The following conversion is reprinted by permission of "Custom Conversions".

The first two pages and frequency chart are condensed...

(1.) CUSTOM CONVERSION #19

(Code Name: DART)

Chassis: Sears Roadtalker 40, 934.38260700 (CM-4700S)

Parts cost to modify, including SAMS - $20 minimu,.
Time to modify will vary - initial unit with all parts on hand, 6 hrs.
Gain in unit: Frequency Range 26.325-28.045MHz (See Note 1 and 2)
Variable Frequency Transmit
High Frequency Audio Filter
"Illegal Frequency Alert"
Loss in Unit: P.A. capability

Initial conversion performed on S/N 0084x. Run number A71531.

(2.) Sears Roadtalker 40, 934.38260700 (CM-4700S) Code-Dart, S/N:_____

This radio is extensively modified for operation between the frequency range of 26.325-28.045MHz. (± KHz of the center Fo.)

Unit is capable of 208 separate 'channels'.

Frequency is determined by the main channel selector and frequency range selectors - at any time you are capable of transmitting of an 'Illegal Frequency', the meter light will be out on the RF/S meter.

Transmit Frequency is variable in both AM and SSB modes.

WARNING: An amplified microphone must not be used with this unit; distortion and possible frequency 'splitting' may occur.

A Bandit antenna will cover the entire frequency range, if carefully 'tuned'. Don't exceed 1.5 S.W.R. if possible.

For complete DART Fo Chart, see SCB Vol. 16, page 20.

Red Code.....	Selector positions:	1-40; 26.325-26.545MHz
Red/Blue.....		12-27; 26.555-26.640MHz
Red/Yellow.....		1-40; 26.645-26.865MHz
Red/Blue/Yellow.....		12-27; 26.875-26.960MHz
Blue.....		12-27; 27.425-27.595MHz
Yellow.....		1-40; 27.605-28.045MHz

Note #1: All Fo's below 26.965MHz are in 5KHz increments.

Note #2: Unit may be 're-tuned' for higher Fo's using Blue/Yellow selectors and starting at 12 position on channel selector.

Read thru this and write down all parts you will need to perform the conversion before attempting! DO NOT ATTEMPT TO CONVERT WITHOUT THE FOLLOWING: SAMS#254, Dummy Load, Frequency Counter, and Power/Modulation Meter - are minimum needed.

1. Remove Top and Bottom covers carefully, undo the speaker wires. (from this point on use an external speaker until finished).

2. Check the Power Transistors for thin mica insulators, if the thick type-replace.

3. Do a complete line-up per SAMS#254 (FIRST-remove wax from T-204 and T-702).

4. Remove all harness ties.

5. Remove all knobs and channel indicator (indicator has a set screw in it, may be reached from behind the plastic panel).

