

[BACK TO SECRET CB INDEX](#)

SECRET CB VOLUME 27

VOLUME 27

PUBLISHED AUGUST 1987

SECRET

CB



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PRICE \$20.00 U.S. FUNDS

CONFIDENTIAL
**FACTUAL
 REPORT**
 SCHEMATICS ETC.

IMPORTANT: READ THIS FIRST

The information in this book is not to be used to exceed F.C.C. specifications, in any case, as applied to power, modulation, frequency spectrum, etc. It is illegal to do this to any CLASS D RADIO.

This book is a factual report of gathered information, and as such is intended for use on radios for EXPORT ONLY.

If you are not familiar with electronics, it is better to check for advice with your local electronics or CB center, as to restrictions, etc., concerning your radio.

More information, on other units will be forthcoming in future issues.

This book will not be found at a book store, but can be obtained through your local CB Dealer or Distributor, or direct from Selman Enterprises.

Secret CB®
Volume Twenty-Seven
Published August 1987

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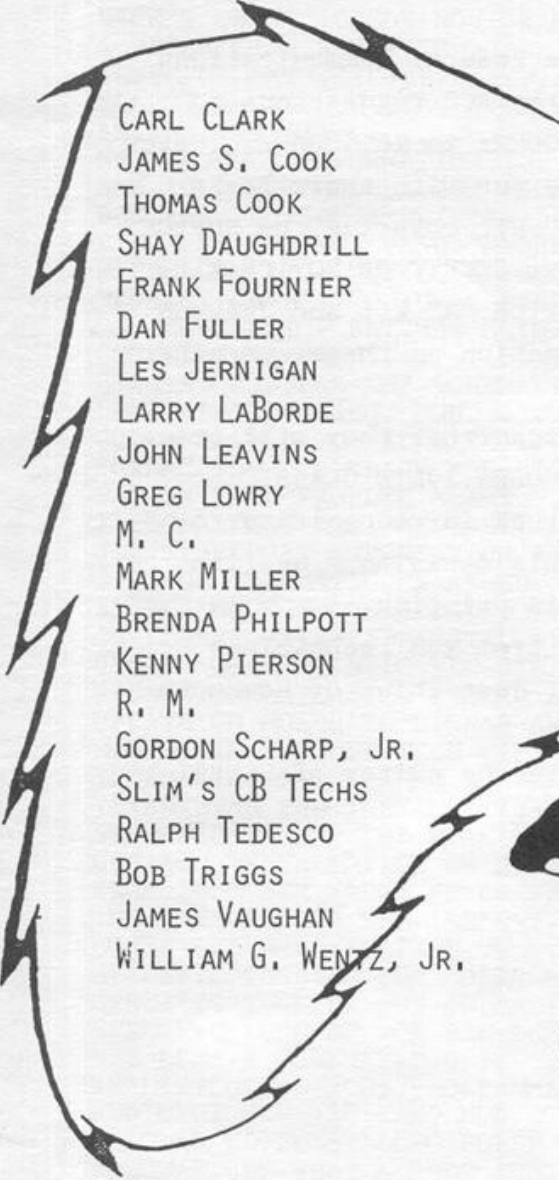
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SECRET CB WISHES TO GRATEFULLY ACKNOWLEDGE THE FOLLOWING PEOPLE
FOR THEIR HELP AND CONTRIBUTIONS TOWARD GETTING VOLUME 27 IN PRINT.
THEIR ENCOURAGEMENT AND CONTRIBUTION OF MATERIAL HAS BEEN INVALUABLE.



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JAMES VAUGHAN
WILLIAM G. WENTZ, JR.

WANTED

NEW MODIFICATIONS
NEW CONVERSIONS
TECHNICAL TIPS
PROJECT PLANS
ETC. ETC. ETC.



DORIS SAYS "THANKS" AND A FREE
BOOK TO THE ABOVE PEOPLE.

INTRODUCTION

By Doris Selman

Ten years and twenty-seven volumes of SECRET CB has far exceeded my expectations. I am proud of this accomplishment and proud to be associated with all who have helped us to succeed in this endeavor.

As most of you know by now the Federal Communications Commission has amended Part 97 of the FCC regulations to allow NOVICE to go voice from 28.300MHz to 28.500MHz. Therefore, Card-Kit Electronics has come out with their Techs Choice "C" kit and Techs Choice "D" kit covering the NOVICE HAM BAND. We have come out with two SECRET CB NOVICE kits for the Jackson radio. Jackson NOVICE "A" kit and Jackson NOVICE "B" kit. New Product Information on these and other kits in this volume.

It has been confirmed by Dynascan that they will bring back the COBRA 29LTD. New Name - COBRA 29LTD CLASSIC. Packaging will show picture of a truck in recognition to the truck drivers that initiated this decision. No firm date for release at the time of this printing.

We still need ideas and input from you technicians. If "TWO HEADS ARE BETTER THAN ONE", just think of how much better thousands would be!

I would like to recognize again the editor of SECRET CB, William G Wentz Jr.. THANKS BILL!

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS.....	1
INTRODUCTION.....	2
TABLE OF CONTENTS.....	3-4
EDITORS NOTES.....	5
CORRECTIONS OF VOL. 1/PAGE 60 AND VOL. 26/PAGE 61.....	6
JACKSON "COLD" FREQUENCY DRIFT - PARTIAL SOLUTION.....	6
WANTED INFORMATION LIST.....	7
SECRET CB'S JACKSON NOVICE KITS.....	8
A TECHNICIAN'S PRAYER.....	9
SUPER GALAXY (EXPORT).....	10-11
SELECT-A-WATT OR DIAL-A-WATT.....	11-14
ANTRON "99".....	14
NEW PRODUCT INFORMATION.....	15-18
DAK 10 POWER/MODULATION INCREASE.....	19
DENTRON 160-10L AMPLIFIER.....	20-22
VIDEO DE-CODING, \$150 'KIDDEE' CAMCORDER.....	23
WARDS GEN-775A "QUICKIE FREQ. MOD.....	24
REGENCY CB-701 "QUICKIE FREQ. MOD.....	24
D&J ECHO BOX - BATTERY ELIMINATOR MOD.....	24
CONTRIBUTOR FORM.....	25
HYGAIN 422B PRE-AMP SCHEMATIC.....	26
LAKE 410 LOW FREQ. MOD.....	26
COBRA 29GTL/LTD TALKBACK.....	26
FORMAC 700 "TALKBACK MODIFICATION.....	27
GALAXY 2100 PROBLEM ALERT.....	27
TYPICAL TEST EQUIPMENT SET-UPS.....	28
J.F.K. EXPORT INFORMATION/ALIGNMENT/SCHEMATICS.....	29-33
JACKSON SCHEMATIC ENLARGED.....	34-35
SECRET CB KIT 146 UPDATE.....	36
JC PENNEY 981-6237 INSTALLATION INSTRUCTION FOR KIT 89-1.....	37
UPDATE ON REALISTIC TRC-216.....	38
UPDATE ON ANTALFIER LINEAR AMP.....	38
UPDATE ON MOSQUITO LINEAR AMP.....	38
HINTS/KINKS/GOOFS/TECH TIPS.....	39
TEXAS STAR 250 LINEAR SCHEMATIC.....	40
TEXAS STAR 250 INSTALLATION/LINEUP.....	41
SPECIFIC TUNEUP FOR REALISTIC TRC-88.....	41
CRC 100 INSTALLATION ON EXCALIBUR SSB.....	42
EXCALIBUR SSB (NEW) ERROR-FACTORY MANUAL.....	42
'NEW' EXCALIBUR SSB (EXPORT) 10KHz JUMP MOD.....	43
COBRA 62XLR SCHEMATICS.....	44-45
SPECIFIC TUNE UP FOR COBRA 62XLR.....	45
SPECIFIC TUNE UP FOR COBRA 19M.....	45
SPECIFIC TUNE UP FOR SBE LCMS-4.....	45
SBE LCMS-4 SCHEMATIC.....	46
REALISTIC PRO-2003 PROGRAMMABLE SCANNER - SCAN SPEED CHG.....	47
AUDIOVOX MCB-750 FREQ MOD.....	48
PALOMAR EC-2018 'ECHO POWER MIKE' SCHEMATIC.....	49
PALOMAR CBE-2003 & 2007 'VOICE-ACTIVATED' MIKE SCHEMATIC.....	50

TABLE OF CONTENTS (CONT.)

	PAGE
SPECIFIC TUNE UP FOR ROYCE 1-580, 1-610, 1-614.....	51
SPECIFIC TUNE UP FOR ROYCE 1-636, 1-642, 1-700.....	51
SPECIFIC TUNE UP FOR OMNIVOX CB-1000	51
SPECIFIC TUNE UP FOR MOTOROLA T4025A.....	51
ALARON B-4085 PLL SCHEMATICS/TUNE UP/MODIFICATION.....	52-53
ROBYN SB-540D PLL SCHEMATIC/PCB WIRING DIAGRAM-LOCATOR...	54-55
VANCO PS-12-5 (REGULATED POWER SUPPLY) PCB PARTS/LAYOUT ID.	55
SPECIFIC TUNE UP FOR KRACO KCB4007.....	56
SPECIFIC TUNE UP FOR REALISTIC TRC-474.....	56
SPECIFIC TUNE UP FOR MIDLAND 76-300, 77-104, 77-145.....	56
SPECIFIC TUNE UP FOR PYRAMID GTL-148.....	56
SPECIFIC TUNE UP FOR TRISTAR 340 EXPORT.....	56
TRISTAR 120 EXPORT TUNE UP.....	57
UPDATES ON SUPERSTAR 120FM & TRISTAR 240.....	57
UPDATE ON HAM INTERNATIONAL UK 120FM.....	57
CLARIFIER 'FINE' SLIDE FOR SUPERSTAR 360FM.....	57
CLARIFIER 'FINE' SLIDE FOR JACKSON.....	57
POCKET ROCKET MODULATOR.....	58-59
INDEX FOR VOLUMES 1 THRU 26.....	60-68
CORRECTION INDEX.....	64

ED. NOTES

Question: How to split transmit and receive frequencies like on the Ranger AR-3300?

Answer: Cheapest way is to buy the Ranger! If you want the flexibility of frequency/mode/power and programming. (BW, I personally have split up to 1.5MHz on the Ranger and encountered no problems....)
OR, dust off the old units that needed separate crystals for transmit and receive. Figure out your frequencies, and you got it. Problems with this is the fixed Fo's; and as sure as the sun will rise some A..-hole will find out the frequencies; then will move in on top of you!
 Again, buy the Ranger - put all the troubles behind you!

AGAIN; - Don't call in information, put it all on paper. See page 25 this volume.... COPY and USE IT; PRINT....
 Bits of information sent in pieces of paper are always getting mis-placed, incomplete information on them, and not enough data to contact originator.
 When I do contact anyone for clarification of information, don't forget to send all, correspondence back that I send. If I haven't received it within 3 weeks of sending it off, all information is permanently filed in #13.

Volume 28 - Yes, I do look ahead a volume at a time. The main reason for hold up on volumes is lack of information/units.
 I sometimes get ahold of units to 'play with any way that I want' and turn out some pretty hairy units... One-of-a-kind type modifications that only could be wrote up on about 6 pages! These type only have about 2 pages printed on them, as is really going into the realm of personal preference and very complicated work/craftsmanship.
 #28 will have as many modifications as possible on converting over units to the new 28.3-28.5MHz HAM Band. These will not be long drawn out write-ups; but will be for the "Professional Tech" type of information.... Hams, hold on a while and will have it in print for you!

People are always asking/requesting certain parts/data, and wanting immediate shipment by 'Honor Billing'! (Honor Billing; is based upon trust of payment upon receipt.) IT DOESN'T WORK!
 I have 'Honor Billings' scattered from N.Y. to Calif.—and even Hawaii; but no more! For this reason have discontinued practice, and require SASE for answering letters requesting information.
 NOTE: Friends 'South-of-the-Border, and Europe; business as usual...haven't been 'stiffed' in over 7 years!

CORRECTION:

Volume 26, page 61: TALKBACK - The diode references are reversed!

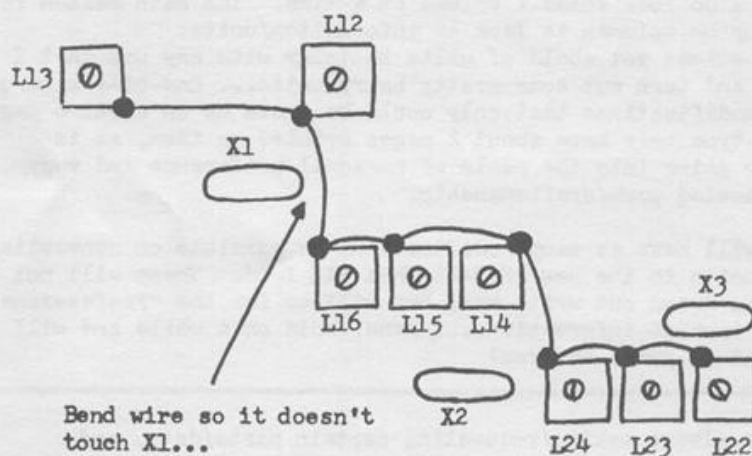
CHANGE: D80 to read D90, and D90 to read D80.

Volume 1, page 60: Original wiring points are 1 and 3. Should be 2 and 4.

THE C TEAM

JACKSON: "COLD" Frequency Drift - Partial Solution

Run a common buss wire between all 'cans' in the PLL/Fo determining section. Note drawing. DO NOT SOLDER TO CRYSTALS....



(by K.P.)

A TRANSISTOR PROTECTED BY A FAST ACTING FUSE, WILL PROTECT THE FUSE BY BLOWING 1st!

W A N T E D

ORIGINAL; Schematics and/or, Service Manuals listed below.....

DO NOT SEND copies unless...EXCELLENT CAMERA READY QUALITY!

MAIL FLAT, DON'T FOLD; or use a mailing tube.

SEND TO: SECRET CB
P.O. BOX 8189
CORPUS CHRISTI, TEXAS 78412

ALL MATERIAL RECEIVED WILL BE RETURNED BY 1st CLASS MAIL WITHIN 48 HRS.

"Free-bie" volume to those sending requested data from which Printable Information Is Obtained-ONLY! Again, this is 1st received basis.

SCHEMATICS: Radios...

Audiovox MCB-20
Uniden..... PRO510E, PRO520E, PRO540E, PRO710, PRO310E
Connex. 3300, 3900, (Owner's Manuals, etc.)
Whistler..... 700, 900,
Ferrari CX-19SA, CX-39SA,
Tenna Phase III . . CE24, CE26, CE22,
FOX CB-240, CB-340, CB-440

MCE MCE523, MCE530, MCE540, MCE570

Midland 75-101(FM Transceiver), 75-719B, 75-764B, 75-790,
77-202M, 77-225, 77-250, 77-805, 77-911, 77-911S, 77-915S,
77-106, 77-112, 77-114, 77-145, 77-149, 77-202.

SERVICE MANUALS: Radios....

Concept CD58CB

Midland 79-260

Regency UTIL-COM UC-102 (VHF Transceiver)

ORIGINAL SERVICE MANUALS ONLY: Scanners

J.I.L. SX-200, SX-400

REALISTIC PRO models: 30, 32, 2002, 2003, 2009,
2010, 2011, 2020,

REGENCY D300, D310, D810
HX-1000, HX-1500, HX-2000, HX-2200, HX-3000
M-100
MX-3000, MX-4000, MX-4200, MX-5000, MX-7000
R-806, R-1040, R-1050, R-1060, R-1070, R-1075,
R-1080, R-1090
Z10, Z30, Z45, Z60
INF-1, INF-5
Turbo-Scan 800

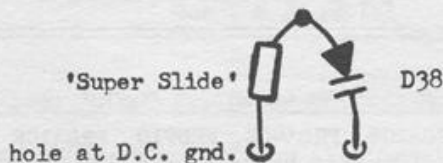
NEW PRODUCT

SECRET CB's JACKSON NOVICE KITS

NOVICE "A": Gives coverage from 26.515-28.755MHz, extended 'slide'.

NOVICE "B": Gives coverage from 26.965-29.205MHz, extended 'slide'.

... Installation: Remove present X2, replace with new xtal. DO NOT CUT XTAL LEADS. Sleeve leads before soldering into place. Bend xtal towards front of chassis. Unsolder the unbanded side of D38, lift upright. Solder new 'SUPER SLIDE' into hole where diode was, the other side is soldered to D38. If additional slide is needed, adjust VR15.



Realign L14, L15, and L16 for desired offsets. L12 and L13 will have to be slightly realigned, in about all units for complete coverage. To align TX and RX sections use Secret CB Volume 20 for a guide. (Special Note: Slight re-alignment was needed on initial units....)

NOVICE "A" FREQUENCY CHART

A-Band		B-Band		C-Band		D-Band		E-Band	
Channel	MHz	Channel	MHz	Channel	MHz	Channel	MHz	Channel	MHz
1	26.515	1	26.965	1	27.415	1	27.865	1	28.315
2	26.520	2	26.970	2	27.420	2	27.870	2	28.320
3	26.525	3	26.975	3	27.425	3	27.875	3	28.325
4	26.530	4	26.980	4	27.430	4	27.880	4	28.330
5	26.535	5	26.985	5	27.435	5	27.885	5	28.335
6	26.540	6	26.990	6	27.440	6	27.890	6	28.340
7	26.545	7	26.995	7	27.445	7	27.895	7	28.345
8	26.550	8	27.000	8	27.450	8	27.900	8	28.350
9	26.555	9	27.005	9	27.455	9	27.905	9	28.355
10	26.560	10	27.010	10	27.460	10	27.910	10	28.360
11	26.565	11	27.015	11	27.465	11	27.915	11	28.365
12	26.570	12	27.020	12	27.470	12	27.920	12	28.370
13	26.575	13	27.025	13	27.475	13	27.925	13	28.375
14	26.580	14	27.030	14	27.480	14	27.930	14	28.380
15	26.585	15	27.035	15	27.485	15	27.935	15	28.385
16	26.590	16	27.040	16	27.490	16	27.940	16	28.390
17	26.595	17	27.045	17	27.495	17	27.945	17	28.395
18	26.600	18	27.050	18	27.500	18	27.950	18	28.400
19	26.605	19	27.055	19	27.505	19	27.955	19	28.405
20	26.610	20	27.060	20	27.510	20	27.960	20	28.410
21	26.615	21	27.065	21	27.515	21	27.965	21	28.415
22	26.620	22	27.070	22	27.520	22	27.970	22	28.420
23	26.625	23	27.075	23	27.525	23	27.975	23	28.425
24	26.630	24	27.080	24	27.530	24	27.980	24	28.430
25	26.635	25	27.085	25	27.535	25	27.985	25	28.435
26	26.640	26	27.090	26	27.540	26	27.990	26	28.440
27	26.645	27	27.095	27	27.545	27	27.995	27	28.445
28	26.650	28	27.100	28	27.550	28	28.000	28	28.450
29	26.655	29	27.105	29	27.555	29	28.005	29	28.455
30	26.660	30	27.110	30	27.560	30	28.010	30	28.460
31	26.665	31	27.115	31	27.565	31	28.015	31	28.465
32	26.670	32	27.120	32	27.570	32	28.020	32	28.470
33	26.675	33	27.125	33	27.575	33	28.025	33	28.475
34	26.680	34	27.130	34	27.580	34	28.030	34	28.480
35	26.685	35	27.135	35	27.585	35	28.035	35	28.485
36	26.690	36	27.140	36	27.590	36	28.040	36	28.490
37	26.695	37	27.145	37	27.595	37	28.045	37	28.495
38	26.700	38	27.150	38	27.600	38	28.050	38	28.500
39	26.705	39	27.155	39	27.605	39	28.055	39	28.505
40	26.710	40	27.160	40	27.610	40	28.060	40	28.510

NOVICE "B" FREQUENCY CHART

A-Band		B-Band		C-Band		D-Band		E-Band	
Channel	MHz	Channel	MHz	Channel	MHz	Channel	MHz	Channel	MHz
1	26.965	1	27.415	1	27.865	1	28.315	1	28.765
2	26.970	2	27.420	2	27.870	2	28.320	2	28.770
3	26.975	3	27.425	3	27.875	3	28.325	3	28.775
4	26.980	4	27.430	4	27.880	4	28.330	4	28.780
5	26.985	5	27.435	5	27.885	5	28.335	5	28.785
6	26.990	6	27.440	6	27.890	6	28.340	6	28.790
7	26.995	7	27.445	7	27.895	7	28.345	7	28.795
8	27.000	8	27.450	8	27.900	8	28.350	8	28.800
9	27.005	9	27.455	9	27.905	9	28.355	9	28.805
10	27.010	10	27.460	10	27.910	10	28.360	10	28.810
11	27.015	11	27.465	11	27.915	11	28.365	11	28.815
12	27.020	12	27.470	12	27.920	12	28.370	12	28.820
13	27.025	13	27.475	13	27.925	13	28.375	13	28.825
14	27.030	14	27.480	14	27.930	14	28.380	14	28.830
15	27.035	15	27.485	15	27.935	15	28.385	15	28.835
16	27.040	16	27.490	16	27.940	16	28.390	16	28.840
17	27.045	17	27.495	17	27.945	17	28.395	17	28.845
18	27.050	18	27.500	18	27.950	18	28.400	18	28.850
19	27.055	19	27.505	19	27.955	19	28.405	19	28.855
20	27.060	20	27.510	20	27.960	20	28.410	20	28.860
21	27.065	21	27.515	21	27.965	21	28.415	21	28.865
22	27.070	22	27.520	22	27.970	22	28.420	22	28.870
23	27.075	23	27.525	23	27.975	23	28.425	23	28.875
24	27.080	24	27.530	24	27.980	24	28.430	24	28.880
25	27.085	25	27.535	25	27.985	25	28.435	25	28.885
26	27.090	26	27.540	26	27.990	26	28.440	26	28.890
27	27.095	27	27.545	27	27.995	27	28.445	27	28.895
28	27.100	28	27.550	28	28.000	28	28.450	28	28.900
29	27.105	29	27.555	29	28.005	29	28.455	29	28.905
30	27.110	30	27.560	30	28.010	30	28.460	30	28.910
31	27.115	31	27.565	31	28.015	31	28.465	31	28.915
32	27.120	32	27.570	32	28.020	32	28.470	32	28.920
33	27.125	33	27.575	33	28.025	33	28.475	33	28.925
34	27.130	34	27.580	34	28.030	34	28.480	34	28.930
35	27.135	35	27.585	35	28.035	35	28.485	35	28.935
36	27.140	36	27.590	36	28.040	36	28.490	36	28.940
37	27.145	37	27.595	37	28.045	37	28.495	37	28.945
38	27.150	38	27.600	38	28.050	38	28.500	38	28.950
39	27.155	39	27.605	39	28.055	39	28.505	39	28.955
40	27.160	40	27.610	40	28.060	40	28.510	40	28.960

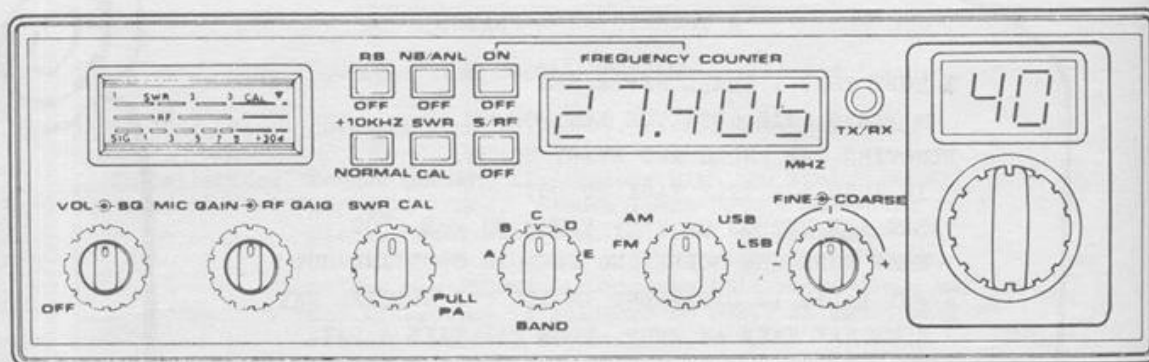
Order these new Jackson Novice Kits @ \$9.00 ea. SELMAN ENTERPRISES, P.O. Box 8189, Corpus Christi, TX 78412 or Call 512/853-2935.

