

IMPROVED 02A SSB CLARIFIER MODIFICATION

7. SOLDER THE CATHODE OF A 1N4148 DIODE TO PIN 4 OF IC6 AND THE ANODE TO PIN 3 OF IC6.
8. WIRE AND CONNECT THE SWITCH AS SHOWN IN FIG. TWO.
9. NOW, WIRE AND CONNECT THE DPDT SWITCH AND TRANSISTOR AS SHOWN IN FIG. 3. (THIS IS THE 10KC SWITCH.)

YOU SHOULD NOW BE READY TO TRY IT OUT. ON ALL THE UNITS SO FAR CONVERTED, NO ADJUSTMENT OF THE VCO WAS REQUIRED. POWER WAS STEADY FROM TOP TO BOTTOM. EXCELLENT RECEIVER! IN FACT, ACCORDING TO MY B&K, BETTER THAN THE DUAL CONVERSION 8719 CHASSIS, WHICH SAYS A LOT FOR THIS RADIO. ON ADDING THE MODE SWITCH, I REMOVED THE RF GAIN CONTROL AND MOUNTED IT IN THAT HOLE. ALL YOU NEED TO DO IS GROUND THE CENTER WIRE THAT GOES TO THE CONTROLS CENTER LUG (THE WIPER). IN MOST RADIOS, IT IS A BROWN WIRE. BUT, DID HAVE A COUPLE WITH GREEN WIRES.

IMPROVED 02A SSB CLARIFIER MODIFICATION

• LESCOMM

THIS MOD WILL ALLOW A LARGE AMOUNT OF SLIDE WITHOUT POWER DROP-OFF AT THE EXTREME ENDS OF THE SLIDE WHICH IS COMMON IN 02A SSB RADIOS. IT WILL ALSO ALLOW YOU TO ADJUST AM, USB AND LSB TOGETHER ON CENTER SLOT.

REFER TO PAGE 46 FOR SCHEMATIC

1. REMOVE D3 AND SAVE. REMOVE C20, C21, C18, C7, R13, R24, R25, D4 AND D5.
2. CONNECT THE CATHODE OF D3 TO THE JUNCTION OF CT1 & CT2.
3. FOLLOW THE CENTER WIRE OF THE CLARIFIER TO THE PC BOARD AND REMOVE IT AT THIS POINT. CONNECT IT TO THE JUNCTION OF D3, CT1 & CT2, THROUGH A 10K OHM RESISTOR.
4. CONNECT A 3.3 μ h CHOKE BETWEEN THE ANODE OF D3 AND GROUND.
5. OPEN THE RUN BETWEEN X1 AND THE CT1/CT2/D3 JUNCTION.
6. BRIDGE THE OPENING WITH A .02 μ f 'NPO' DISC CAPACITOR.
7. CONNECT A .001 μ f NPO DISC CAPACITOR FROM THE EMITTER OF Q3 TO PIN 4 OF IC2. DO THIS ON THE TOP OF THE PC BOARD TO PREVENT THE BOTTOM COVER FROM AFFECTING IT.
8. REPLACE C17 WITH A 47pf NPO DISC CAPACITOR.

NOTE: THE REASON WE ARE USING NPO DISC CAPACITORS IS TO PREVENT FREQUENCY DRIFT AS MUCH AS POSSIBLE.

WHAT WE HAVE DONE IS CONVERTED Q3 INTO AN AMPLIFIER CIRCUIT VICE AN OSCILLATOR CIRCUIT. X1 WILL OSCILLATE ON ITS OWN WITHOUT Q3 & T3. AND SINCE OUR OUTPUT OF IC2 IS TUNED FROM 37.660 TO 38.100 BY T1 & T2, WE WILL BE USING

HOPPING UP THE 8719 RECEIVER

THE SECOND HARMONIC ANYWAY. SO T3 IS NOT NEEDED AS A DOUBLER. BUT, DON'T REMOVE IT.

WE ARE USING IT TO FILTER Q3'S SUPPLY VOLTAGE. THUS OUR OSCILLATOR MAINTAINS A CONSTANT PEAK TO PEAK VOLTAGE WHILE BEING PULLED AROUND BY D3. HENCE, NO DROP-OFF AT EXTREME ENDS OF THE CLARIFIER.

9. WIRE THE CLARIFIER AS SHOWN USING THE UNCONNECTED END FOR THE CONNECTION TO THE REGULATED +9 VOLTS.

NOTE: DOUBLE-CHECK YOUR WORK NOW. USING THE NEW SCHEMATIC IN FIGURE ONE TO COMPARE YOUR WORK TO. IF EVERYTHING LOOKS GOOD, HOOK UP POWER AND TURN THE UNIT ON. IF ALL IS STILL OK, INSTALL THE TOP COVER BEFORE DOING THE ALIGNMENT. IT MAY AFFECT YOUR ADJUSTMENTS.

ALIGNMENT PROCEDURE

1. SWITCH TO CHANNEL 40 (OR 23) AM. TURN THE CLARIFIER FULLY CLOCKWISE. ADJUST CT1 FOR MAXIMUM "UP" SLIDE. NEXT ADJUST THE "CLARIFIER KNOB" FOR "CENTER" SLOT. WHEN SET, BE CAREFUL "NOT" TO MOVE THE KNOB.

2. SWITCH TO LOWER SIDEBAND. INJECT A 1000Hz TONE INTO THE MICROPHONE. ADJUST CT2 FOR A READING OF 27.4040 ON YOUR FREQUENCY COUNTER. NEXT, ADJUST THE KNOB FOR A READING OF 27.3990 ON THE COUNTER, WHILE STILL INJECTING THE TONE. MARK THIS SPOT ON THE RADIO. IT IS YOUR 5KC DOWN POSITION.

NOTE: THIS COMPLETES THE CONVERSION. THE RADIO USED FOR EXPERIMENTATION WAS A MIDLAND 79-892. A CLARIFIER MODIFICATION HAD ALREADY BEEN PERFORMED ON THE UNIT AND THE CLARIFIER KNOB MOVED TO THE FRONT PANEL.

HOPPING UP THE 8719 RECEIVER

• LESCOMM

MANY HAVE STATED NOT ENOUGH ATTENTION IS BEING PAID TO THE RECEIVER OF MULTI FREQUENCY CONVERTED RADIOS! I AGREE WITH THAT STATEMENT AND INTEND TO DO SOMETHING ABOUT IT. THAT SOMETHING IS THE FOLLOWING MODIFICATION FOR THE SINGLE CONVERSION 8719 CHASSIS. (I.E., THE UNIDEN WASHINGTON, COBRA 140GTL AND 142GTL, ETC.)

1. CHANGE R39 TO A 330 OHM 1/4 WATT RESISTOR.
2. BRIDGE L9 WITH A 1pf CAP, FROM THE PRIMARY HOT SIDE TO THE SECONDARY HOT SIDE. (SIDES OPPOSITE POWER SUPPLY AND GROUND PINS.)
3. PARALLEL C42 AND C44 WITH 1pf CAPS OR REPLACE THEM WITH 3pf CAPS. DO NOT GO ANY LARGER! 3pf IS WHAT THE VALUE MUST BE.
4. REPLACE C166 (IN FT2'S HOLES) WITH A 33pf CAP. IF UNIT HAS FT2, LEAVE FT2 IN PLACE.