6. Remove plastic panel carefully.

7. Remove channel selector locknut and washer.

8. Remove the two chassis screws holding the front panel.

9. Gently unscrew the switch assy board screws, pull the front panel forward so that you can work the shafts clear.

10. Follow the steps below exactly as written do not deter!

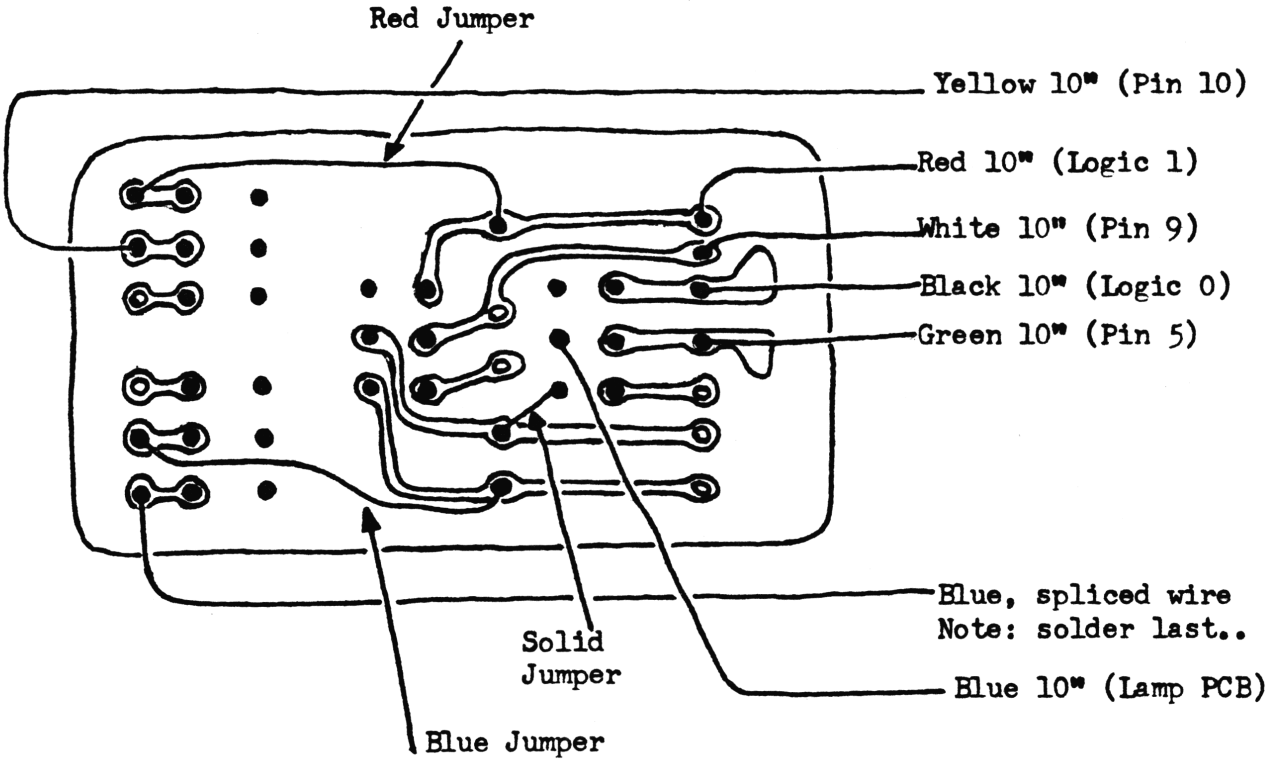
   A. Pink cable with shield and White wire, cut off board. Trace cable to PCB-remove plugs. Cut cable about 1" from plug; solder the shield and center conductor together; sleeve with heat shrink. Replace the plugs. (DX-permanent)
   B. Cut Blue and Blue/Black wires off the board, trace to PCB. Remove both plugs, no modification.
   C. Cut Green and Green/Black wires off board, trace to PCB. Remove both plugs; cut wires about 1" from plugs-solder together-sleeve with heat shrink. Replace both plugs. (NB-on permanent).
   D. Cut the Yellow wire from board; trace to PCB; remove completely.
   E. Cut Black wire from board; trace back (thru connector) to the rear jack board; remove completely.
   F. Cut Orange wire from board, trace to PCB (located under SWR board), remove completely.
   G. Cut Red and Red/Black wires from board; trace to PCB; remove both plugs. Cut wires about 1" from plugs, solder together and sleeve with heat shrink. Replace plugs. (PA permanently eliminated, CB is only function.)
   H. Clean all wires and excess solder off the switch assembly board, clean the holes out also.

11. Make sure unit is unhooked from power source, turn ON/OFF switch ON...

12. Unsolder Blue wire from meter lamp at PCB (Note location)!!

13. Splice another piece of Blue wire to wire (solder/sleeve) 6" long.

14. Using 24ga. stranded color coded wire re-wire the switch board exactly as shown below.....



15. Mount in chassis with Yellow wire outboard and up! Feed all wires up and to the left first. Put screws back onto board and tighten securely..

16. Carefully replace the front chassis panel to the main chassis, put in screws and tighten securely. Replace the channel selector washer and nut.

17. Unsolder the metal top directly behind the meter, carefully.

18. Unsolder the Blue wire, solder a 68 ohm ½watt 5% to the wire. Sleeve with heat shrink, bend other end of resistor so it can resoldered to where the Blue wire removed. Resistor must fit down behind the meter.