A TECHNICIAN'S PRAYER

I HOPE THAT I SHALL NEVER SEE
A RADIO THAT GETS THE BEST OF ME.
REMOVING THE KNOBS AND EVERY SCREW,
IS JUST A LITTLE TASK TO DO.
THERE ARE METERS TO SET; RIGHT ON THE SPOT,
MAKE SURE THE SOLDERING IRON IS GOOD AND HOT!
EVERY RADIO IS DIFFERENT IN ITS OWN SPECIAL WAY,
SOME MAY TAKE AN HOUR, SOME MAY TAKE A DAY.
THEN THERE ARE SOME THAT MAY TAKE A WEEK TO MAKE TICK,
BECAUSE OF A GOLDEN SCREWDRIVER THAT HAS MADE IT
TERRIBLY SICK.
THERE IS TRACING AND TUNING AND PULLING YOUR HAIR,
AND LOOKING IN BOOKS AND BOOKS TO SPARE.
BEFORE YOU KNOW IT AN HOUR HAS TURNED INTO A DAY,
AND TIME HAS SLIPPED BY IN A GREAT BIG WAY.
THE RADIO IS TALKING AND REALLY 10-8.
BUT THE OWNER SAYS, "SORRY, YOU'LL HAVE TO WAIT."
"I HAD NO IDEA IT WOULD COST SO MUCH,
AS THIS RADIO HAD HARDLY BEEN TOUCHED."
TRYING TO BE CHEERFUL, AND NOT ACT TOO FUNNY,
THEY POLITELY ASK IF YOU CAN WAIT FOR THE MONEY.
THE TIME THAT WAS SPENT FOR THE REPAIR
NO LONGER EXISTS; IT JUST WASN'T THERE!
THE LAST FEW BUCKS THAT YOU COULD SPARE,
WAS SPENT ON PARTS TO MAKE THE REPAIR.
EVERYBODY NEEDS TIME AT ONE TIME OR ANOTHER.
FOR THIS AND THAT OR THE OTHER.
MY EXPERIENCE, MY TOOLS AND MY TIME ARE MINE,
IF IT'S NOT WORTH THE MONEY,
THEN DON'T WASTE MY TIME!

BY: BRENDA PHILPOTT
(JAWBREAKER)
(CH. 8)

DEDICATED TO ALL OF THE TECHNICIANS ALL OVER THE WORLD

SUPER GALAXY (EXPORT)

'HIGH POWERED' AM/FM/SSB 200 Ch. Mobile. MC145106-PLL, Switchable Beep, +10KHz jump, 26.065-28.325MHz Fo Range, 5 digit Fo Counter, and dual clarifier.

Owner's Manual is very good (read it!); BUT; again - NO SCHEMATIC!

NOT TO WORRY; AS I HAVE HEARD THAT CERTAIN 'DEALERS' PROVIDE WITH UNIT IF YOU PURCHASE FROM THEM. SCHEMATIC WILL NOT BE PRINTED IN SECRET C.B.

Unit is basically an old Galaxy 2100 with some updates. Frequency Counter has been redesigned, and PCB altered to take the Grant-DX transmit design. "Why the CW function was left out of this unit I don't know? Hams love to find these units screwdrivered to death, then change crystal to take it up to the 28-30MHz range."

OUT-OF-THE-BOX: S/N 000183. Cover (etch side) didn't mate up and bowed. Wrong type screw found in unit? (Flush vs regular round type.) Piece of tape also on covers with word SEAL on it (may be removed without tearing if careful. S/N tape was placed across both covers and rear of chassis? (I removed it also and placed on inside of cover next to speaker.) The THICK white insulators are back in fashion! Bridging board (T7, T8, T9); had the pins bent over towards VR8-check and straighten! On right rear of component side make sure collector of TR50 isn't shorting to nut of bolt going to chassis ground of TR51. In general check out and straighten things up before applying the power.

Power readings (out-of-the-box) at 27.185MHz, Fo Counter reading:

AM - 7W (modulation at max mike gain was 100%+)
FM - 6.9W (level of audio insufficient)
SSB - 4W at max mike gain?

Here's the real _isser! Why use a 4 position mode switch and not change the front panel lettering to correspond. The lettering is set for the old 5 pos. switch. (The units with CW!)

Turned up power adjustments to maximum for a momentary RF Power output test:

AM - 13.7W, SSB - 20.0W.

SUPER GALAXY (EXPORT)...Cont.

Clarifiers dead center: 27.185 on counter, actual 27.185.8MHz (800Hz off).
Max clarifiers (+10.3KHz), counter off by 300Hz.
Min clarifiers (- 7.6KHz), counter off by 400Hz.
Since this is only a 5 digit counter isn't of any real consequence; can be tightened up in an alignment; as all readings were high.

SWR calibration was excellent!

RF Power rolloff: Ref. 4W at center Fo; 2.8W at Min Fo; 3.9W at Max Fo.

?? Next to last digit in the Frequency Counter went out with approximately 1½ hrs of time on unit. ??

?? When replacing the covers noticed that not only didn't they mate up; BUT; were entirely painted/finished differently. ??

FOR ALIGNMENT PROCEEDURE: Compare Schematic/Alignment Section for each;

PIL - use the Jackson alignment, PIL section.

TRANSMIT - use the Grant-DX alignment, Transmit section.

RECEIVE - use the Excalibur SSB alignment, Receive section.

NOTE: Compare each section with both schematics as a guide.....

SELECT-A-WATT OR DIAL-A-WATT

By Jim's CB Tech's & Frank Fournier

SELECT OR DIAL-A-WATT IS A METHODE OF DOING TWO THINGS. 1. Making a unit drive at the proper level to feed an amplifier while having a peaked unit when the amplifier is not being used. 2. A way of lowering the carrier level of a unit while maintaining all of the PEP swing of the audio.

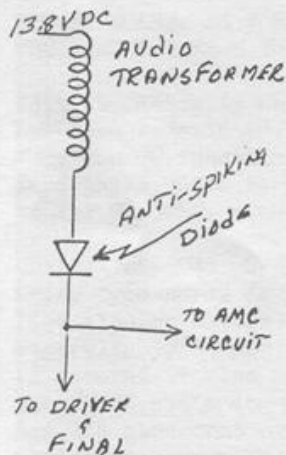
Almost every AM unit has an anti-spiking diode on the output of the audio transformer. This is where the DC is fed to the driver and final. The reason it is there is to prevent the RF positive spikes

Select-A-Watt or Dial-A-Watt...Cont.

from exceeding the insulation factor of the audio transformer, causing shorting between the primary and secondary. This diode is generally a 1 amp. 600V Peak reverse (PRV). This is also about the same as most of the protection diodes. Most of you have these by the dozens in your shop, if not hundreds.

Silicone diodes require about .7 forward voltage to begin conduction. This means, if we put two such diodes in series, it would require about 1.4 Volts to start conduction, three, 2.1 Volts, etc.

As you know, as you lower the voltage on the driver and final of a unit, your wattage output on dead key will drop. The audio swing in this case will not drop because the diodes are already forward biased. Any positive swing will be coupled through 1:1.



We can lift the cathode of the Anti-spiking diode and add as many diodes in series as we desire. We can have as many levels of carrier as the number of diodes we install. Let's start with a simple SPDT switch. It will give us two levels. Peaked level for normal operation and a lower level, say, for driving a amplifier. Let's say it takes three diodes to give us the desired level of drive for the amplifier. With the SPDT switch closed you will have peaked condition. Let's say 6 watts swinging 18 watts. With the switch open, it might drop to 3 watts but the swing will be 15 watts.

Select-A-Watt or Dial-A-Watt...Cont.

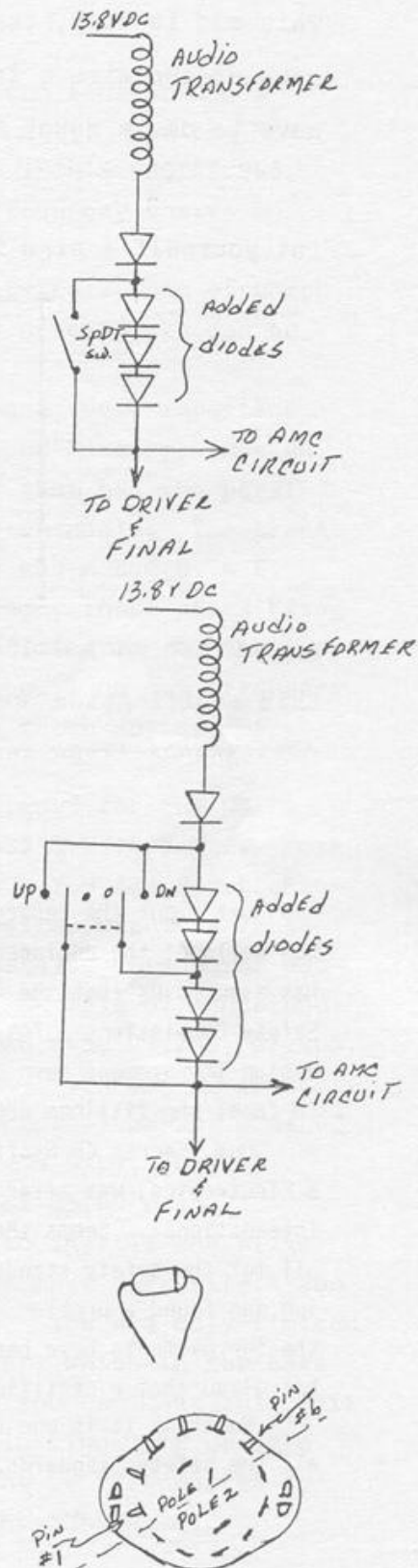
Now let us consider a DPDT switch with center off. This could give us three levels.

Up, would give peaked condition. Down would give a lower level, and center would give the lowest level.

Now for those of you that have followed our suggestion and bought yourself a set of hand punches and would like to be more professional, you might want to try Dial-A-Watt. For this we would like to suggest a 2 pole, 6 position switch such as Mouser's # 10WK026. It is a printed circuit switch but the layout on this switch is easier.

1. Lay the outside terminals of one pole out at about a 45 degree angle.
2. Bend the legs of five diodes as illustrated leaving the legs about 3/8" long.
3. Starting at pin #1, solder the diodes between 1 and 2, 2 and 3, 3 and 4, 4 and 5, 5 and 6, with the cathodes toward pin 6.
4. Mount the switch.
5. Lift the cathode of the anti-spiking diode.
6. Run a wire from the raised cathode to pin 1.
7. Run a wire from where the cathode was raised from to the common terminal and to pin 6.

Now as you rotate the knob CW, the wattage out will increase. As you rotate CCW it will decrease.



Select-A-Watt or Dial-A-Watt...Cont.

This mod is such, that when you have spare-time in your shop, you can make up and wire a few of these switches in advance. Then all you have to do is mount the switch and wire it in.

****SUGGESTION****

Put yourself a sign in your shop.

DIAL-A-WATT	
SIX LEVELS.....	\$???.00
SELECT-A-WATT	
THREE LEVELS.....	\$???.00
TWO LEVELS.....	\$???.00

An average shop should make an extra thousand dollars or more off of this modification each year.

ANTRON "99"

Let's put the record straight about the ANTRON "99" CB base station antennas. Don Wells of the engineering department for Antron Antenna Research & Electronics has assured us that the ANTRON "99" does meet all the U.S. Consumer Product Safety Commissions safety standards and more. He tells us that engineering and design improvement have been made and they are now using all brass fittings. In fact, the fittings are all machined from solid brass. No more diecasting.

Our, Secret CB Staff, inquiry to the manufacturer, Antron Antenna Research & Electronics, was after we read an article in the May 1987 Issue of AudioVideo International. Seems the USCPSC had tested several over a period of time and all met the safety standards. Then early 1986 they came back for another testing and found a problem. The antennas in that batch were recalled. Since then the improvements have been made and the U.S. Consumer Product Safety Commission has given them a certificate of recommendation for a job well done.

We think it is one of the best base antennas made that will more than meet all the safety standards. It is a very good matchup to the EXPORT units.

NEW PRODUCT INFORMATION:

Card-Kit Electronics first came out with the familar A & B Kits, then the LTD Kit for the new Cobra Plus units. Now the NEW "C" & "D" NOVICE KIT and the TECH'S CHOICE AM, TECH'S CHOICE SSB, TECH'S CHOICE DX. See radio correlation and frequency charts on the following pages.

The "C" & "D" NOVICE kits come with two crystals, one of which covers the Ham Novice Band. Other combination of crystals can be used in this kit.

The COBRA 21, 25, and 29 PLUS units have one, very important redeaming feature. This is the first time, in CB History, that an AM unit has been marketed in the United States that has the possibilities of covering more than a hundred or so channels. The transmitters and receivers of these units can cover the A,B,C,D, & E European bands without retuning. For this reason, these units bring with them a whole world of possibilities in modifications. The Cobra Plus units can be modified to start channel 1 on any frequency between 26.065 and 27.865. This means you can match any set of frequencies that your customers are now using.

The Tech's Choice AM Kit is specially designed for the COBRA PLUS units. It comes with two crystals - 26.515 & 27.425 Mhz. Most often they will be used in the B & D positions. You can start channel 1 on any channel or half channel you so desire, within a 2Mhz span. There are standard and non-standard crystals. Standards 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.

These special cut crystals (standard or special) may be ordered from Card-Kit Electronics, 306 Wilson Ave, Panama City, FL 32401. 1-800-227-3548. Standard \$4.00 each and Special \$5.00 each.

The Tech's Choice SSB Kit is the easiest to install and align kit ever devised for a SSB unit. It too is the most versatile. You are not locked into a given set of frequencies. You are only limited by the Band Pass of the Transmitter and Receiver, which in the case of the Cobra 146GTL is about 3Mhz. This means you can make this unit up for a HAM and give him or her a HAM/CB combination. It being a mobile, he or she might not be interested in the CW frequencies so you can skip over them and still come within the 3Mhz span.

New Product Information...Cont.

There is no limit to the combinations and possibilities.

Why even sell an Export Unit when you can buy a unit for much less with easy maintenance, good parts supply and proven reliability. No longer will you have to modify the clarifier and no longer will the operator have to have a frequency counter to find out what frequency they are on. You just make them a list of frequencies for each crystal or selector position starting with channel 1 as marked in black on the crystal used.

We at Secret CB and Card-Kit see a brighter future for CBing and for the American Companies that supply them. We are sure you will feel the same when you start using these kits.

The Tech's Choice Kits are not designed for the hobbyist, but especially for technicians. The special tools and equipment needed makes that difference.

Special tools needed: Hand Punch Sets can be ordered from MSC Industrial Supply Co., 800-645-7270. 3/32" to 9/32" order #937102 and 5/32" to 17/32" order #927105. A 40 Mhz or above scope such as the B&K 1540 is needed.

John, at Card-Kit Electronics, says: "If I could ever give one piece of advice that would save you time and make your work easier, it would be to 'MAKE YOURSELF A TEST SET'." You can make it either from a Cobra 142GTL or Cobra 2000GTL. If you want something that will give you even a greater span and cheaper, modify a Cobra 146GTL or a Uniden PC244 and combine the switching of a "C" Kit with the TC-SSB Kit to give you up to 480 channels. Too, you will find the zero beat a plus when it comes to checking a sideband unit. When you make your test set, put it on a 50 ohm load with about a two foot coax. The ambient radiation will be enough to pick up a good strong signal several feet away.

GOOD LUCK AND GOOD TESTING!

Order these CARD-KITS from Selman Enterprises, Inc., P.O. Box 8189, Corpus Christi, Texas 78412 or Call 512/853-2935.

Ask for a SECRET CB CATALOG when you order or send \$1.00 which is refundable on your first order.

RADIO AND CARD-KITS CORRELATION CHART

Card-Kit

A	REALISTIC TRC-426 REALISTIC TRC-427 REALISTIC TRC-428 REALISTIC TRC-432 REALISTIC TRC-441 REALISTIC TRC-473 REALISTIC TRC-474 TEABERRY STALKER 3 UNIDEN PC-33 UNIDEN PC-33A UNIDEN PC-55 UNIDEN PC-55A UNIDEN PC-66 UNIDEN PC-77 AND OTHER SISTER UNITS OF THE ABOVE	NDI PC-102 PRESIDENT AR-7 PRESIDENT AX-7 PRESIDENT AX-11 REALISTIC TRC-410 REALISTIC TRC-414 REALISTIC TRC-420 REALISTIC TRC-420A REALISTIC TRC-421 REALISTIC TRC-421A REALISTIC TRC-422 REALISTIC TRC-422A REALISTIC TRC-426 REALISTIC TRC-427 REALISTIC TRC-432 REALISTIC TRC-441 REALISTIC TRC-462 REALISTIC TRC-469 REALISTIC TRC-473 REALISTIC TRC-747 SBE LCB-8 SHARP CB-2170 SHARP CB-4370 SHARP CB-4470 SHARP CB-4670 TEABERRY STALKER 3 TEABERRY STALKER V TEABERRY STALKER VII TEABERRY STALKER XII TRS-730 TRS-1200 WARD-680A WARD-696A UNIDEN PC-33 UNIDEN PC-33A UNIDEN PC-55 UNIDEN PC-55A USACO U900CB AND OTHER SISTER UNITS OF THE ABOVE	PRESIDENT MADISON PRESIDENT WASHINGTON UNIDEN GRANT UNIDEN MADISON UNIDEN WASHINGTON REALISTIC TRC-490 AND OTHER SISTER UNITS	COBRA 25 PLUS COBRA 29 PLUS AND OTHER SISTER UNITS TECH'S CHOICE (TC SSB) COBRA 146GTL MIDLAND 6001 (79-006) MIDLAND 7001 (79-007) PRESIDENT AR-144 PRESIDENT AX-144 REALISTIC TRC-451 REALISTIC TRC-543 SEARS 66338100050 UNIDEN PC-122 UNIDEN AX-144 AND OTHER SISTER UNITS TECH'S CHOICE (TC DX) COBRA 140GTL COBRA 142GTL COBRA 148GTL COBRA 2000GTL PRESIDENT GRANT PRESIDENT MADISON PRESIDENT WASHINGTON UNIDEN GRANT UNIDEN MADISON UNIDEN WASHINGTON REALISTIC TRC-490 AND OTHER SISTER UNITS
COBRA 18LTD COBRA 18 PLUS COBRA 19 PLUS COBRA 19 X COBRA 19 XS COBRA 20LTD COBRA 20 PLUS COBRA 21GTL COBRA 21LTD COBRA 21 PLUS COBRA 25GTL COBRA 25LTD COBRA 25 PLUS COBRA 29GTL COBRA 29LTD COBRA 29 PLUS COBRA 40 X COBRA 40 PLUS COBRA 90LTD COLT 190 COLT 210 COLT 222 COLT 355 GE 3-5804F GE 3-5805A GE 3-5816D K-40 K-401 MAXCOM 4-A MIDLAND 100M MIDLAND 102M MIDLAND 103M MIDLAND 151M MIDLAND 200M MIDLAND 2001 MIDLAND 3001 MIDLAND 4001 MIDLAND 77-824B MIDLAND 77-800 PRESIDENT AR-7 PRESIDENT AX-7 PRESIDENT AX-11 PRESIDENT AX-43 PRESIDENT AX-44 PRESIDENT AR-44 PRESIDENT AR-711 PRESIDENT AX-711 PRESIDENT ANDREW J. PRESIDENT JAMES K. PRESIDENT "OLD HICKORY" PRESIDENT ZACHARY T. PRESIDENT SEAHAWK-40 REALISTIC TRC-410 REALISTIC TRC-414 REALISTIC TRC-421 REALISTIC TRC-421A REALISTIC TRC-422 REALISTIC TRC-422A	B COBRA 18LTD COBRA 18 PLUS COBRA 19X COBRA 19XS COBRA 19 PLUS COBRA 20LTD COBRA 20 PLUS COBRA 40X COBRA 40 PLUS COBRA 90LTD COLT 190 COLT 210 COLT 222 COLT 355 CRAIG L-104 CAIG L-105 GE 3-5804B GE 3-5805F GE 3-5805A GE 3-5805B GE 3-5816D K-40's K-401 MAXCOM 4-A MIDLAND 100M MIDLAND 102M MIDLAND 103M MIDLAND 150M MIDLAND 151M MIDLAND 800M MIDLAND 2001 MIDLAND 3001 MIDLAND 4001 MIDLAND 77-101B MIDLAND 77-101C MIDLAND 77-800 MIDLAND 77-824B MIDLAND 77-824C MIDLAND 77-856 MIDLAND 77-860 MIDLAND 77-861B NDI PC-101	C COBRA 146GTL MIDLAND 6001 (79-006) MIDLAND 7001 (79-007) PRESIDENT AR-144 PRESIDENT AX-144 REALISTIC TRC-451 REALISTIC TRC-453 SEARS 66338100050 UNIDEN PC-122 UNIDEN AX-144 AND OTHER SISTER UNITS	LTD COBRA 21GTL COBRA 21LTD COBRA 21 PLUS COBRA 25GTL COBRA 25LTD COBRA 25 PLUS COBRA 29GTL COBRA 29LTD COBRA 29 PLUS COBRA 87GTL COBRA 89GTL COBRA 1000GTL PRESIDENT AX-43 PRESIDENT AR-44 PRESIDENT AX-44 PRESIDENT AR-711 PRESIDENT AX-711 PRESIDENT SEAHAWK 40 PRESIDENT ZACHARY T. UNIDEN PC-66 UNIDEN PC-77 UNIDEN ZACHARY T. AND OTHER SISTER UNITS TECH'S CHOICE (TC AM) COBRA 21 PLUS	

A KIT—HIGH COVERAGE ONLY CH. 42 THRU 86

B KIT—LOW COVERAGE ONLY 26.515 THRU 26.955

LTD KIT—COVERS LOW AND HIGH FOR THOSE UNITS THAT HAVE TIGHT 1st. IF AND WOULD HAVE A GAIN LOSS IF THE B KIT WAS USED.

