A VIA THE BLUE DOT ON EPOXY PACK, THROUGH THE EXCESS HOLE AND TO THE OUTPUT LEG OF L-9. CUT THE PC RUN LEAVING THIS POINT.

B TO THE LEG OF RESISTOR MARKED TP-2.

C TO THE STRAIGHT LEG YELLOW DOT ON EPOXY PACK.

D RAISE THE REAR MOST LEG OF C-102 (LIES ADJACENT TO TP-2 FRONT TO REAR.) AND ATTACH.

E CHANGE D-15 FROM A SILICON TO GERMANIUM AND LEAVE THE CATHODE RAISED. CONNECT E WHERE THE CATHODE WAS.

F SOLDER IT TO THE RAISED LEG OF D-15.

G TO GROUND.

H & I FOR FULL CHANNELS, REMOVE C-49, CHANGE IT TO A 36 TO 39PF. AND LEAVE THE LEG NEAREST THE 10.24MHZ. CRYSTAL RAISED. CONNECT THESE WIRES TO THE RAISED LEG AND WHERE IT WAS RAISED FROM

H & I FOR HALF CHANNELS. I TO THE LEG OF THE 82 OHM RESISTOR ADJACENT TO THE MARKING TR-14. H TO THE RED DOT ON THE EPOXY PACK.

RUN A GROUND WIRE FROM THE CASE OF L-3 TO THE CASE OF THE UPPER TANK ON THE EPOXY PACK.

IF YOU ARE WIRING FOR FULL CHANNELS YOU WILL HAVE TO RUN A WIRE DIRECTLY FROM THE LEG OF THE 82OHM RESISTOR TO THE RED DOT ON THE EPOXY PACK.

PLACES TO FIND PARTS AND TOOLS MENTIONED IN THESES TECH'S NOTES.

4 POLE 3 POSITION SWITCHES: SELMAN ENTERPRISES OR CARD-KIT .

HAND PUNCH SETS: 3/32" TO 9/32" ORDER #937102 $39.00

5/32" TO 17/32" TO 17/32" ORDER #927105 $108.00

MSC INDUSTRIAL SUPPLY CO. 151 SUNNYSIDE BLVD. PLAINVIEW IL, NY. 11803 PH (800) 645-7270

TECH'S NOTES

AS MENTIONED EARLIER IN TECH'S NOTES, THE TC AM (TECH'S CHOICE AM) KIT IS ONE OF THE KITS SPECIALLY DESIGNED FOR THE 21 PLUS UNITS. SINCE THE 21 PLUS AND THE 25 PLUS IS THE SAME UNIT EXCEPT FOR A FEW INTERNAL OPTIONS, THIS PROCEDURE COVERS BOTH.

MODIFYING THE 21 PLUS AND THE 25 PLUS IS THE SAME UNIT EXCEPT FOR A FEW INTERNAL OPTIONS, THIS PROCEDURE COVERS BOTH.

THE 21 PLUS & 25 PLUS/USING THE TECH'S CHOICE KIT

PRECISE LOCATIONS ARE IMPORTANT IN THIS MODIFICATION.

THE TC AM KIT COMES WITH TWO CRYSTALS (26.515 & 27.425MHZ.)

MOST OFTEN THEY WILL BE USED IN THE B AND D POSITIONS. YOU CAN START WITH ANY CHANNEL OR HALF CHANNEL YOU SO DESIRE, WITHIN A 2MHZ. SPAN. THERE ARE STANDARD AND NONSTANDARD CRYSTALS. STANDARD ARE, 26.065, 26.515, 27.415, 27.425. AND 27.865MHZ.

EXAMPLE OF NON-STANDARDS, OR SPECIALS ARE 26.325, 26.505, 26.510, 26.645, 27.285, 27.405 ETC. ANY FREQUENCY IN 5KHZ. STEPS. CRYSTALS MAY BE ORDERED FROM SELMAN ENTERPRISES OR CARD-KIT.