19. Solder the other Blue wire coming from switch board to the same point on PCB. Replace the metal top.

20. Unsolder the 2 White lamp wires from the PCB. Resolder both to far left etch (A Black wire is located on the etch-also was same location where Blue-spliced wire was removed in Step 12.

21. Pull the remaining wires away from the PCB. Apply power and check to make sure the meter light is out when any or all switches are in the down position. All up, lamp should be lit.

22. Disconnect power, turn switch on again to bleed off D.C.

23. Use an isolated tip soldering iron when wiring up the remaining wires from the switches to the PLL chip.

24. Pre-tin the wires after cutting to length and solder exactly per directions..
    A. Yellow to Pin 10 (Solder to etch furthest point from pin).
    B. Black to D.C. ground.
    C. Solder the Green wire carefully to Pin 5.
    D. Solder the Red wire to etch going to Pin 1.
    E. Solder the White wire to Pin 9 carefully.

25. Double-check with magnifying glass for any possible shorts on connections to Pin 5 and 9.

26. Replace the front panel carefully, don't forget to replace the dust covers over the switches first. Don't tighten down the screws to tight or you will break the plastic.

27. Replace the channel indicator and calibrate, don't forget to tighten the screw. Replace remaining knobs; exception is Fine Tune knob; leave off.

28. Punch out the "holes" of colored electrical tape and place below the switch locations the following colors. (Use a paper punch). LO/DX-Red, NB/OFF-Yellow, PA/CB-Blue

29. Check out all frequencies per Code Sheet (You will have to re-align the VCO, T-702 ONLY at this point to get the frequencies in for balance across the range.) Once you have them up across the whole band, "broadband tune" the whole range of transmitter adjustments on page 84 of SAMS. **DO NOT TUNE IN THE AM MODE..USE USB AS THE SAMS CALLS OUT.....**

30. Note: Original Final in this unit is 25W, BUT the driver is only 1.5W. Transmitter/Modulation design is poor, so be satisfied with whatever you get out of it. Don't exceed normal specs. If you have to, the AMC defeat is Q -303: remove.

31. Remove R-711 (1K ohm), replace with solid buss wire.

32. Inside the PLL Oscillator Cage you will find R-702, remove, (22K). NOTE: It is easier to cut the parts out of the cage than to disassemble and unsolder, just be very careful when cutting.

33. Cut the following out on the PLL Oscillator Board also: C-753 and C-701.

34. Trace the Red wire from FINE TUNE control to the plug-in connector. Cut the wire at connector, re-route through the front to etch of PCB. Solder to the etch connected to Pin 3 of IC-502. Check first to make sure you have 8V there!

35. Calibrate the Fine Tune knob for "Ident" at 12 o'clock position at center frequency. Unit should now "Slide" approximately ± 2KHz.

36. For additonal slide D-702 must be replaced with a "SUPER DIODE".

37. This chassis leaves a lot to be desired but is O.K., as will not broadband very much and keep transmit power linear.

38. One advantage of the way this unit is now modified is that if you need additional frequencies on the high end and don't mind loss on the low end. All you have to do is re-align the VCO and transmitter circuitry.

With Blue and Yellow both on (down)

Freq	Code	Selector
28.055	B-Y	12
28.065	B-Y	13
28.075	B-Y	14
28.085	B-Y	15
28.105	B-Y	16
28.115	B-Y	17
28.125	B-Y	18
28.135	B-Y	19
28.155	B-Y	20
28.165	B-Y	21
28.175	B-Y	22
28.185	B-Y	24
28.195	B-Y	25
28.205	B-Y	23
28.215	B-Y	26
28.225	B-Y	27

Note: Some units may not go this high, but the wiring is there!

39. Another cronic problem with this unit is L-764 (RF coil coming out of the balance modulator stage). Coil cracked or busted, just barely holding together. SAMS doesn't give a value or list, if bad replace with a piece of solid buss wire. No adverse effects have been noted in 6 such units.

40. Lace up all the loose cable wiring carefully.

41. Install a 50MFD, 50V "Non-polarized" electrolytic capacitor, across the speaker terminals. If the audio is lowered too much lower the value of capacitor, or leave off...

42. Put covers back on the unit, re-check all frequencies... ENJOY!