C KIT AND TC SSB KITS COVER THE SAME UNITS.

D KIT AND TC DX KITS COVER THE SAME UNITS.

THE C AND D KITS ARE BASICALLY DESIGNED TO GIVE ONE EXTRA 40 CHANNEL GROUP ANYWHERE WITHIN THE BAND-PASS OF THE RECEIVER AND TRANSMITTER. THE TC SSB AND TC DX IS BASICALLY DESIGNED TO GIVE 400 EXTRA CHANNELS AND IS DESIGNED BASICALLY FOR TECHNICIANS BECAUSE OF THE SPECIAL SKILL AND TOOL REQUIREMENTS.

CARD-KITS FREQUENCY CHART

	a	A	b	B	c	C	d	D	D+	e	E
1	26.060	26.065	26.510	26.515	26.960	26.965	27.410	27.415	27.425	27.860	27.865
2	26.070	26.075	26.520	26.525	26.970	26.975	27.420	27.425	27.435	27.870	27.875
3	26.080	26.085	26.530	26.535	26.980	26.985	27.430	27.435	27.445	27.880	27.885
4	26.100	26.105	26.550	26.555	27.000	27.005	27.450	27.455	27.465	27.900	27.905
5	26.110	26.115	26.560	26.565	27.010	27.015	27.460	27.465	27.475	27.910	27.915
6	26.120	26.125	26.570	26.575	27.020	27.025	27.470	27.475	27.485	27.920	27.925
7	26.130	26.135	26.580	26.585	27.030	27.035	27.480	27.485	27.495	27.930	27.935
8	26.150	26.155	26.600	26.605	27.050	27.055	27.500	27.505	27.515	27.950	27.955
9	26.160	26.165	26.610	26.615	27.060	27.065	27.510	27.515	27.525	27.960	27.965
10	26.170	26.175	26.620	26.625	27.070	27.075	27.520	27.525	27.535	27.970	27.975
11	26.180	26.185	26.630	26.635	27.080	27.085	27.530	27.535	27.545	27.980	27.985
12	26.200	26.205	26.650	26.655	27.100	27.105	27.550	27.555	27.565	28.000	28.005
13	26.210	26.215	26.660	26.665	27.110	27.115	27.560	27.565	27.575	28.010	28.015
14	26.220	26.225	26.670	26.675	27.120	27.125	27.570	27.575	27.585	28.020	28.025
15	26.230	26.235	26.680	26.685	27.130	27.135	27.580	27.585	27.595	28.030	28.035
16	26.250	26.255	26.700	26.705	27.150	27.155	27.600	27.605	27.615	28.050	28.055
17	26.260	26.265	26.710	26.715	27.160	27.165	27.610	27.615	27.625	28.060	28.065
18	26.270	26.275	26.720	26.725	27.170	27.175	27.620	27.625	27.635	28.070	28.075
19	26.280	26.285	26.730	26.735	27.180	27.185	27.630	27.635	27.645	28.080	28.085
20	26.300	26.305	26.750	26.755	27.200	27.205	27.650	27.655	27.665	28.100	28.105
21	26.310	26.315	26.760	26.765	27.210	27.215	27.660	27.665	27.675	28.110	28.115
22	26.320	26.325	26.770	26.775	27.220	27.225	27.670	27.675	27.685	28.120	28.125
23	26.350	26.355	26.800	26.805	27.250	27.255	27.700	27.705	27.715	28.150	28.155
24	26.330	26.335	26.780	26.785	27.230	27.235	27.680	27.685	27.695	28.130	28.135
25	26.340	26.345	26.790	26.795	27.240	27.245	27.690	27.695	27.705	28.140	28.145
26	26.360	26.365	26.810	26.815	27.260	27.265	27.710	27.715	27.725	28.160	28.165
27	26.370	26.375	26.820	26.825	27.270	27.275	27.720	27.725	27.735	28.170	28.175
28	26.380	26.385	26.830	26.835	27.280	27.285	27.730	27.735	27.745	28.180	28.185
29	26.390	26.395	26.840	26.845	27.290	27.295	27.740	27.745	27.755	28.190	28.195
30	26.400	26.405	26.850	26.855	27.300	27.305	27.750	27.755	27.765	28.200	28.205
31	26.410	26.415	26.860	26.865	27.310	27.315	27.760	27.765	27.775	28.210	28.215
32	26.420	26.425	26.870	26.875	27.320	27.325	27.770	27.775	27.785	28.220	28.225
33	26.430	26.435	26.880	26.885	27.330	27.335	27.780	27.785	27.795	28.230	28.235
34	26.440	26.445	26.890	26.895	27.340	27.345	27.790	27.795	27.805	28.240	28.245
35	26.450	26.455	26.900	26.905	27.350	27.355	27.800	27.805	27.815	28.250	28.255
36	26.460	26.465	26.910	26.915	27.360	27.365	27.810	27.815	27.825	28.260	28.265
37	26.470	26.475	26.920	26.925	27.370	27.375	27.820	27.825	27.835	28.270	28.275
38	26.480	26.485	26.930	26.935	27.380	27.385	27.830	27.835	27.845	28.280	28.285
39	26.490	26.495	26.940	26.945	27.390	27.395	27.840	27.845	27.855	28.290	28.295
40	26.500	26.505	26.950	26.955	27.400	27.405	27.850	27.855	27.865	28.300	28.305
	n	N	f	F	g	G	h	H			
1	28.060	28.065	28.310	28.315	28.760	28.765	29.210	29.215			
2	28.070	28.075	28.320	28.325	28.770	28.775	29.220	29.225			
3	28.080	28.085	28.330	28.335	28.780	28.785	29.230	29.235			
4	28.100	28.105	28.350	28.355	28.800	28.805	29.250	29.255			
5	28.110	28.115	28.360	28.365	28.810	28.815	29.260	29.265			
6	28.120	28.125	28.370	28.375	28.820	28.825	29.270	29.275			
7	28.130	28.135	28.380	28.385	28.830	28.835	29.280	29.285			
8	28.150	28.155	28.400	28.405	28.850	28.855	29.300	29.305			
9	28.160	28.165	28.410	28.415	28.860	28.865	29.310	29.315			
10	28.170	28.175	28.420	28.425	28.870	28.875	29.320	29.325			
11	28.180	28.185	28.430	28.435	28.880	28.885	29.330	29.335			
12	28.200	28.205	28.450	28.455	28.900	28.905	29.350	29.355			
13	28.210	28.215	28.460	28.465	28.910	28.915	29.360	29.365			
14	28.220	28.225	28.470	28.475	28.920	28.925	29.370	29.375			
15	28.230	28.235	28.480	28.485	28.930	28.935	29.380	29.385			
16	28.250	28.255	28.500	28.505	28.950	28.955	29.400	29.405			
17	28.260	28.265	28.510	28.515	28.960	28.965	29.410	29.415			
18	28.270	28.275	28.520	28.525	28.970	28.975	29.420	29.425			
19	28.280	28.285	28.530	28.535	28.980	28.985	29.430	29.435			
20	28.300	28.305	28.550	28.555	29.000	29.005	29.450	29.455			
21	28.310	28.315	28.560	28.565	29.010	29.015	29.460	29.465			
22	28.320	28.325	28.570	28.575	29.020	29.025	29.470	29.475			
23	28.350	28.355	28.600	28.605	29.050	29.055	29.500	29.505			
24	28.330	28.335	28.580	28.585	29.030	29.035	29.480	29.485			
25	28.340	28.345	28.590	28.595	29.040	29.045	29.490	29.495			
26	28.360	28.365	28.610	28.615	29.060	29.065	29.510	29.515			
27	28.370	28.375	28.620	28.625	29.070	29.075	29.520	29.525			
28	28.380	28.385	28.630	28.635	29.080	29.085	29.530	29.535			
29	28.390	28.395	28.640	28.645	29.090	29.095	29.540	29.545			
30	28.400	28.405	28.650	28.655	29.100	29.105	29.550	29.555			
31	28.410	28.415	28.660	28.665	29.110	29.115	29.560	29.565			
32	28.420	28.425	28.670	28.675	29.120	29.125	29.570	29.575			
33	28.430	28.435	28.680	28.685	29.130	29.135	29.580	29.585			
34	28.440	28.445	28.690	28.695	29.140	29.145	29.590	29.595			
35	28.450	28.455	28.700	28.705	29.150	29.155	29.600	29.605			
36	28.460	28.465	28.710	28.715	29.160	29.165	29.610	29.615			
37	28.470	28.475	28.720	28.725	29.170	29.175	29.620	29.625			
38	28.480	28.485	28.730	28.735	29.180	29.185	29.630	29.635			
39	28.490	28.495	28.740	28.745	29.190	29.195	29.640	29.645			
40	28.500	28.505	28.750	28.755	29.200	29.205	29.650	29.655			

NOVICE KEY

NOVICE VOICE

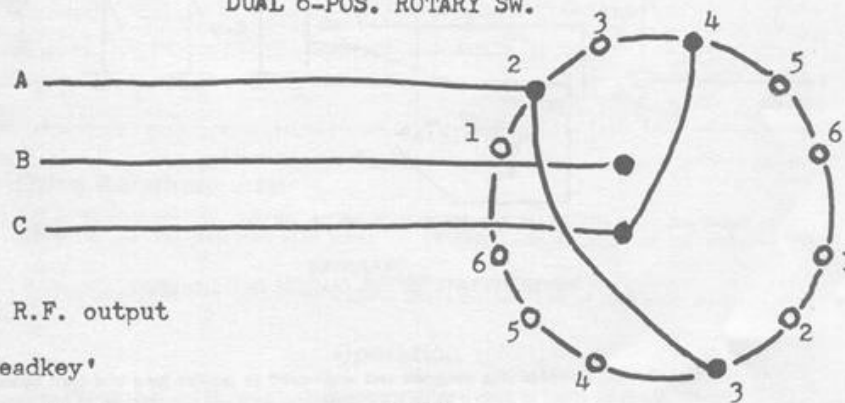
- A KIT** Coverage—column D + .
- B KIT** Coverage—column b or columns b & B.
- C KIT** Coverage—(without additional switching) any two columns within the band-pass of the unit.
- D KIT** Coverage—(without additional switching) any two columns within the band-pass of the unit.
- LTD KIT** Coverage—columns b & between D & D + or columns B & D + .
- TC AM KIT** Coverage—column C and any other three columns within the band-pass of the unit.
- TC SSB** Coverage—any ten columns within the band-pass of the unit.
- TC DX** Coverage—any ten columns within the band-pass of the unit.

DAK 10. Power/Modulation Increase
by T.C.

Modification below is proven for unit, as has been in constant operation for over 10 months with no problems....(T.C.)

1. Remove 12BY7, driver - replace with 12GN7.
2. Remove 6DG6, final - replace with 6550.
3. Adjust L201, L902, and C903 for max RF on PEAK READING METER.
4. RV12, RV204 are AMC adjustments. RV2 and RV11 are ALC.
5. SSB output may be increased to about 30W PEP by jumping R211, 3.9K 2W. (Ed. Note: suggest changing resistor to a 220 ohm, 2W instead.)
6. Make up 6-position switch and install as per drawing. NOTE: perfect location of switch is the headphone jack position.

DUAL 6-POS. ROTARY SW.



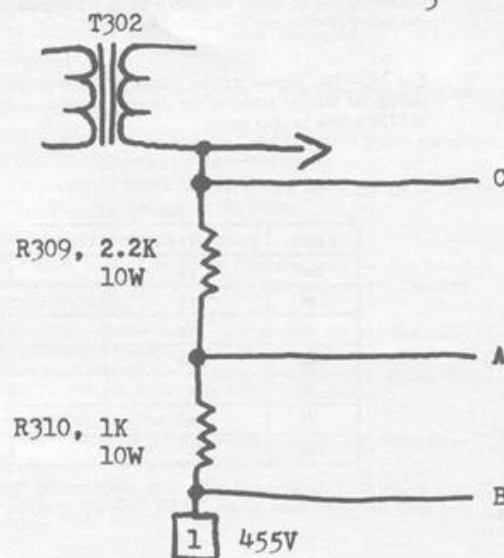
Pos. 1 - Normal R.F. output

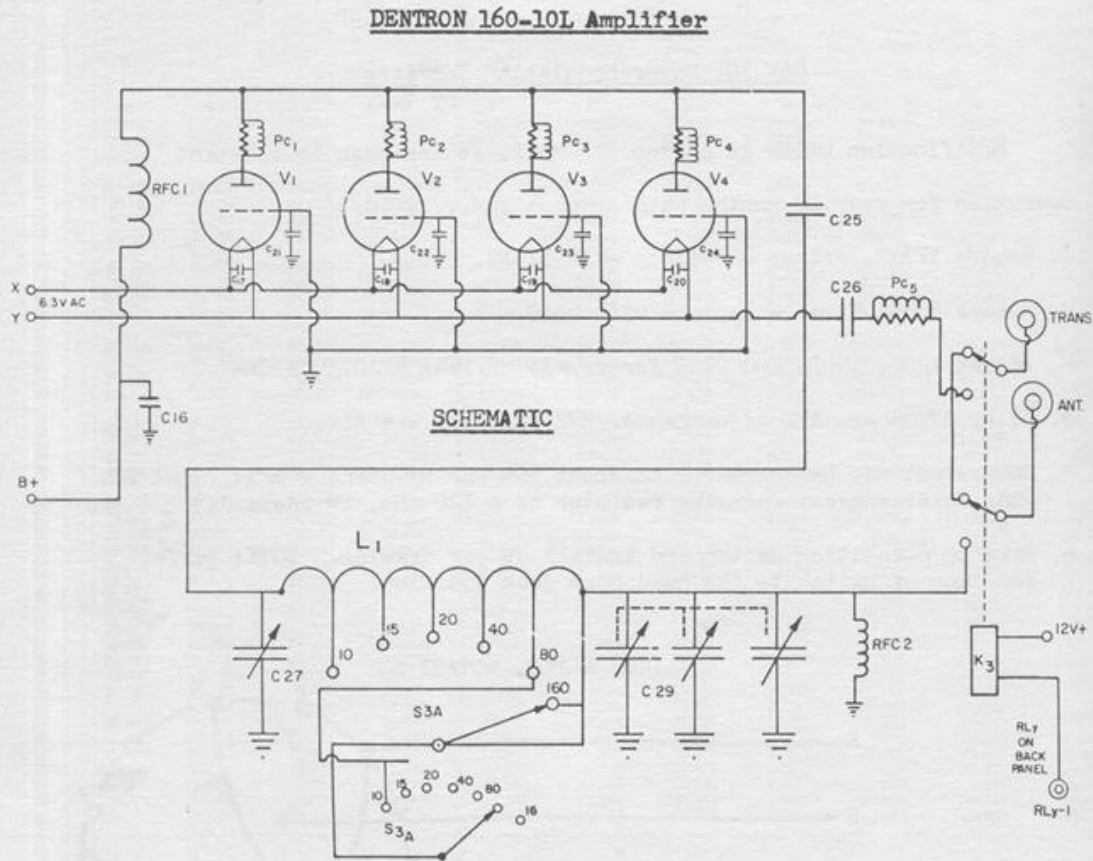
2.- 8W, 'deadkey'

3 - 16W, 'deadkey'

4 - 30W, 'deadkey'

5 & 6 - same as pos 1.





"WARNING"
NEVER OPERATE 160 - 10L OUTSIDE OF ITS CABINET

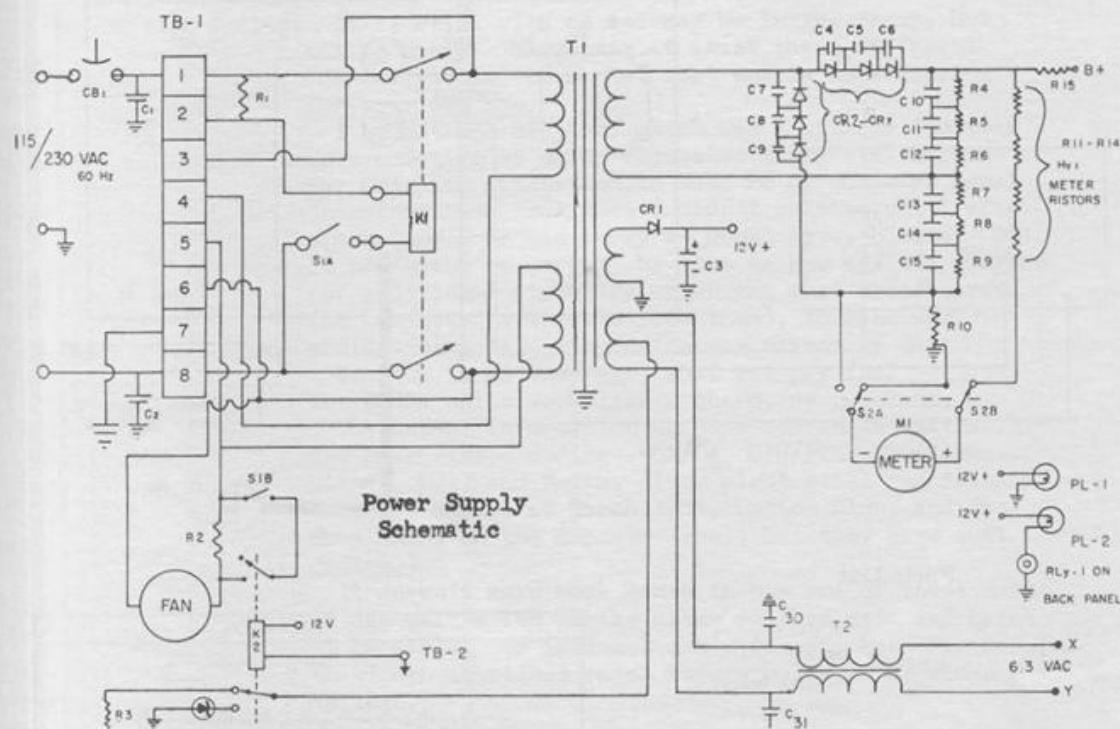
The 160 - 10L Amplifier was designed and engineered to provide long and hard hours of service. Don't be afraid to push it to its full capabilities. Just use common sense and observe the safety precautions as outlined in manual.

NOTE

The 160 - 10L should not be turned off immediately after long periods of transmitting, but should be left on stand-by for several minutes with zero plate amperes to allow the 811A's or 572B's time to cool down.

