, add a 2.2 K ohm resistor "R36" on the bottom side of the PCB. Connect one end to U21 (LM358) Pin 7 and the other end to Pin 4 (Ground). Versions of the Soup'er Up'er board after 1.42 will have this resistor incorporated into the board. See photo 12 (below).



Photo 12