STEPONE

1. REMOVE COVERS. LOCATE AND MARK A POINT 5MM (1/20" LESS THAT 2") TO THE REAR OF THE EDGE OF THE LOWER COVER, RIGHT SIDE, IN-LINE WITH THE VERY LOWER EDGE OF THE MOUNTING SCREW HOLES.
2. PUNCH A 13/32" HOLE AT THIS POINT.
3. WHEN THE LOWER COVER IS REPLACED, THE LOWER MOST MOUNTING SCREW HOLE OF A MIKE CONNECTOR PLACEMENT SHOULD BE DEAD CENTER.
4. PUNCH A 13/32" HOLE ON THE CHASSIS USING THIS HOLE JUST MENTIONED AS CENTER.
5. MOUNT ANY AND ALL CRYSTALS DESIRED ON SWITCH PC BOARD.
6. USING THE 3/32" FILLER SUPPLIED MOUNTED SWITCH.
7. USING A WOOD RASP, RASP OF THE LEVEL OF THE EPOXY PACK ALONG THE EDGE MARKED BY THREE GREEN DOTS.
8. USING 3M 3375 PLASTIC ADHESIVE, MOUNT THE EPOXY PACK 1/8" TO THE REAR OF THE SWITCH PC BOARD, THE THE ORANGE DOT UP AND FORWARD.

STEPTWO

1. REPLACE D-15 WITH THE GERMANIUM DIODE (SUPPLIED) LEAVING THE CATHODE RAISED.
2. DRILL A 1/8" EXCESS HOLE BETWEEN L-5 AND L-9 OUT ABOUT 1/8" AND EQUAL DISTANCE BETWEEN THE LEG AND BODY OF THE 3.3K RESISTOR.
3. CUT THE OUTPUT PC RUN OF L-9 CLOSE THE SOLDER POINT.
4. REMOVE C-102 AND C-120. REPLACE C-102 WITH A 47PF. CAPACITOR. THESE CAPACITORS ARE ON THE IN PUT TO PIN 1 OF THE VCO CHIPS.
5. FOLLOWING THE SWITCH PC DIAGRAM, MAKE THE CONNECTIONS INDICATED.
6. RUN A JUMPER FROM THE LEG OF THE 82 OHM RESISTOR LOCATED JUST TO THE LEFT OF THE TR-14 MARKING, TO THE RED DOT ON THE EPOXY PACK.

ALIGNMENT

WITH A FREQUENCY COUNTER ATTACHED TO READ THE TRANSMIT FREQUENCY.

1. APPLY POWER AND SELECT CHANNEL 1.

2. CHECK POSITION C ON THE SELECTOR SWITCH TO ASSURE REGULAR CHANNELS ARE OPERATIONAL AND ON FREQUENCY.

3. NOW SELECT THE OTHER GROUPS OF FREQUENCY AND ADJUST THE RELATED TRIMMER CAPACITOR ON THE SWITCH PC BOARD TO READ THE FREQUENCY ON CHANNEL 1 AS MARKED ON THE CRYSTAL.

4. USING A 40HZ OR ABOVE SCOPE ON TP-2 ADJUST L-9 AND THE TWO TANKS ON THE EPOXY PACK FOR THE CLEANEST SIGNAL AT THE CENTER OF THE FREQUENCY SPAN. (ANY POSITION OTHER THAT C)

5. TOUCH UP AND BALANCE THE TRANSMITTER AND THE RECEIVER AT BOTH ENDS OF THE FREQUENCY SPAN.

COBRA 29 PLUS/EXTRA CHANNELS USING THE TECH'S CHOICE KIT

THE MODIFICATION ON THE 29 PLUS IS THE SAME AS THE 21 & 25 PLUS EXCEPT FOR A FEW COMPONENT NUMBER DIFFERENCES AND LOCATIONS.

NOTE: BEFORE STARTING THE MODIFICATION, REMOVE C-38 FROM THE BOARD AND PUT TWO 2" EXTENSION WIRES ON IT. AFTER YOU COMPLETED THE MODIFICATION, USE 3M 4475 PLASTIC ADHESIVE TO REMOUNT IT ON TOP OF THE PLL CHIP.

STEP TWO

2. DRILL A 1/8" EXCESS HOLE 1/4" TO THE REAR OF THE FT-1 MARKING.

4. REMOVE C-102 AND C-134. REPLACE C-102 WITH A 47PF. CAPACITOR

6. RUN A JUMPER FROM THE 1" JUMPER LOCATED JUST TO THE REAR OF THE PLL CHIP TO THE RED DOT ON THE EPOXY PACK.

FINISHING TOUCHES

THERE ARE TWO DECALS IN EACH KIT. USING AN X-ACTO KNIFE, CUT A CENTER HOLE USING A WASHER FROM THE SELECTOR SWITCH, IN THE CENTER OF THE PAPER BACKED ONE AND PLACE IT OVER THE SWITCH AFTER THE COVERS ARE ON. THE SECOND DECAL IS STUCK N THE INSIDE PACKING BLISTER. AGAIN WITH THE X-ACTO KNIFE, CUT BELOW AND ABOVE THE WORDS, TECH'S CHOICE (1/4" TOTAL WIDTH) LIFT