160 10L BASIC TUNE UP CHART

BAND	BAND SELECTOR	LOADING CONTROL	TUNING CONTROL
160	1.8	4	1.8
80	3.5	2	3.5 (No. 2)
75	3.5	3	3.5 (No. 4)
40	7.0	3½	7.0
20	14	5	14
15	21	7	21-28
10	28	8	28

DENTRON 160-10L Amplifier, cont.**Drive Requirements:**

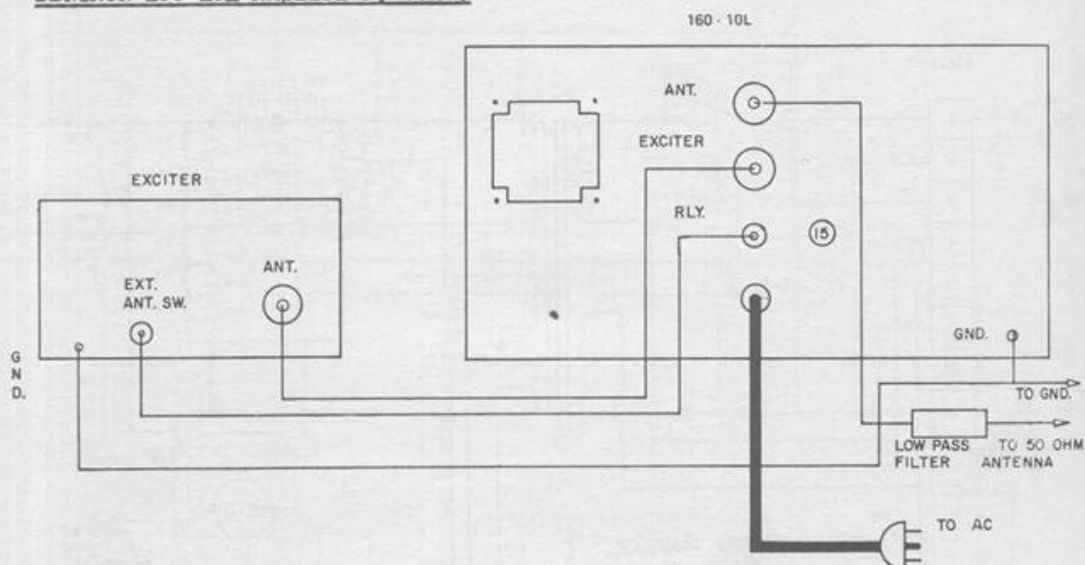
To operate the 160 - 10L the exciter drive power can be as little as a few watts to 125 watts, the 160 - 10L with 572B tubes can be driven with as much as 150 watts —

Caution

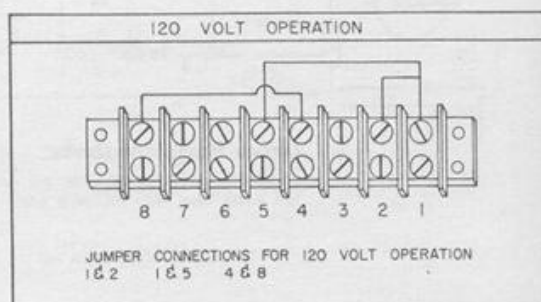
This amount of drive will run the amplifier above the legal limit of 2000 watts input.

Operation

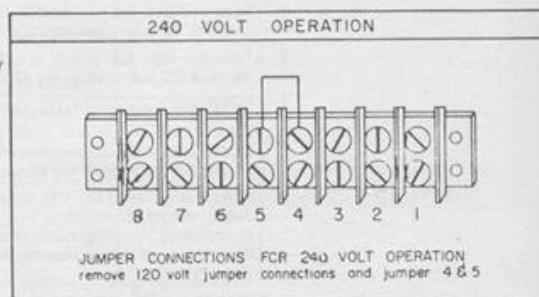
1. Make sure 160 - 10L is in the off position.
2. Connect the antenna or a dummy load to the 160 - 10L Antenna Connector.
3. Set the band selector to the proper band.
4. Preset loading and tuning controls as shown on control sheet — **it is very important to have these controls preset before tune up.**
5. Tune and load the exciter into the antenna or dummy load, the amplifier is still in the off position. Tune to approximately 70 - 100 watts output — turn exciter off.
6. Turn the 160 - 10L switch to CONTINUOUS DUTY — power light will come on — and check in DC volt position for 1700 - 2000 volts showing on the meter.
7. Switch the meter switch DC AMPS—should read zero.
8. Turn on the exciter and insert a small amount of power into the amplifier and adjust tuning control for maximum output as indicated on a watt meter such as the DenTron W-2 or SWR Bridge in the antenna coax lead.
9. Insert full power (70 - 100 watts) into amplifier and tune the 160 - 10L for maximum output alternately adjusting the loading and tuning controls for maximum forward power as indicated on station wattmeter or SWR Bridge. In case of low exciter power the loading control setting may deviate counter-clockwise from basic chart setting.
10. To Calculate Power = Voltage x Current + Exciter Drive
example on 160 - 10L: 1800 Volts x 1000 MA = 1800 Watts input + 125 Watts Drive = 1925 DC input
11. The 160 - 10L is capable of much greater input than 1KW but only on SSB model with switch in the Continuous Duty position. **On CW, RTTY, SSTV keep input at 1KW** and operate in the continuous duty model
12. Normal SSB operation:
 - a) Switch in SSB
 - b) Voice peaks should read about .4 on DC amp scale — with speech processing much greater readings will show
 - c) Idle current will be approximately 40 - 60 MA.

DENTRON 160-10L Amplifier, cont.**Parts List**

C-1, C-2, C-4, C-9, C-17, C-26	.01 Disc 1KV
C-3	800MFD - 25WVDC
C-10 thru C-15	150MFD - 450WVDC
C-16	500PF - 6KV Disc
C-25	500PF - 20KV Cap
C-27	D-232 Plate Cap
C-29	D-1500L Load Cap
CB-1	15 amp breaker
CR-1, CR7	1N4007 Diodes
K-1	115VAC DPDT Relay
K-2 - K-3	12 VDC DPDT Relay
L-1	Plate Tank Coil
M-1	0-2000VDC and 0-1 amp meter
PC-1 - PC-4	Parasitic Chokes
PL-1 & PL-2	#330 and #328 Bulbs
R-1	1000 ohm 10 watt wire wound
R-2	2000 ohm 5 watt wire wound
R-3	50K ohm 10 watt wire wound
R-4 - R-9	25K 10 watt wire wound
R-11 - R-14	Meter resistors selected at factory
R-15	1 ohm 1 watt Carbon
RFC-1	Plate Choke
RFC-2	2.5mh 300 ma Choke
RLY-1	R.C.A. phono receptacle
S-1	DP-3T Rotary Switch
S-2	DPDT Rotary Switch
S-3	2P6T Rotary Switch
T-1	Power Transformer
T-2	Filament Choke
V-1 thru V-4	811A Tubes or 572B Tubes
Z-1	50W, 9V Zener Diode



REAR OF CHASSIS



NOTE: THE AC CORD HAS 3 CONDUCTORS — THE GREEN LEAD IS GROUND

NOTE: To locate terminal 1-8 find a 2000 ohm 5 watt resistor on terminal 1 & 2 and count toward front of amplifier.

NOTE: Replace 15 Amp circuit breaker with 10 Amp circuit breaker.

Video De-Coding, \$150 'Kiddee' Camcorder

Macrovision Coding: It is still with us and may be losing favor, but not to worry! There are at least three different "de-coders" on the market that enable home copying for your own use.

I bought one of them, which was a kit for \$50. Upon ordering of unit, requested immediate shipment for doing an evaluation in Vol. 26 of SCB—as usual "manufacturer" made sure I didn't receive until after press time. He was lucky as would have 'blasted' it! It has been 're-worked' by them to now include diagram for additional circuitry which you must breadboard, (no kit/board available from them), to make work efficiently. Also the price was raised by \$20!

Quality is as they say, what you pay for! The \$200+ units work like a charm, no problems.

The latest information on tape companies that still use Macrovision coding: MGM/UA, CBS/FOX, HBO/Cannon, Disney, MCA, and Media. (You might still run into some old copies of Torchlight, Cotton Club, and The Sure Thing on the Embassy label, but they have quit coding.)

It doesn't make much sense to buy one of these units as can wait a few months after release date and catch it on cable. Or if local cable company has 'Pay Per View' can sometimes catch before released to video dealers.

On to a new item on the market and prediction that will be bigger seller than the 'Doll' craze was a few years back. (I want one of these myself).

Black and White Camcorder for \$150 - - - Yep! On the way for fall and especially the Christmas buying season. (High demand, low production, so, expect a price raise to accommodate the public as usual.)

FACTS AS KNOWN TO DATE:

Manufacturer: Fisher-Price

Name: Pixelvision

Model: PXL 2000, "childrens camcorder"

Price: Suggested retail \$150, (\$200 with small screen B/W monitor).

Power: AC or 6-AA batteries

Picture: Black and White reproduction

Cassette: C-90 Audio Cassette; gives 11 minutes of video with sound.

Audio: Built in microphone, pre-set level.

Focus: Pre-set, 4 inches to infinity.

Lens: adjustable, indoor or outdoors.

Indicator: Low light and power, LED.

Playback: Thru camcorder to receiver. Uses fixed head linear scan recording system. Solid-state CCD image sensor with 128 by 90 array of light sensitive element. The poor resolution from CCD is dealt with by shrinking on-screen picture. On playback only 3/4's of screen is filled, remainder has black border on all sides. Image becomes coarser as screen size increases. (On 25" set parts of the picture show up as visible squares). Best results with 13" or smaller set.

"Quickie Fo Mods"

by J.C.

Wards Gen-775A (M58473P-PLL); EVEN Fo's: 26.610-26.950MHz, selector 9-40.
Pins 9 and 14 of PLL chip together using SPST.

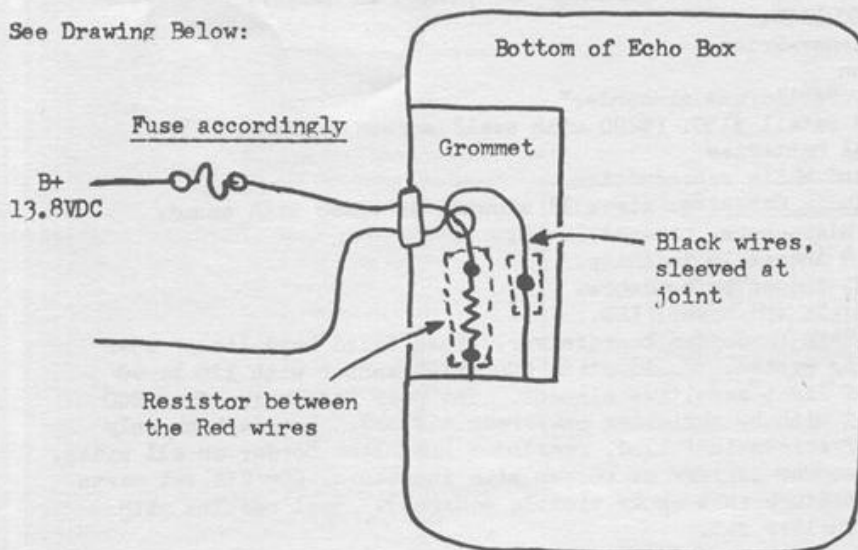
Regency CB-701 (302-861 PLL); 26.885-26.955MHz, selector 20-27.
Pins 12 and 18 of PLL chip together using SPST.

D&J Echo Box - Battery Eliminator Mod.

by J.V.

1. As close to battery clip as possible cut/strip/tin the Red and Black wires.
2. Drill small hole in side of case going into battery compartment.
3. Install rubber grommet in hole.
4. Route new Red and Black wires into battery compartment, tie a knot to prevent pulling out.
5. Solder 420 ohm 1W resistor to end of Red wire cut from battery clip.
6. Solder other end of resistor to new Red wire. (NOTE: make sure this entire joint is sleeved).
7. Solder new Black wire to existing Black wire, making sure joint is sleeved.
8. Black wire goes to D.C. Ground.
9. Red wire to B+; BUT - First put an ammeter in series; max echo/gain on box; check current and fuse accordingly!

See Drawing Below:



C O N T R I B U T O R - F O R M

PLEASE COPY AND USE THIS FORMP R I N T

Contributor: _____

DATE: _____

CHECK ONE

Address: _____

Yes Print Name in Secret CB

Don't Print Name in Secret CB

Phone Number/Time convenient to call if necessary: _____

All above will be CONFIDENTIAL, Selman Ent. doesn't give out mailing list!

Unit Name/Model/FCC ID #: _____

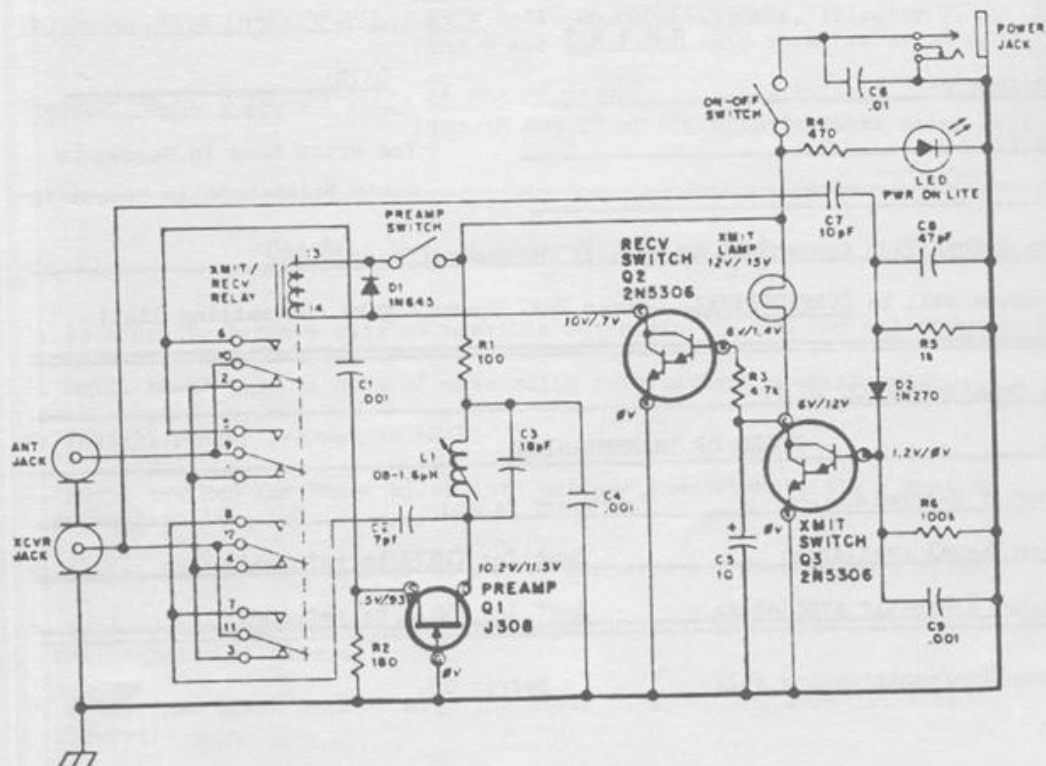
PLL: _____ MODES OF TRANSMISSION: _____

Number of Channels: _____ Frequency Range: _____

Owners Manual available: _____ Sent In: (Will be returned)

ORIGINAL Schematic available: _____ Sent In: (Will be returned)

Information/contribution Vol. _____ Secret CB.

HYGAIN MDL. 422B Pre-Amp Schematic

Relay shown in transmit mode (relaxed).

Voltages shown: Xmit V/Rec V.

LOW FREQ. MOD.
by M.M.

LAKE 410, MM5108N-PLL: Open feed line to following pin for freq change.

26.325-26.685MHz, selector 1-32; open Pin 10.

26.695-27.005MHz, selector 5-32; open Pin 11.

TALKBACK

Cobra 29GTL/LTD: Solder 42 ohm resistor from center contact of Ext.

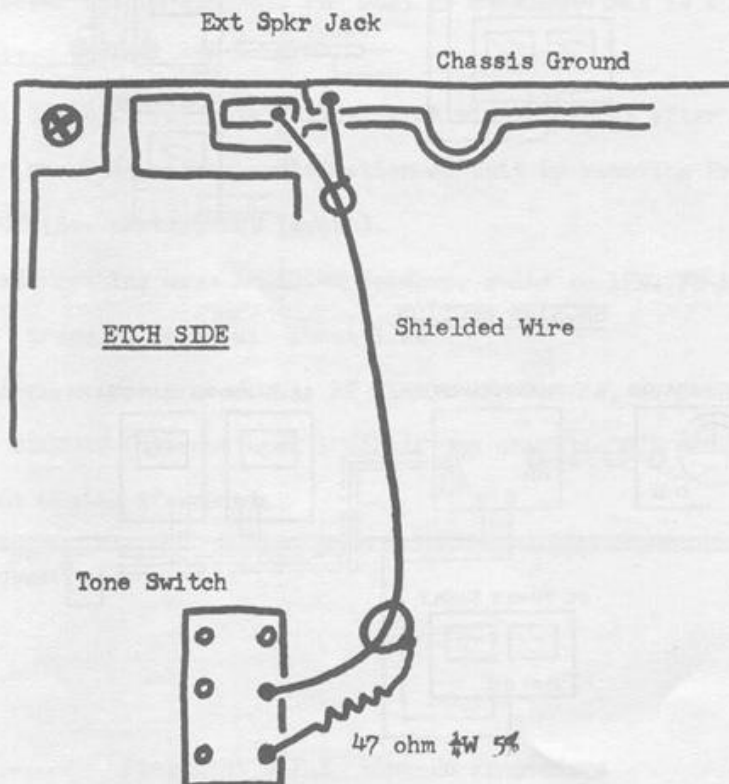
Speaker Jack to PCB Ground.

FORMAC 700, "TALKBACK MODIFICATION"

by R.M.

This modification was employed on S/N 500194 which had previous "Power/Echo" modification, (see Vol. 23, page 36).

For this reason the TONE switch was used for modification after 'hardwiring' for desired tone.



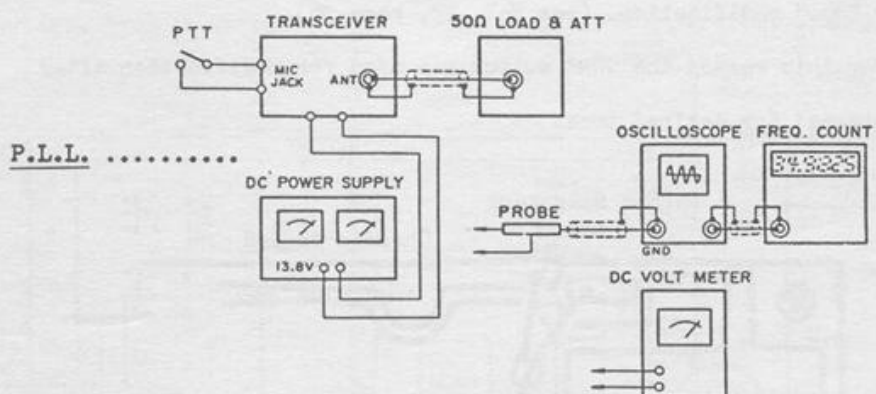
NOTE: Switch is viewed looking down on chassis from etch side.

Wired as such the 'Talkback' feature is ON, when switch is in up position (High).

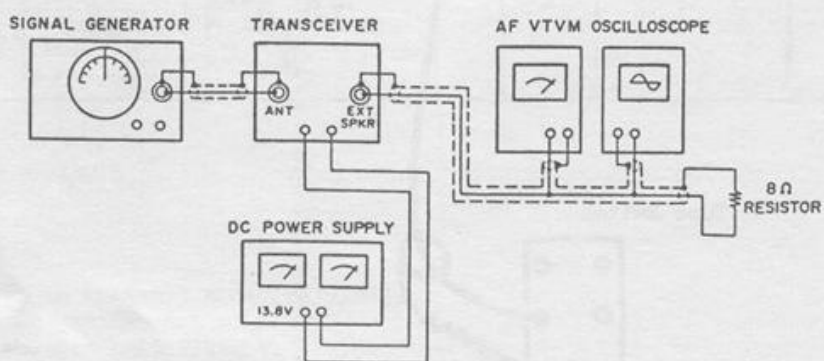
ALERT: GALAXY 2100, PROBLEM

TRANSMIT COMES AND GOES..... CHECK FL-3, HAVE FOUND BAD IN UNITS. REPLACEMENT SHOULD CURE PROBLEM. (J.V.)

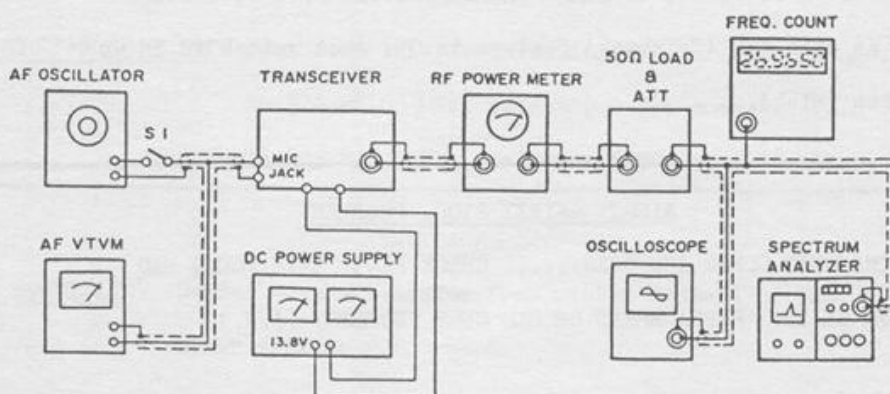
TYPICAL TEST EQUIPMENT SET-UPS



RECEIVE SECTION



TRANSMIT SECTION



J.F.K. - EXPORT; 120 Ch. AM/FM mobile (uPD2816-PLL).
by Louis Fineberg

Finally, the schematic for J.F.K. has materialized... Believe it or not; ...entire FACTORY SERVICE MANUAL... No, a 'distributor' wasn't the source!

Unit has ± 40 channels, switchable beep, SWR meter, variable transmit power output control, and dual RF Finals. This is a true DELUXE unit....

TEST UNIT, S/N:63003727 gave following at mid Fo range; after tune-up. Modulation was 95%+, after modification of unit by removing Brown wire at main PCB (See partial PCB layout).

Power at max setting was: AM-12.4W deadkey, swing to 17W. FM-13.0W.

Variation across Fo range was about 1.2W

Overall performance is good..... RF Finals are 20W/6A, so push them.

Driver is 2SC2029 (discontinued 10W/2A), use chart in SCB #26 for a replacement choice if needed.

President J.F.K. Line-Up Procedure

Following is PRESIDENT J.F.K. alignment, re-written for the experienced technician. Courtesy of "Custom Conversions".....

Equipment Suggested: Oscilloscope, D.C. Power Supply, D.C. Voltmeter, Frequency Counter, RF Signal Generator, Audio VTVM, Dummy Load, RF Power Meter, Deviation Meter.

PLL ALIGNMENT

1. Delta Tune to MID position. Adjust VC1 for a reading of 10.24MHz, ± 100 Hz at base of TR18.
2. Band-MID, Mode-RX, Ch-1. Adjust L17 for 1.2V, ± 0.1 VDC at TP1 (lead of R72).

President J.F.K. Line-Up Procedure...(Cont.)RECEIVE ALIGNMENT

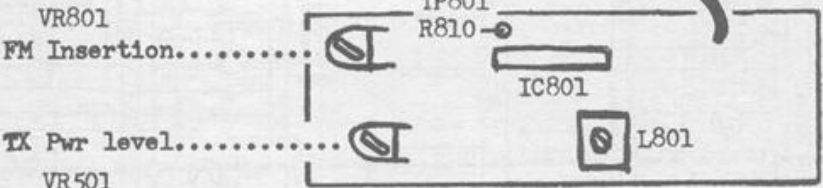
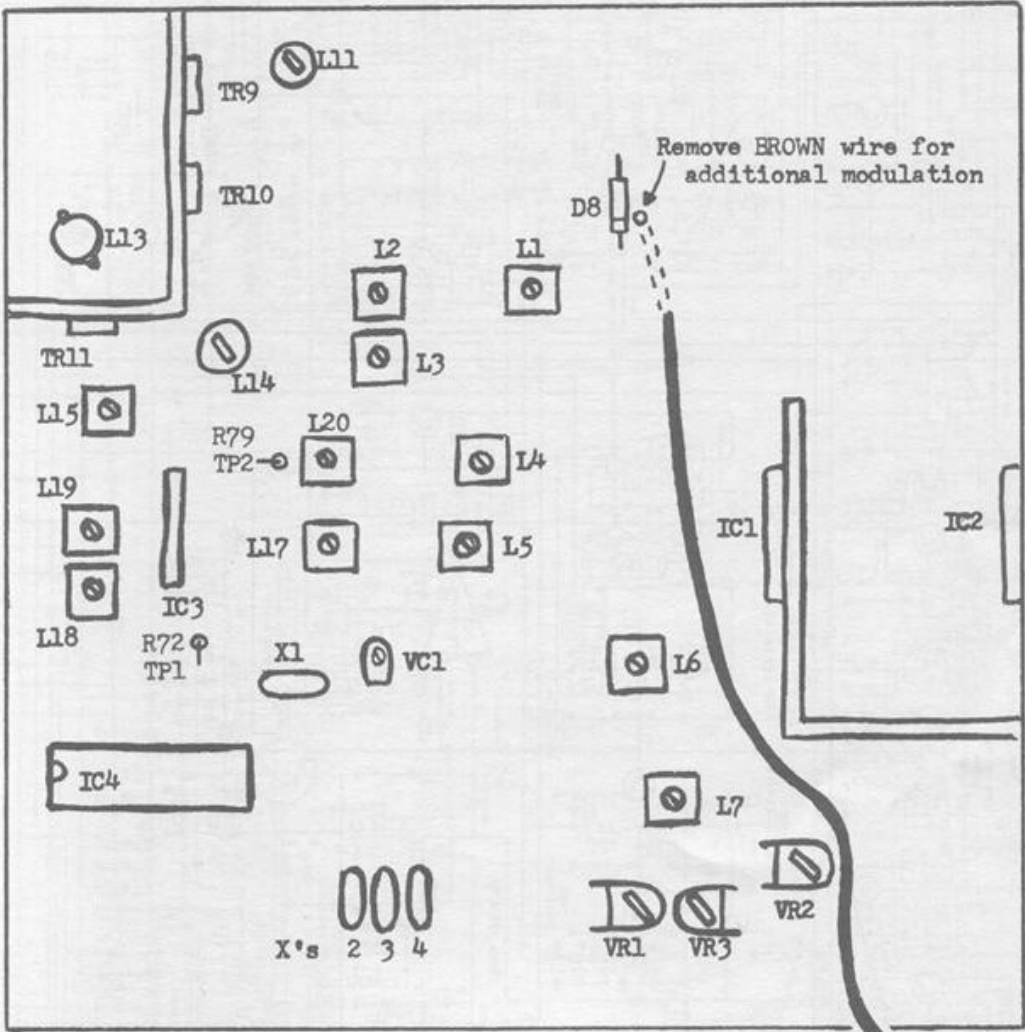
1. Front controls to be left at following positions throughout RX alignment: RF Gain-MAX, S/Rf-SWR-CAL at S/Rf Position, NB/ANL-OFF.
2. Band-MID, Volume-MAX, Squelch-MIN, Ch-19, AM/FM to AM.
Adjust L7, L6, L5, L4, and L1 for maximum output at Ext Spkr Jack.
3. Change: Band-LOW, Ch-1 and Band-HI, Ch-40. Adjust L2 and L3, in the following manner:
Adjust L2 for maximum output of noise level in Ch-1, Low Band.
Adjust L3 for maximum output of noise level in Ch-40, Band High.
Readjust L2 by turning CW in Ch-1, Low Band, for the same noise level as obtained in adjusting L3.
4. All settings the same as Step 2-Change: Squelch-MAX. Adjust VR2 for 2V reading at Ext Spkr Jack, with Sig Gen input at 1000_mV.
5. All settings the same as Step 2. Adjust VR1 for 'S-9' reading on meter with Sig Gen input at 100_mV.
6. All settings the same as Step 2-Change: AM/FM to FM. Adjust L-801 for maximum with Sig Gen input at 1000_mV.

TRANSMIT ALIGNMENT

1. Front controls to be left at following positions throughout TX alignment: Mic Gain-MAX, S/Rf-SWR-CAL at S/Rf Position.
2. Band-MID, NO MODULATION, Power-MAX, Ch-19, AM/FM-AM. Turn down the core of L18 before doing any alignment. Scope TP2 (R79), adjust L19, L20, and L18 for max reading in order.
3. Adjust L20, L15, and L14 for max RF output.
4. Change from Ch-1, Low Band; to Ch-40 High Band - adjust L11 for overall TX power balance.
5. All settings the same as Step 2. Adjust VR3 so needle of unit's TX meter points to desired zone.
6. Change to Low Power. Adjust VR501 for an output RF power level of between 1.5-4.0W over entire band, or as desired.
7. All settings the same as Step 2; change the following: AM/FM to FM, Ch-1. Adjust VR801 for 4KHz deviation.
8. All settings the same as Step 2. Readjust VC1 for 27.185MHz at TX jack.

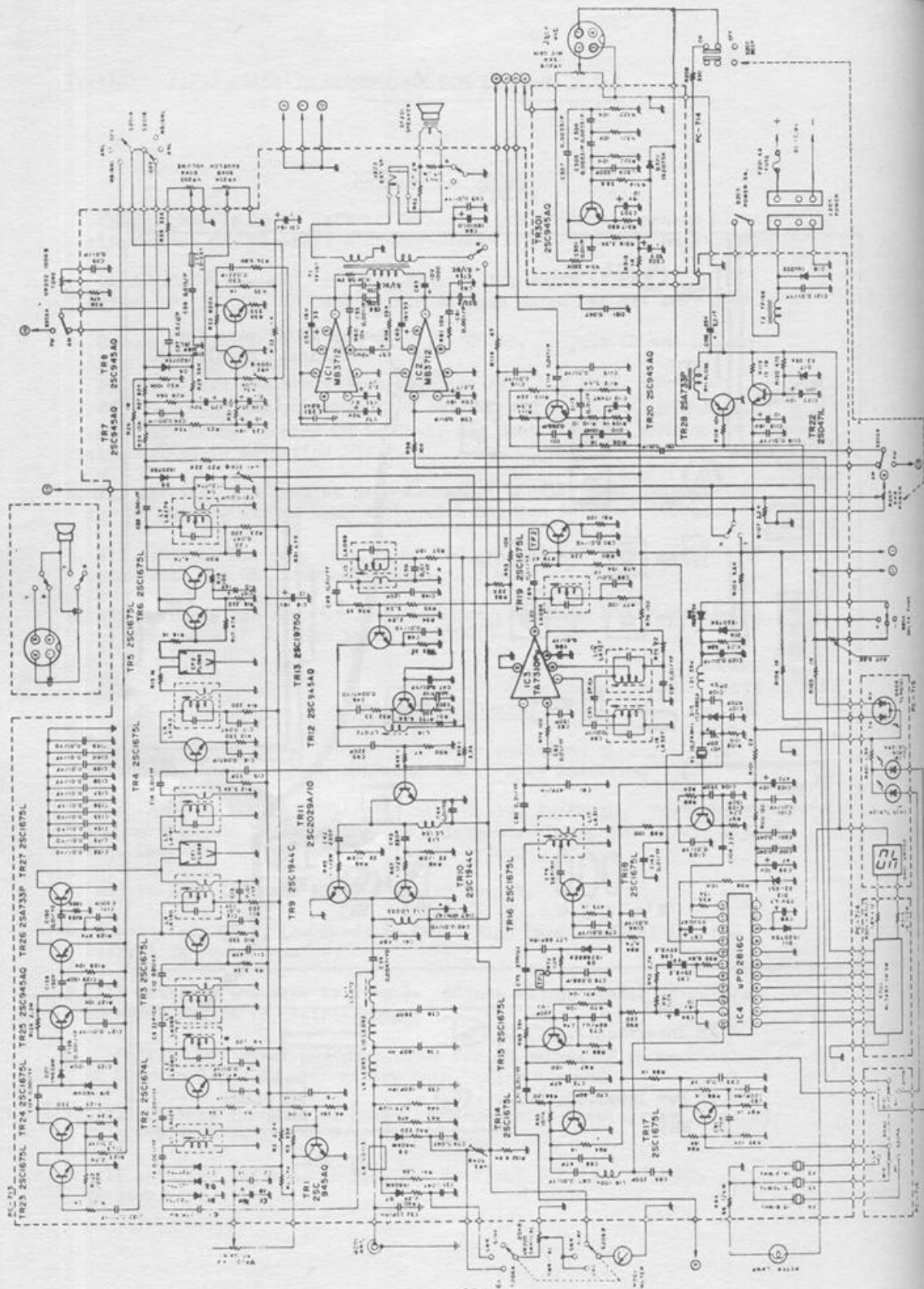
J.F.K. Partial PCB Layout

PC-713



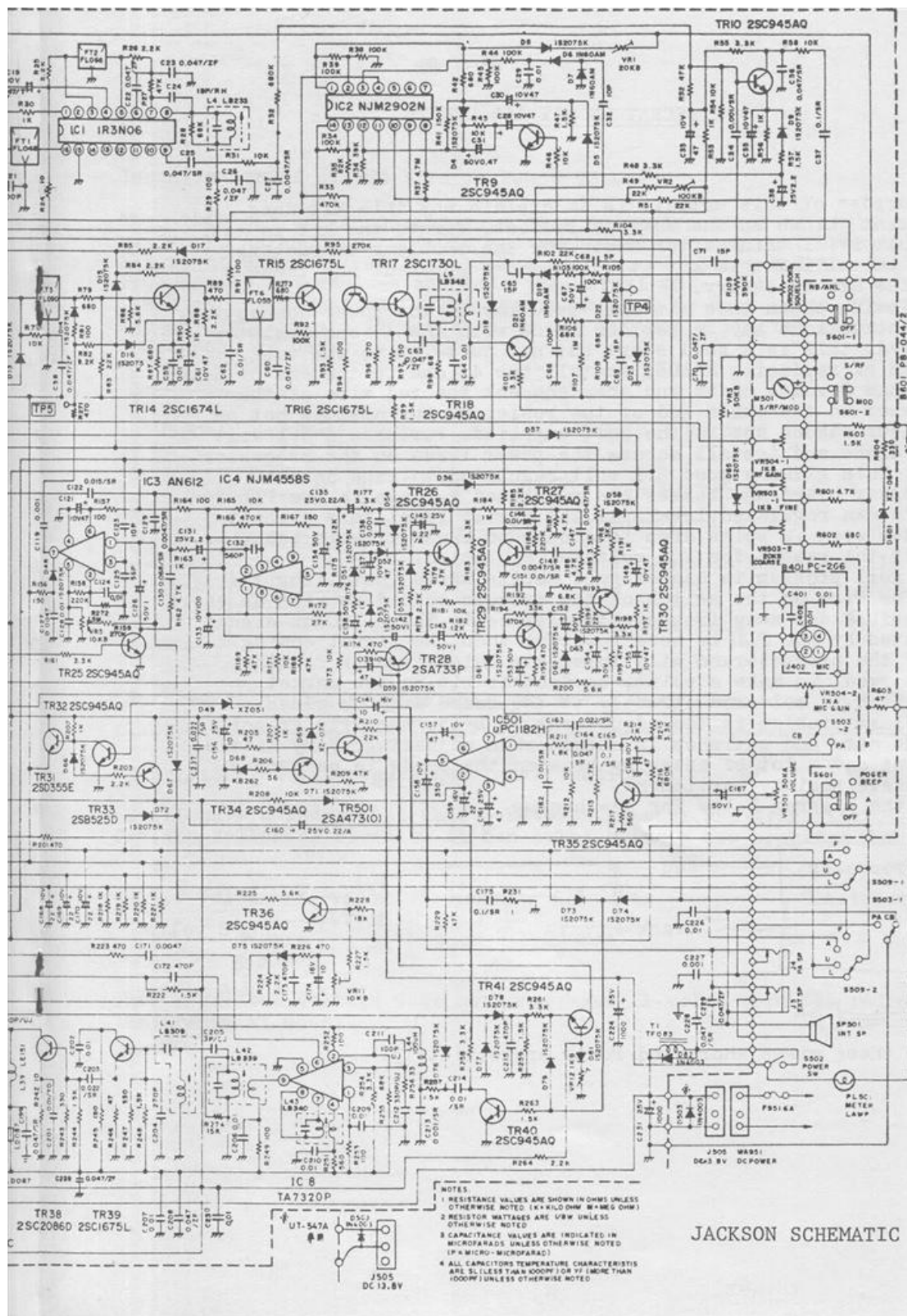
PC-904

PRESIDENT J.F.K. - Schematic



The diagram illustrates the internal circuitry of a PC-904 device. It is divided into two main sections by a dashed line. The left section contains two 2SC945AQ transistors, TR801 and TR802, which are part of a multi-stage amplifier or signal processor. TR801 is biased with a 50V supply and a 4.7K resistor (R804). TR802 is biased with a 150K resistor (R807). The right section features a 2SA733P transistor (TR501) and an IC801 uPC1028H microcontroller. TR501 is biased with a 50V supply and a 4.7K resistor (R504). The IC801 is biased with a 50V supply and a 4.7K resistor (R804). The circuit includes various resistors (R501-R509, R801-R812), capacitors (C501-C509, C801-C814), a transformer (LA204), and a diode (D501). Multiple input and output points are labeled with numbers 1 through 15 and 1 through 13.





SECRET CB KIT 146 UPDATE

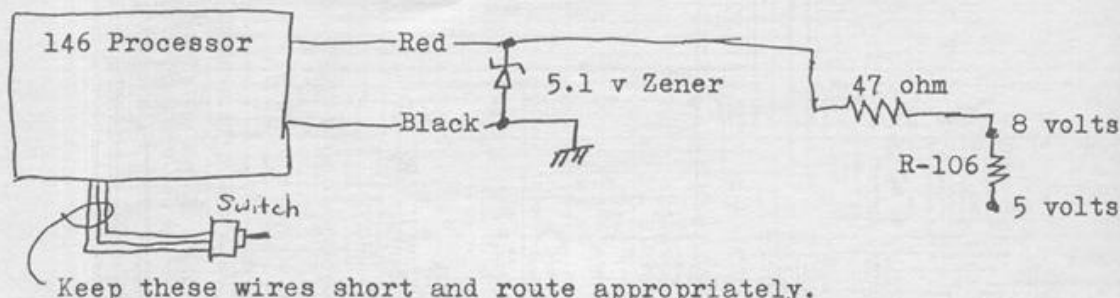
The purpose of this article is to explain why this kit does different things in the various radios. First, the kit is not at fault !!! I think after reviewing the problems encountered while installing this kit it will become apparent why these remedies are necessary.

The main reason this kit acts peculiar is the power connection. The instructions say to replace R-106 with the 47 ohm resistor supplied, this is a good start but not quite up to the task. Instead of replacing R-106, install the 47 ohm to the end of R-106 which has 8 volts on it and then connect the red wire of the processor to the other end of the resistor. The next is not on the instructions nor is the part supplied. Purchase a 5.1 volt zener diode and install across the power leads on the processor board. This gives a good 5.1 volt regulated voltage on the processor board and leaves the regulated voltage to the PLL at it's own regulated level. At the 5 volt level this circuit operates even .2 volts drop is enough to cause erratic behavior, that is the reason for the voltage regulation.

The next problem is one of good habits while installing the kit. The wire on the switch of the process should be kept as short as possible and away from the tripler coil. The 5.120Mhz signal generated by the PLL is more powerful than the signal coming out of the processor and will interfere unless proper routing is observed. To make a point, on another kit on the market the switch is soldered directly to the board with no wires.

The last problem is the adjustment of L-13, the tripler coil. Extreme care and patience is needed when adjusting. Very little movement and a lot of checking between the bands is necessary to achieve positive switching.

See the diagram below for new hookup.

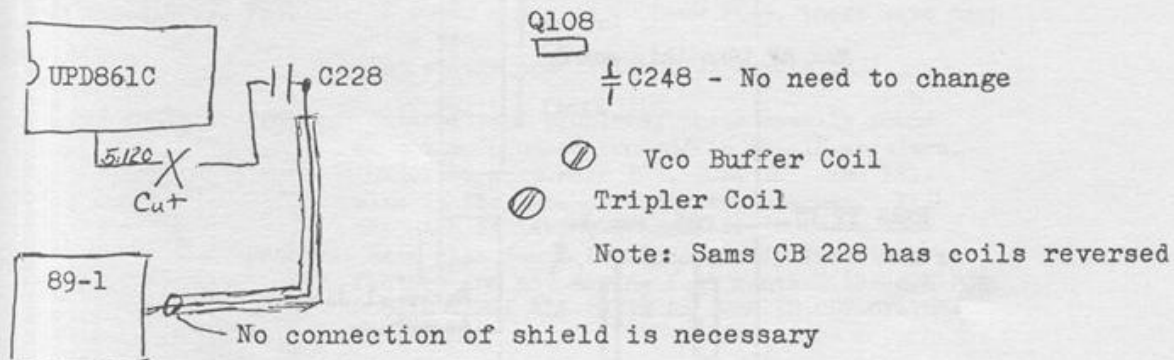


Installation of Kit 89-1 in JC Penny 981-6237

When this kit was installed according to instructions it would not work. Reread instructions and rechecked connections, everything was right but still no frequencies. After adjusting got the High frequencies but no Lows and lost the normal 40.

Had to experiment but found the right spot to hook in to. The kit may not lock-in all frequencies as the VCO has a limited range.

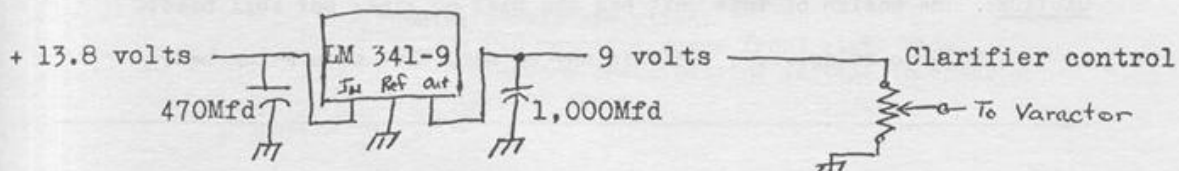
See hook up below.



No need to adjust tripler coil, it works just fine.

Clarifier Voltage regulation in all radioes.

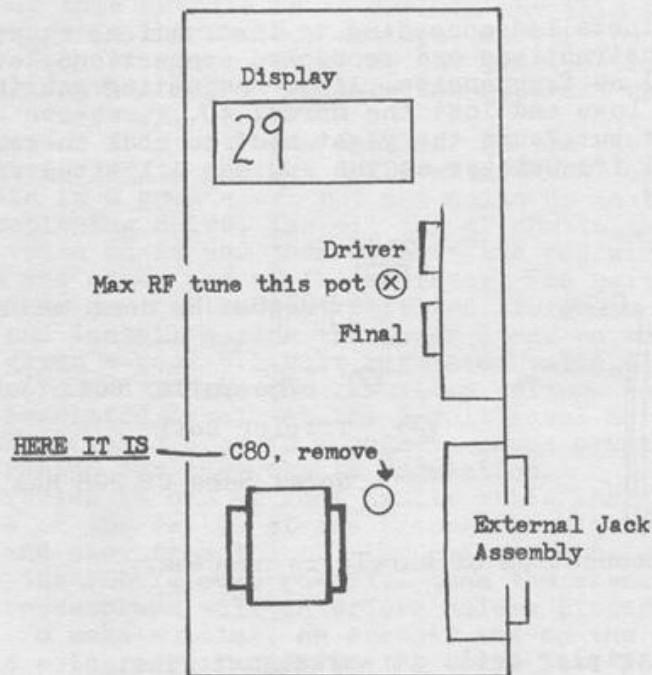
Still have a radio that shifts between receive and transmitt?
Try the following circuit. It has cured quite a few problems for me.



This regulated voltage does not drop even .1 volts when the radio is in the transmitt mode.

UPDATE: REALISTIC TRC-216

Where is the modulation limiter ? ? ? It must be pulled to make this unit do "it's thing".

UPDATE: ANTILAFIER Linear Amp.

CAUTION: The design of this unit has the bias on Final set full blast!
So - no swing.... This is why so many have been going bad.

UPDATE: MOSQUITO Linear Amp.

CAUTION: If the unit has blown RF Transistor, double-check the switch for high resistance. Many have gone bad and been the real reason for problem. Suggest removing CAREFULLY and hardwiring the unit permanently ON. (The reason for ON being underlined is that have received two units for repair that were wired OFF?) Fuse unit with a 3A fast blow.

HINTS/KINKS/GOOFS/TECH TIPS

Information utilized in this column doesn't receive a free volume. But have reviewed all info and that used other places have entitled the contributors to a 'Free-bie'.....

Cobra 19XS.... Problem: No TX, receive OK. Final, Driver, Buffer-OK.
CHECK C250, found bad.
Problem: No RX, transmit OK.DOUBLE-CHECK ALL UNITS
AS THIS IS OUT-OF-THE-BOX PROBLEM....
....VCO is out of Alignment...

Ham International UK 120FM.... Problem: Unit would not un-key!
Found L15 was out of alignment.
Only had 1W of carrier with problem.

Galaxy 2100... Problem: TX comes and goes. Check FL-3, these have been going bad.
Not enough modulation (?). Remove TR32.

Cobra 29GTL... Problem: Intermittent problems, these usually found on units 'bounced around' in the 18 wheelers.
CHECK: Cracks near IC3, IC2, IC1, and L21.
also in the area of audio transformer. Etch
The etch is taking a beating!
Problem: Have also found L21 incorrectly installed at factory and not making full contact through PCB.
DOUBLE-CHECK ALL UNITS AS THIS IS OUT-OF-THE-BOX PROBLEM...

Cobra 25LTD... Problem: Intermittent RX AUDIO.
CHECK for solder joint cracks on Ext Spkr Jack.

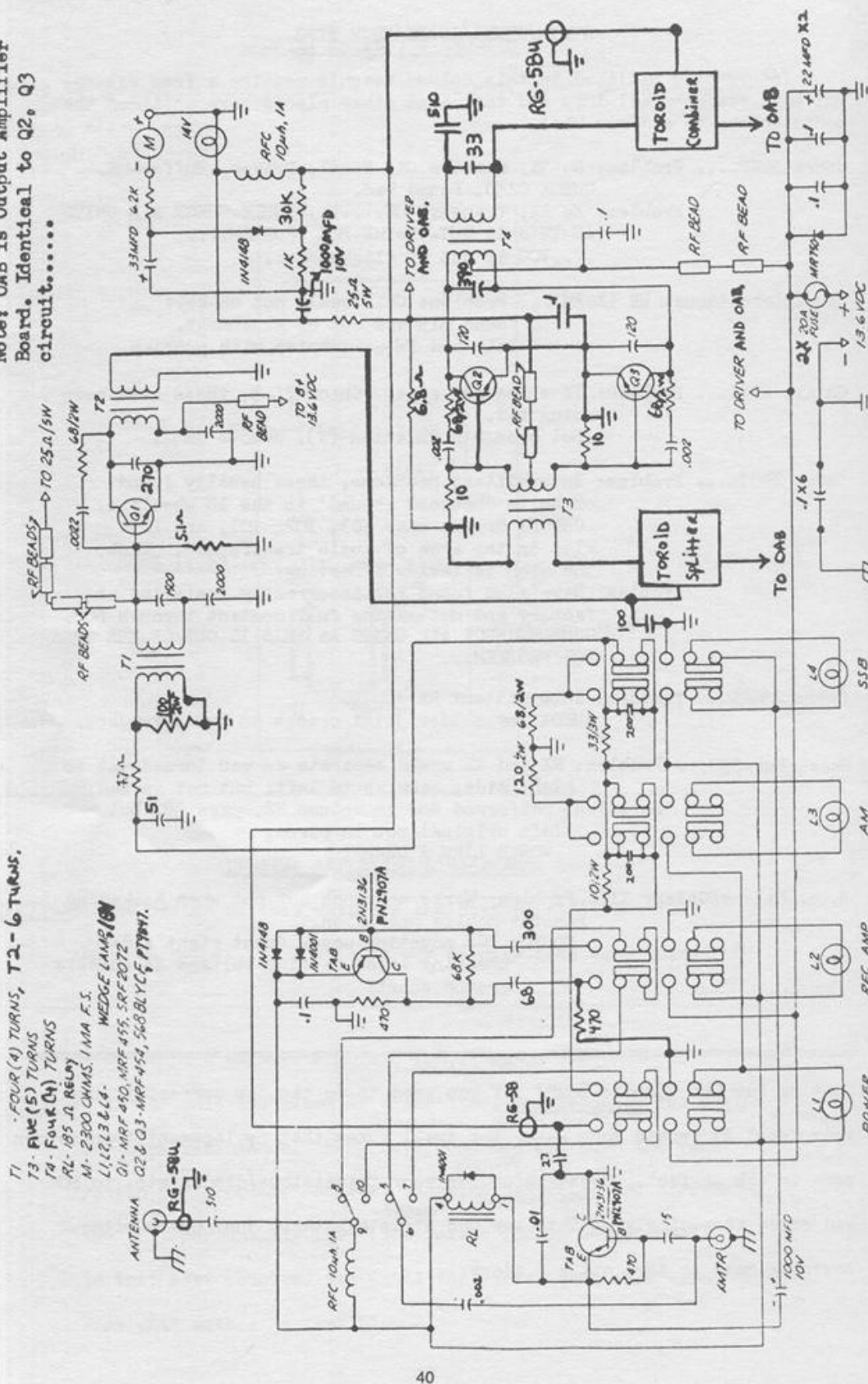
Excalibur SSB... Problem: RX and TX would separate as you turned pot to right side; same as to left; but not as bad.
Solution: performed mod in volume 22, page 38; but
left original pot in place.
WORKS LIKE A CHAMP!

Super Galaxy/Galaxy II...Problem: Works on bench but not when hooked up running mobile operation.
FOUND: PCB mounting screw front right side
breaking trace causing voltage to chassis
ground short!

Sorting Out The "Goodie-Box"? If you need to do the job correctly, try your local TV repair shop ----- the small boxes that replacement transistors come in are perfect. Cross-reference your transistors/diodes/etc. to ECG and store accordingly... This way can strip all those junk units without having a mess to sort out and store.....

TEXAS STAR 250, LINEAR SCHEMATIC

Note: OAB is Output Amplifier Board. Identical to Q2, Q3 circuit.....



TEXAS STAR 250, Installation/Lineup

Use #10 wire or larger (#8, #6, etc.) to connect unit directly to battery. Keep these wires as short as possible. Any length of coax can be used between the radio and unit. Attach an antenna that will handle at least 500 watts.

AM POWER LEVELS: Can be changed by pressing the orange and yellow buttons during AM transmissions.

- Examples:
- 1-For lowest power output, press both orange and yellow.
 - 2-For second power level, press yellow only.
 - 3-For third power level, press orange only.
 - 4-For highest power level, leave both orange and yellow off.
- Use these combinations during AM transmission only.

SSB TRANSMISSIONS: Press the yellow button only; this will activate the delay circuit so the relay will not chatter with your voice. Best SSB operation is obtained with only the yellow button depressed.

RECEIVE AMPLIFIER: Press the white button to turn on the receive amplifier. This will increase the receive range approximately 10dB. The receive amplifier operates independently of the power button. If you're using this on SSB signals, press the yellow button to keep the relay from chattering during your SSB transmissions.

METER: It lights only during amplified transmissions and is an RF relative output indicator with a reading of 5 to 8 being normal during highest power output.

SPECIFIC TUNEUP

REALISTIC TRC-88 (21-1610): 1 Watt/3 Channel Walkie-Talkie.

This is a CHEAP, STRIPPED DESIGN, NO-FRILLS unit! "Tune-up",
Tune-up; RX: L9, T1, T2, T3, T4, and T5. Try increasing value of C21
(3.3/50), for ANL improvement. TX: T7, L7, L8, L4, and L2. "Tune TX
using field strength meter". R50 may be changed to lower value for
increased RF output.

CRC 100; Installation on Excalibur SSB
by L.S.

SPECIAL NOTE: When purchasing CRC 100 for the Excalibur - SPECIFY as such!

"A specific CRC 100 is made for the Excalibur with an isolated case. The factory does make them.... NO PRICE INCREASE!"

1. See Figure 1, locate J58 on left side of radio.
2. What we have found easiest to do was to put a test point here (left hand side). Drilled a small hole for a solid/stiff/insulated piece of wire. Inserted thru hole, soldered on bottom to J58. New TP3....
3. Run the four (4) wires from the CRC 100 through a hole in the back of radio.
4. Hook-up the Red wire to a switched 13.8VDC. Put the Black wire on a good CHASSIS ground.
5. The shielded cable goes over to where new test point installed. Hook center to test point, shield is grounded to case of L44.

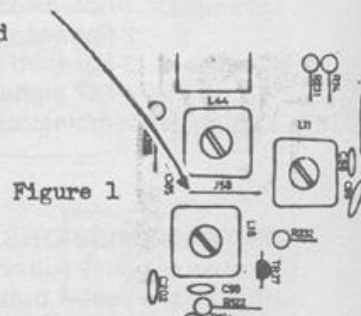


Figure 1

- * If the meter oscillates on high power, or "flickers" when you talk. The transmitter stage must be re-adjusted. L-42 is the coil to adjust to stop this.

Excalibur SSB (NEW) ... Errors - Factory Manual
by L.S.

Page 8, Section 3, Part E. (Off-Set Frequency)

- 4) 16.040MHz should be 16.490MHz.
- 16.0425MHz should be 16.4925MHz.
- 16.0375MHz should be 16.4875MHz.

Page 10, Section 5, Part G.

- 2) 26.945MHz should be 26.495MHz

"NEW" - Excalibur SSB (Export); 10KHz Jump Mod.
by L.S.

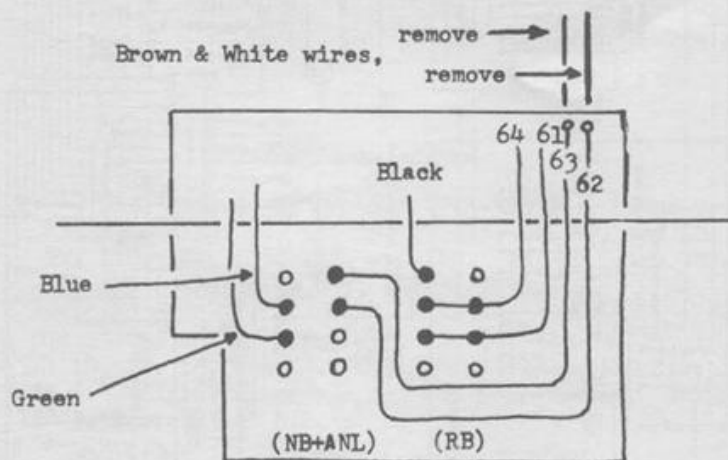
The "new" Excalibur SSB now has a Roger Beep switch and the ANL/NB incorporated on single switch. (Refer to Vol. 22, page 37 for "old Ex-SSB function selector PCB.")

Conversion of NB/ANL switch to 10KHz Jump switch: USE DRAWING BELOW FOR GUIDE

1. Follow the Blue and Green wires from the NB+ANL switch down to the MAIN PCB.

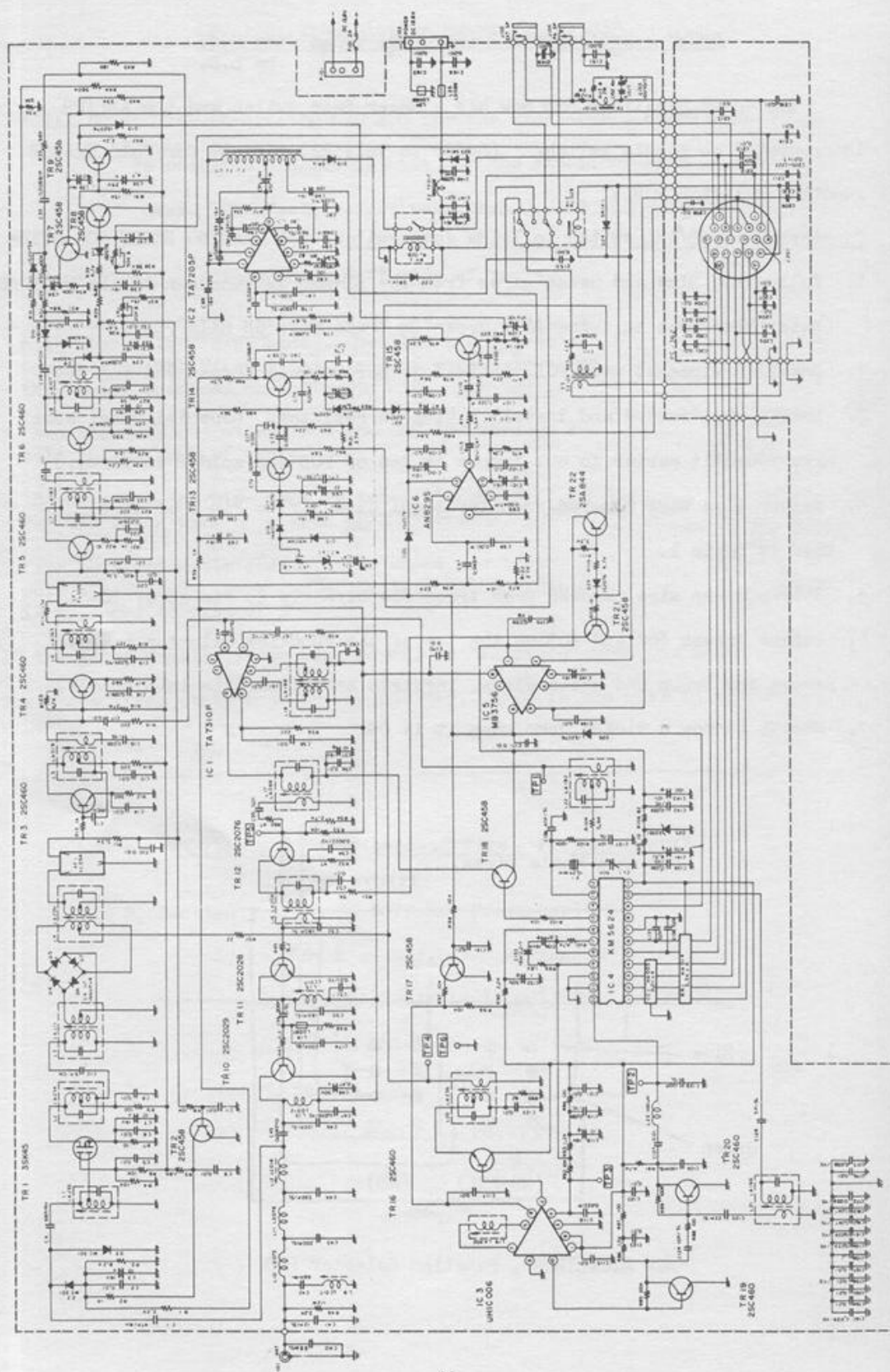
(Note: Blue goes to trace #61, Green to trace #64; ON MAIN PCB.)

2. Unsolder wires at main PCB; install jumper between traces #61 and #64.
3. Locate J49; remove and install a 4.3K $\frac{1}{4}$ W resistor. (Special Note: some have found it easier to cut jumper on top of PCB and solder to wires.)
4. Solder Blue wire removed from trace #61 directly to Pin 9 of IC-6; this is Logic 1.
5. Solder Green wire removed from trace #64 directly to Pin 16 of IC-6.
6. Locate traces #62 and #63 on the top of the Function Selector board. Remove the Brown and White wires, insulate separately-tie into bundle.
7. NB+ANL is now a +10KHz jump when it is ON.

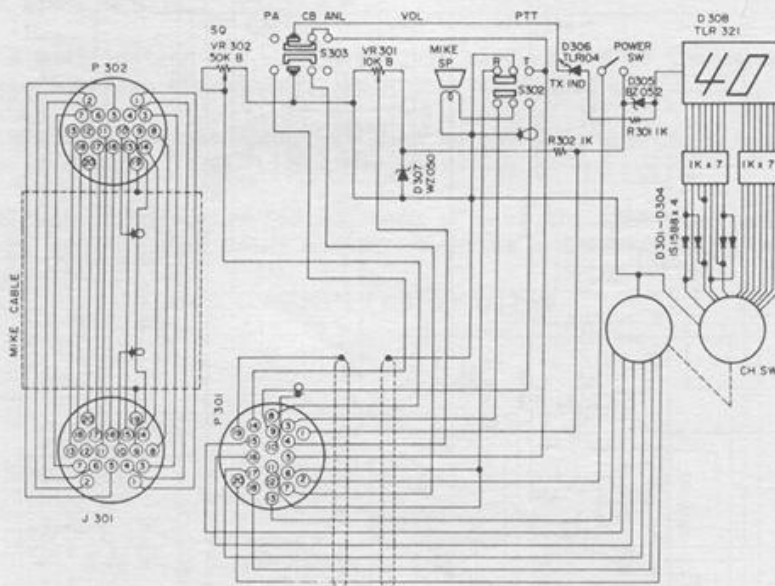


"NEW EXCALIBUR", Function Selector PCB

COBRA 62XR Schematic



COBRA 62XLR Schematic, (Cont.)



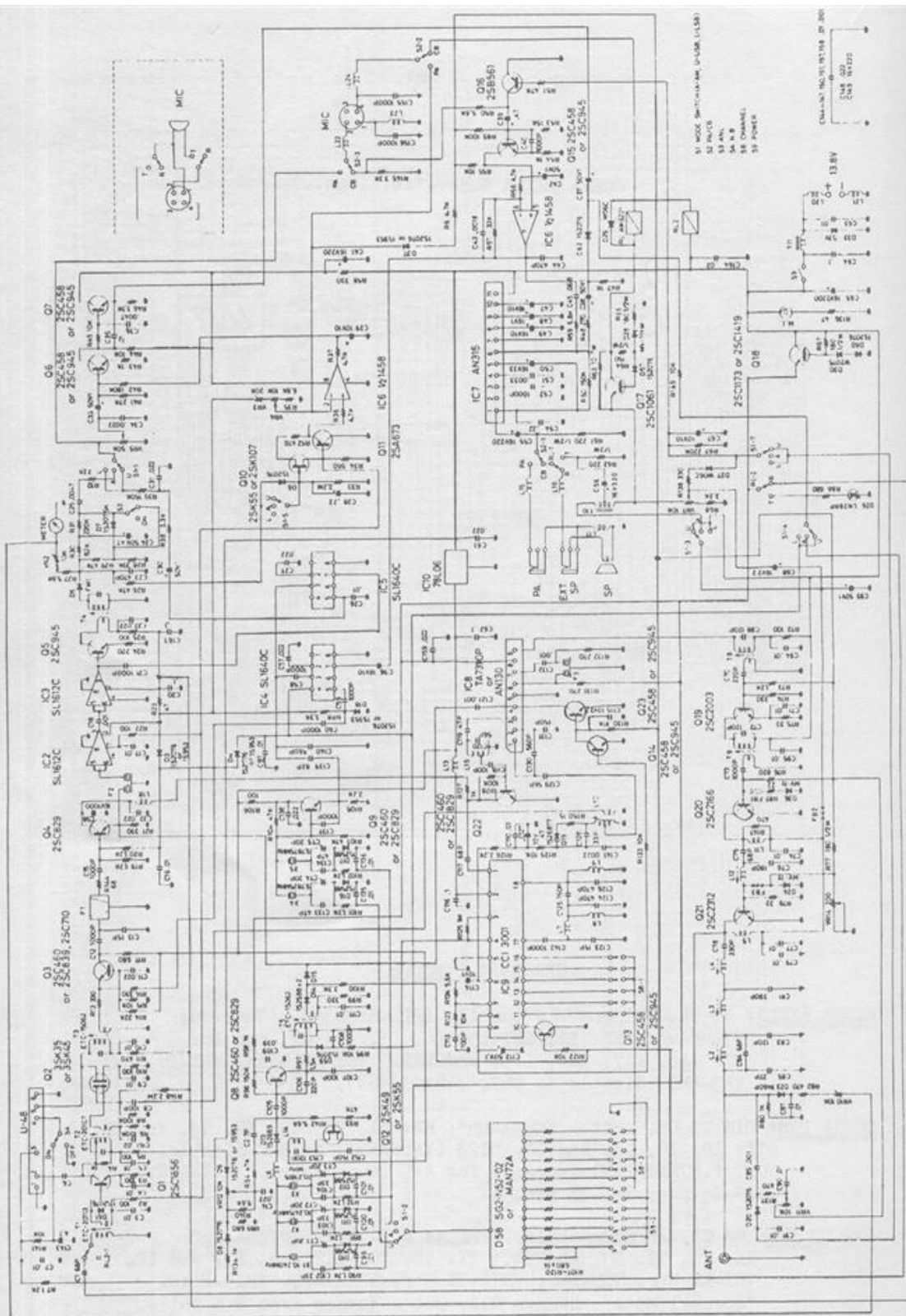
SPECIFIC TUNEUPS

COBRA 62XLR; 40 Ch. "Hide-A-Way" mobile (PLL-KM5624). Tune-up;
"Tune-up"; RX: L1, L2, L3, L4, L5, L6, L7, and L8.
TX: L18, L17, L16, L15, and L12. VR1-RF Gain, VR2-Sq Rng,
VR3-AMC (disable is C67, .47Mfd/50V).

COBRA 19M; Old 23 Ch. unit. "Tune-up"; RX: T1, T2, T3, T4, T5, and T6.
TX: L9, L8, L5, and L3. C73 (1Mfd/50V) is AMC disable.
C27 (.47Mfd/16V) increase for ANL improvement. VR1-AGC,
VR4-Sq Rng, VR5-TX Mtr.

SBE LCMS-4: 40 Ch. AM/SSB mobile. (PLL is CCI-3001) "Tune-up":
RX: T1, T2, T3, and T4. TX: T8, T9, L12, L4, L3, and L2.
VR2-RX Mtr, VR7-AMC, VR10-TX Mtr, VR11-ALC, VR14-Bias.
"Special Note" Remove Q16, put a jumper from B-E holes.

SEE ICMS-4 Schematic



REALISTIC PRO-2003 PROGRAMMABLE SCANNER - SCAN SPEED CHANGE by LESCOM

If you own a PRO-2003, you are aware of it's snail paced scan speed.
This modification will increase rate at a factor determined by you.

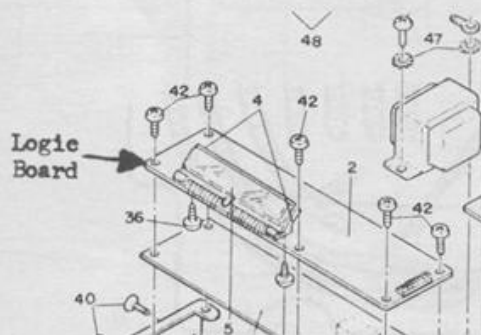
The only drawback of this is that the scan speed change is directly proportional to the delay period. The faster the scan, shorter the delay time.

In the modification the microprocessor clock speed is increased.
By this increase everything take a shorter time.

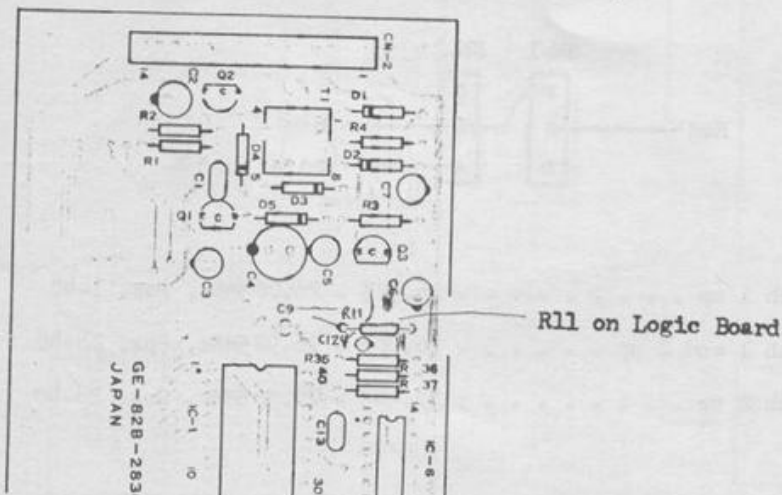
R11 (47K ohms) is the part that must be changed, suggest a nominal value of 27K $\frac{1}{4}$ W.

See illustrations below for location of part that must be changed;
be very careful when doing modification; as a screw-up is going to cost\$\$\$\$

EXPLODED VIEW

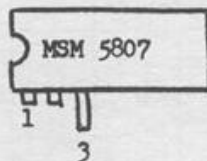


LOGIC P.C.BOARD (TOP VIEW)



AUDIOVOX, Mdl. MCB-750: Fo Mod.
by M.M.

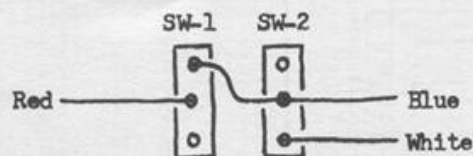
1. Remove covers from PLL unit.
2. Locate pins 1 and 3 of PLL chip (MSM5807).



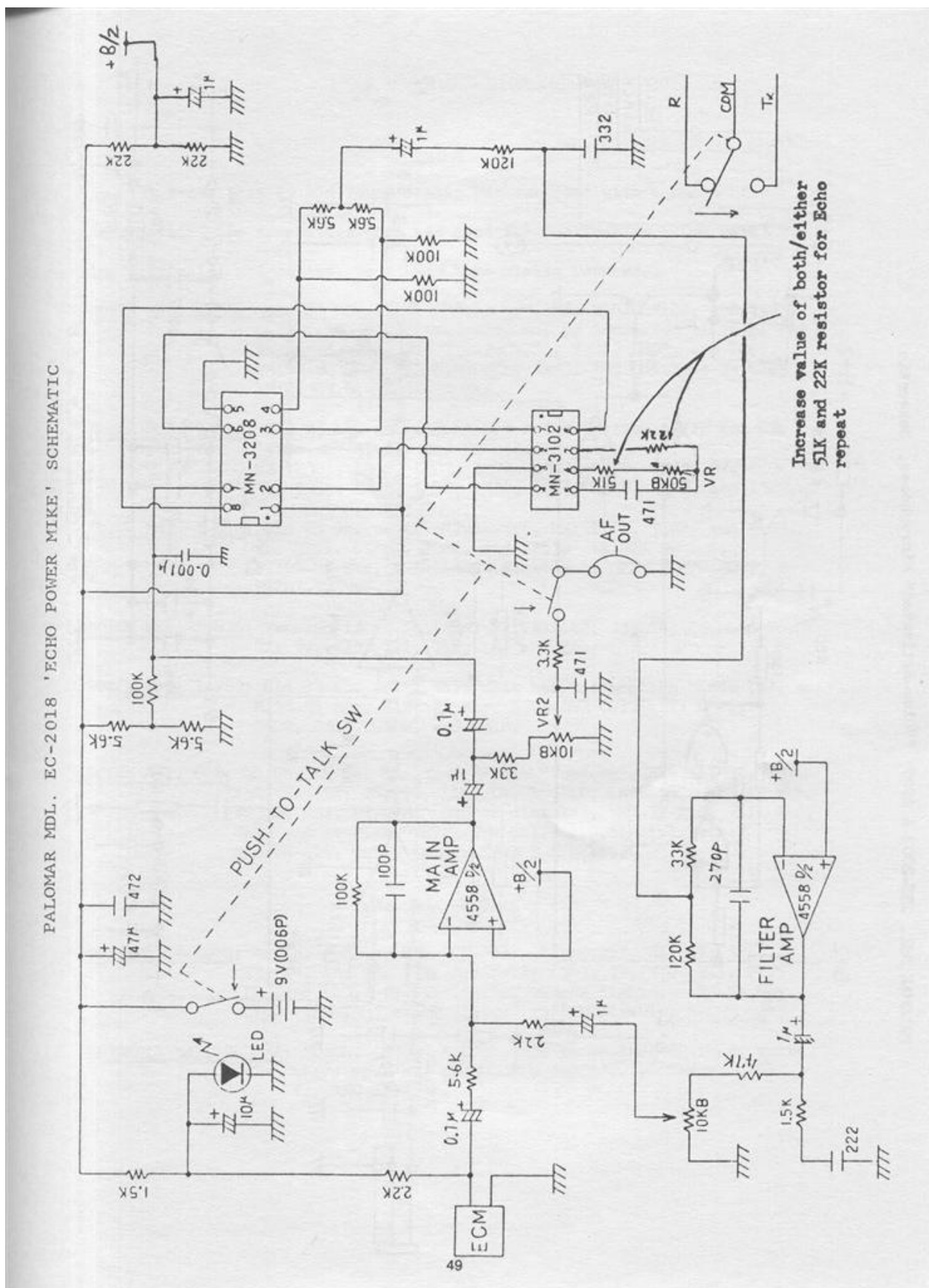
3. Clip pin 3 close to PCB and bend leg upward, CAREFULLY.
4. Solder 8" piece of wire to each, follow color code!
Pin 1 - White, Pin 3 - Red.
5. Turn unit over and find indicated trace (A) on PCB under channel selector.



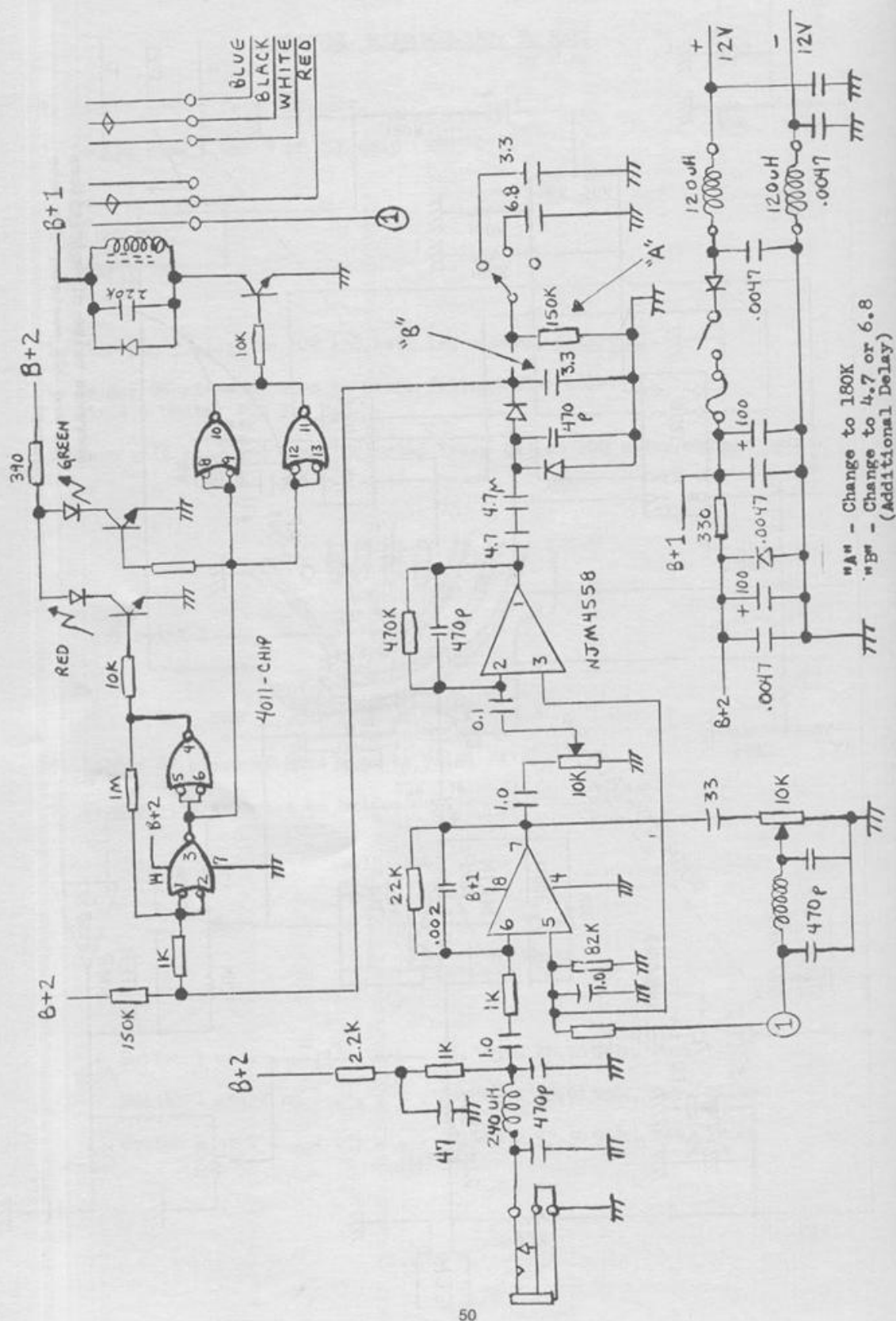
6. Solder 8" piece of Blue wire to Point 'A'.
7. Wire up two switches as below:



Switch 1 up 26.325 - 26.765MHz, Pos. 1-40
 Switch 1 and 2 up 26.805 - 26.925MHz, Pos. 28-40
 Switch 2 up 27.445 - 27.565MHz, Pos. 28-40



PALOMAR Md. CHE-2003 & 2007 "Voice-Activated" Microphones, Schematic



ROYCE

It seems that an old Royce dealer has surfaced with a bunch of information; the schematics were not good for publication. (We need the originals; not copies; so if you have please forward.)

ROYCE Mdl. 1-580; Old 23 Ch. unit. "Tune-up", RX: T101, T102, and T103. C115 (.33Mfd/electrolytic) may be increased in value for improved ANL. TX: T201, CT201, T202, L203, and L204. VR103-Sq Rng, VR104-RX Mtr, VR201-AMC (disable is C225 1Mfd/50V.), VR202-TX Mtr.

ROYCE Mdl. 1-614; Old 23 Ch. unit. This was a combination AM/FM and CB. "Tune-up" is for the CB section only! RX: L301, L302, L303, L304, L305, L306, and L307. TX: L319, L318, L317, L316, L315, L314, L309, and L320.

ROYCE Mdl. 1-610; Old 23 Ch. unit. "Tune-up", RX: T101, T102, and T103. TX: T201, CT201, T202, and L203. VR102- Sq Rng, VR104-RX Mtr, VR201-AMC (disable is C225, 1MFD/50V), VR202-TX Mtr.

ROYCE Mdl. 1-636; Tune-up is as follows; RX: T1, T2, T3, T4, T5, and T6. TX: T9, T10, T11, T12, L6, and L4.

ROYCE Mdl. 1-700; Old 23 Ch. unit. This unit has the weather bands (2). R135-Sq Rng, R138-RX Mtr, R505-SWR Cal. TX: C502, C507, C511, C520, and C518.

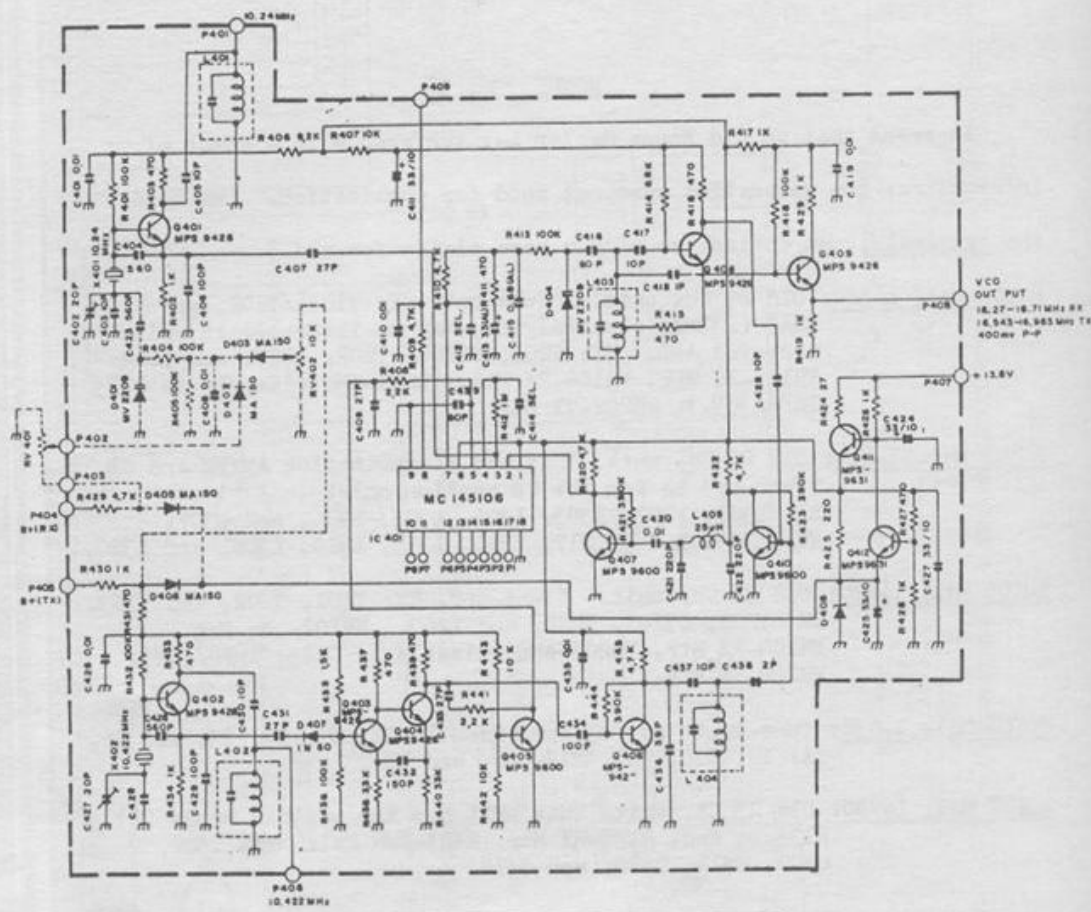
ROYCE Mdl. 642; 40 Ch. AM/SSB "Deluxe" Base. "Tune-up", RX: T1, T2, T3, and T4. TX: T8, T9, L12, L4, L3, L2, and CT6. VR2-RX Mtr, VR3-Sq Rng, VR7-AMC (C68 is disable), VR9-TX Mtr, VR11-ALC, VR13 and 14-Bias, VR9/2-SWR Cal.Special Note: Remove Q16, put a jumper from B-E holes.

SPECIFIC TUNEUPS

OMNIVOX CB-1000; 40 Ch. Mobile (PLL-IC7131). "Tune-up", RX: T1, T2, T3, T4, and T5. TX: Carefully (T6), T9, T10, T11, T7, L7, and L10. VR3-TX lights, VR4-RX lights, VR5-Sq Rng. C207 (1Mfd/50V electrolytic) is AMC disable.

MOTOROLA Mdl. T4025A; 40 Ch. (00S09-PLL). This is another of those units where you 'got it or, you don't'.... Remove Q201 for AMC disable.

ALARON B-4085 PLL Schematic



ALARON Md1. B-4085; 40 Ch. Mobile (MC145106-PLL) B I N G O

Finally, an AM unit with "highly modifiable" PLL chip. BUT, just try and find one! Some screwdriver jockey might have one laying around worth salvaging, if you're lucky.

"Tune-up", RX: L101, L102, L103, L104, L105, L106, and L108. "See dotted line upper right side of schematic for optional RF Gain circuitry. All such lines are for this." C127 may be increased in value for ANL improvement.
RV101-Sq Rng, RV102-RX Mtr, RV202-AMC (Disable is C210), RV310- TX Mtr.
TX: L301 (Carefully), L302, L303, L303, L304, L305, L306, L307, and L308. NOTE: Some units had 12W finals and could be pushed!

"Modification", Check out the program chart on schematic page - unit only plays with Pins 10-17. But Pin 9 is held at logic 0; take to a logic 1; and see what happens. D404, varactor in VCO will probably have to be changed to "Super Diode" for wide Fo coverage. X402 can also be changed.

I don't have access to a unit, so no telling what unit can really do.....

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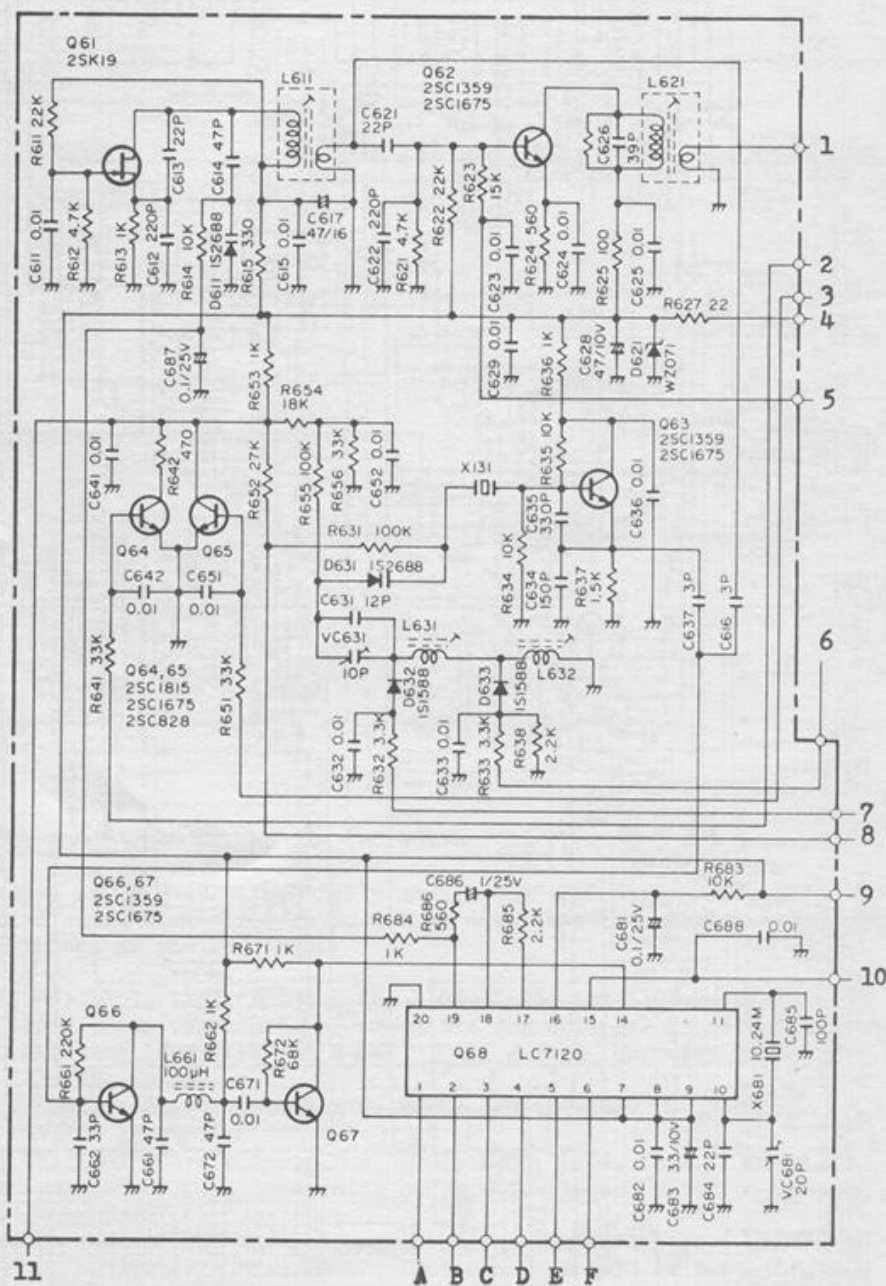
FIG. 381

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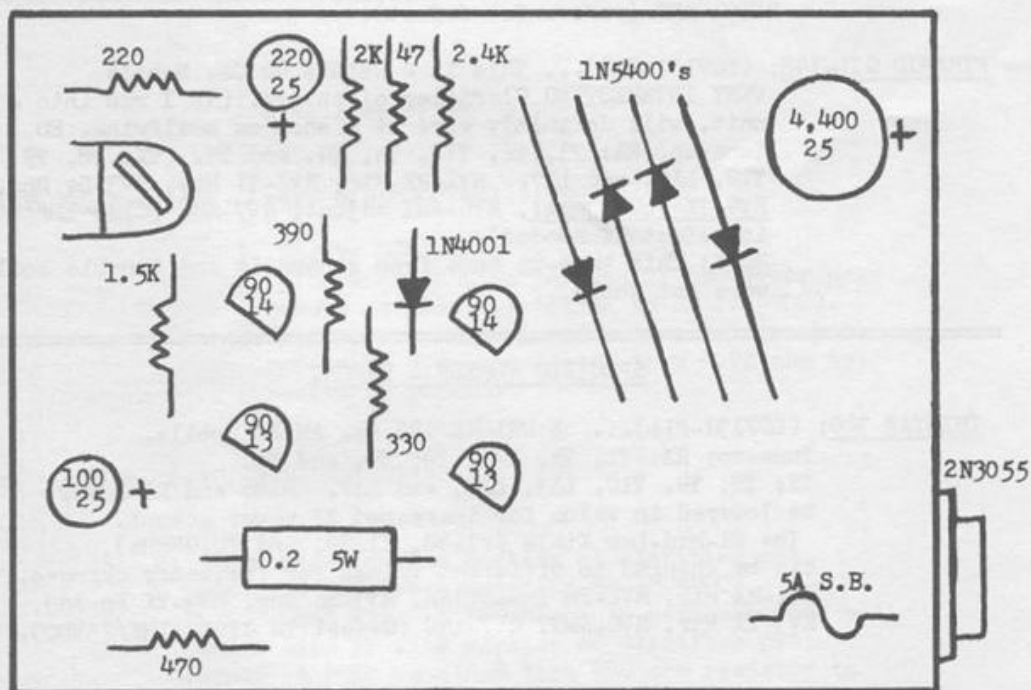
<

ROBYN SB-540D PLL Schematic



ROBYN SB-540D PLL PCB Wiring Diagram-Locator

<u>Reference #</u>	<u>To...</u>
1	C630
2.	LSB contact, S4-5
3	AM/USB contact, S4-5
4.	junction C963/R962
5	VR311, C315, S4-3 (AM contact, and R584
6.	R576, C181, R181, R150, S4-1 (AM contact)
7	S4-4 (USB contact), R591
8.	S5 (ClaroMic Switch) center contact external position
9	C997, L991, VR641, and R471
10.	R472
11	S5 (ClaroMic Switch) center contact internal position
A.	R709
B	R708
C.	R707
D	R706
E.	R705
F	R704

VANCO Mdl.-PS-12-5Regulated Power Supply, PCB Parts/Layout Identification

9013 and 9014 transistors are a direct cross to ECG-123AP

SPECIFIC TUNEUPS

KRACO KCB4007: "Latest offering from Kraco. Quality poor, unit should not have been marketed. Audio is especially of low performance even after tuneup!" (JV)
 RV1-RX lights, RV2-TX lights, RV3-AMC, RV4-Sq Rng.
 Will have to spread/compress L7, L6, L5, L4, and L3; for max forward. (LC7131-PLL)
 (NOTE: Also see Vol. 25, page 20; for additional information.)

REALISTIC TRC474: (TC9106BP-PLL)...2SC2166 RF Final (12.5W/4A), but 7W is about nominal at 27MHz. VR1-S Mtr, VR2-Sq Rng, VR3-TX Mtr (VR3 is not labeled but in unit, look forward from antenna connector.), VR4-AMC. Tune L8, and L9 for max forward, L9 has no core in most units.

MIDLAND 77-104: (LC7132-PLL)...Tune-up; RX: L1, L2, L3, L4, and L5.
 TX: L8, L9, L11, and L12. C110 (1Mf/50VDC) may be increased in value for ANL improvement. RV1-RX lights, RV2-TX lights, RV3-Sq Rng, RV4-AMC (D9 is defeat if needed).

MIDLAND 77-145A (LC7132-PLL)...Tune-up; TX: L101, L102, L103, L104, and L105. C122 (1Mf/50VDC) may be increased in value for an improvement in ANL. TX: L202, L203, L204, L206, and L207. RV101-RX lights, RV102-TX lights, RV103-Sq Rng, RV104-AMC (defeat is C156, 1Mf/50VDC) if needed.

MIDLAND 76-300: (LC7131-PLL)..This is a 40 Ch. Base Station, stripped no-frills unit. Tune-up; RX: L101, L102, L108, L103, L104, L105, L106, and L107. TX: L301, L302, L303, L304, L305, and L306. RV101-Sq Rng, RV102-RX Mtr, RV202-TX Mtr, RV201-AMC (remove for defeat).

PYRAMID GTL-148: (LC7131-PLL)... This is a DELUXE 40 Ch. Mobile.
 VERY INTERESTING Clarifier circuitry..(If I run into a unit, will definitely give it a shot on modifying. ED.)
 Tune-up; RX: T1, T2, T13, T3, T4, and T5. TX: T8, T9, T10, L16, and L17. RV1-RX Mtr, RV2-TX Mtr, RV3-Sq Rng, RV4-TX Fo Adjust!, RV6-AWI adjust, RV7-AMC (C120 1Mf/25VDC is defeat if needed).
 NOTE: This tune-up done from schematic and tunable coils were not shown..

SPECIFIC TUNEUP - EXPORT

TRISTAR 340: (LC7131-PLL)... A DELUXE 120 Ch. AM/FM mobile.
 Tune-up; RX: T1, T2, T13, T3, T4, and T5.
 TX: T8, T9, T10, L15, L16, and L17. R146 and R148 may be lowered in value for increased RF power output.
 The Hi-Mid-Low Xtals (21.48, 21.39, and 20.94MHz), can be changed to different values for frequency changes.
 RV1-RX Mtr, RV2-FM Insertion, RV3-Sq Rng, RV4-TX Fo Adj, RV5-TX Mtr, RV6-AWI, RV7-AMC (defeat is C120, 1Mf/25VDC).

Tristar 120 (Export); AM Only 26.515-27.855 (IC7120-PLL)
by J.V.

This is a cheap; no-frills unit. Why, the PA switch was mounted on the side of radio is a mystery? Should have just left it off.

Tune-up: RV1-RX lights, RV2-Sq Rng, RV3-AMC, RV4-TX lights.

All RF power tuning coils are non-adjustable, spread/compress to tune.

"Haven't found any units out of box doing less than 4W, average 5W.

Good unit for the size and especially price."

UPDATES

Superstar 120FM: AMC disable is D-11.

Tristar 240: Re; Vol 25, page 19 - AMC adjust was omitted, RV7 (disable is R106). "Haven't had to disable, as 100% reached with control on all units checked." (JV)

Ham International UK 120FM: Be careful with L15. If out of alignment unit will not un-key! Will only have about 1W of carrier. (JV)

Clarifier 'FINE' Slides
by R.T.

Superstar 360FM, +1KHz. (ref. S/N:63002491):

1. Remove D84.
2. Blue wire on fine portion of clarifier pot; remove at PCB; resoldered to B+ (8.4VDC).
3. Red wire on fine portion of clarifier pot; remove at PCB; resoldered thru 4.7K ohm in series to ground.

Jackson, +2.2KHz. (ref. S/N:63005765):

1. Remove D58.
2. Brown wire on fine portion at clarifier pot; remove at PCB; resoldered to B+ (8.4VDC).
NOTE: Front edge of PCB has a B+ path-check it out!
3. White wire on fine portion of clarifier pot; remove at PCB; resolder thru 470 ohm resistor to ground.

POCKET ROCKET MODULATOR

Another of those small R.F. amplifiers that are hitting the market. This one is advertised as for the 28-30MHz range of operation. Other specs: 80W rating, a receive amp, and (7 year warranty, read the fine print here... must be returned to dealer/distributor for this?). FINALLY, a company that knows how to print an Owner's Manual.....ALL information needed is contained within: Operation, Schematic, Parts List, and Trouble-Shooting charts. NOTE the specifications as to RF input to prevent any problems, as this unit is in the \$125+ range from what I understand. (Specs, illustrations, are below - skem. next page.)

Specs: RF Output 40-80W/40-50W Optimum for best AM modulation
 40W PEP SSB
 60-80W FM

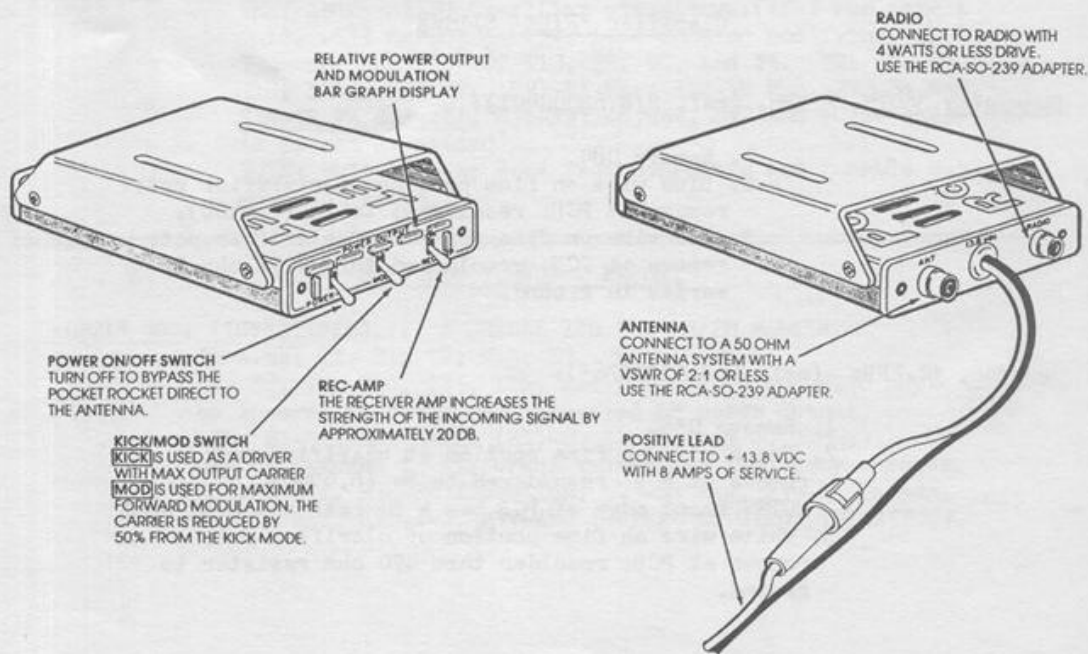
Drive 4W Max/2W AM Optimum
 6W PEP SSB Optimum

Modes AM/FM/SSB, automatic delay for SSB

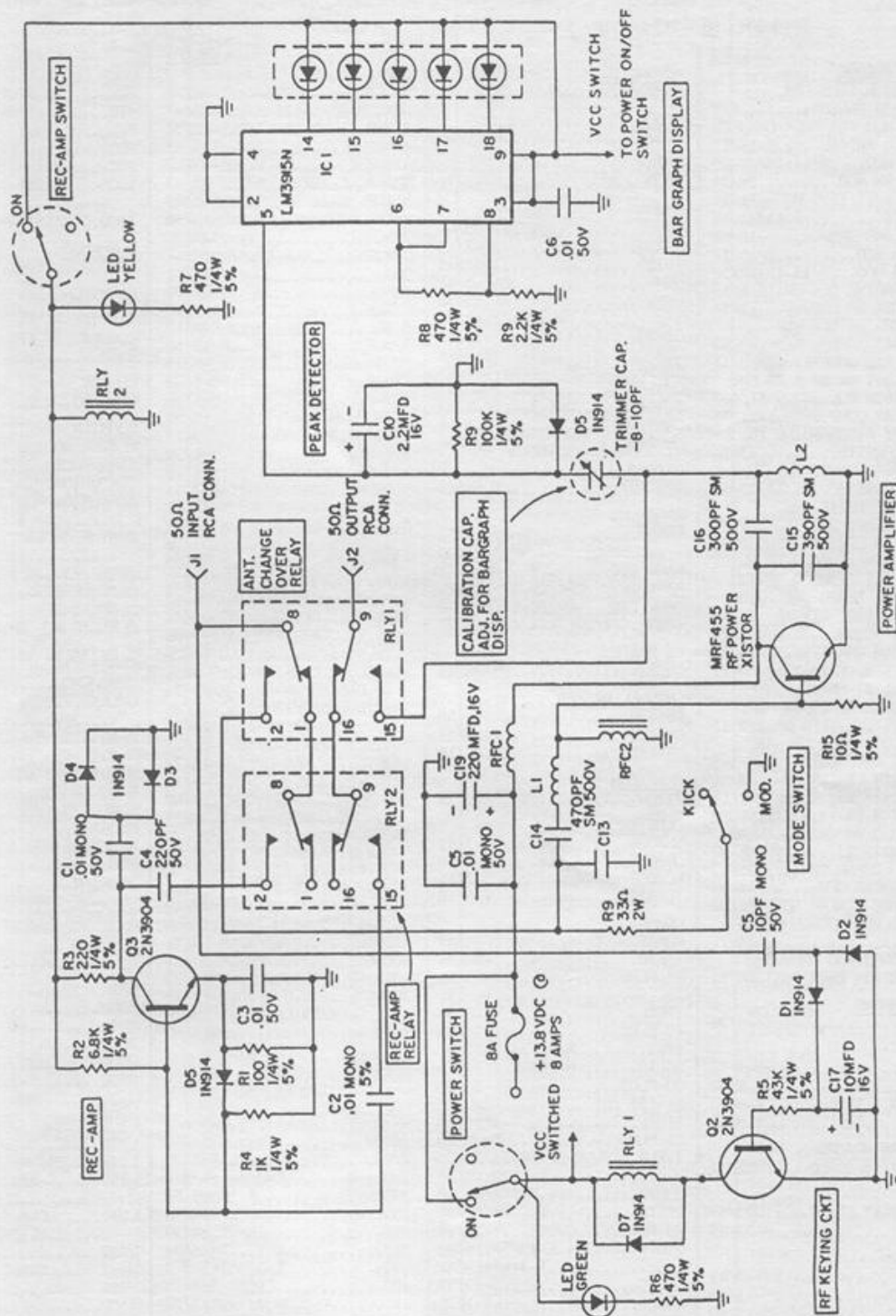
RF Gain ... 13DB Min

Power Requirement 13.8VDC at 7 Amps. (18VDC Max).

MAXIMUM SWR ALLOWED: 3:1



POCKET ROCKET SCHEMATIC



SECRET CB INDEX - VOLUMES 1 THRU 26

CODES: A - ALIGNMENT PROCEDURE; C - CONVERSION; FC - FREQUENCY CHART; M - MISCELLANEOUS INFORMATION;
S - SLIDE; SC - SCHEMATIC; T - TUNE UP; TB - TALK BACK

MISCELLANEOUS	VOL/PG	AUTOMATIC	VOL/PG	COBRA (cont.)	VOL/PG	COLT (cont.)	VOL/PG
CONVERSION TIPS FOR		CBH2265.....C&T-3/41		39XLR.....SC-26/44;T-26/27		485.....C-4/49;8/18;T-6/19	
ALL SSB RADIOS.....9/7		AZDEN		40X.....M-25/16;26/27;SC-26/43		510.....A-18/44-45;SC-17/45	
"A" CH MOD FOR "RC" CHANNEL		PCS2000.....M-21/39		45XLR.....C-18/67;C&T-12/34		.....T-17/42,45	
ON PLL RADIOS.....9/16-17		BETA		46XLR.....T-3/43		800.....C&T-3/4-7;10/58	
MB8719 MOD.....8/15;10/25-26		23 DELUXE.....T-16/32		47XLR.....C&T-3/45		870.....SC-21/53	
MB8719 RX MOD.....26/34		BOWMAN		50XLR.....C-16/53;18/22;T-3/43		1000.....C&S&T-3/8-15;C-8/18	
MB8719 w/11.1125 MOD.....11/15		CB555.....T-3/44		55XLR.....C-16/53,18/22;T-3/43		.....T-3/58	
UPDATE.....14/11-12		CB750.....T-2/43		66GTL.....T-10/58		1200.C-8/18;T-9/30-31;16/55	
MB8719 5KC DROP.....18/68		CB755.....T-14/44		77X.....T-9/30		COMMANDO	
PLL OIA MOD.....9/15-17		CBH900.....C&T-3/44		78X.....T-4/49;6/19;8/44		2340.....T-1/21	
PLL O2A MOD.....3/13-15;18/56		CB910.....C-11/41;13/58		85.....T-15/61		COMMTRON	
BROADBANDING O2A UNITS.4/55		.....T-12/21;3/44		86.....M-19/52		XII.....A-18/44-45;SC-17/45	
23 CH O2A AM CONV.....12/32		CB920.....C-14/43;T-1/21;14/43		86XLR.....C&T-3/45		CONNEX	
TECH TIPS on the 858		CB930.....C-3/21;T-1/21;3/44		87GTL.....T-6/19		3300.....C-26/42;M-23/6	
CHASSIS.10/55;19/59,60,67		CB950.....C-5/39;S-4/49;T-3/43		87XLR.....M-19/52		CONVOY	
UNIDEN 858 UPDATE.....9/8-11		CBH990.....T-5/43		89GTL.....T-6/18		CON-400.....C&T-3/58	
How to get on 28 & 29 MHz		CB9600.....C&T-3/41;T-2/42		132-A.....S-1/28		COURIER	
w/UPD858 PLL.....11/4-7		CB9940.....T-3/44		132-B.....S-1/53		BLAZER 40D.....T-3/58	
UPD858 AM CONV.....11/35		CB9950.....T-10/58		132XLR.....C-4/47;T-3/45;16/39		CARAVELLE.....T-18/65	
Receiver WIDEBANDING for		BRISTOL		C-19/52;S-10/45-46;15/15-17		CENTURION.....S-1/61;5/55	
858 CHASSIS.....13/34		BCB-2271.....T-16/41		135-A.....S-1/28		CENTURION PLL.....C-1/31,61-62	
THUMBWHEEL CONV. for		BROWNING		135-B.....C-1/53;S-1/29		.....C-5/57	
858 CHASSIS.....13/35-57		BARON.....S-15/15-17		135XLR.....C&S-4/38;10/43-46		CENTURION 40D...C&S&T-10/53	
How to increase ANL		.....M-19/52;21/16		C-18/40-41;S-8/38;15/15-17		.....T-13/10	
efficiency 70%.....11/8		MARK III.....C-6/28		C-16/39;M-19/52;T-3/45;4/38		CHIEF 23.....T-18/65	
HAM RADIO CRYSTAL SELECTOR;		MARK IV.....C-6/29-30;7/8-14		138.....S-1/28		CLASSIC II.....T-18/65	
DRAKE TR4; HEATHKIT HW101		MARK IVA.....C-7/8-14;14/5-6		138XLR.....C&S&T-1/20-23		CLASSIC III.....T-18/65	
& SB104; KENWOOD TS-520		SABRE.C-1/27;T-14/42;M19/52		139.....S-1/30;T-1/20		CLASSIC PLL 40...C&T-10/59	
& 820S; TEMPO 1 & 2020;		CB MASTER		139XLR.....C&S&T-1/20-23		.....T-3/43	
YAesu FT7B, FT101E, EE,		2080.....M-24/13		140GTL.....C&S&T-4/50;S-6/64		COMET 23.....T-18/65	
EX, & 901DM.....12/24		CHANNEL MASTER		.....C&T-3/19-20;T-3/58		CONQUEROR.....T-18/65	
SM5104 AM CHASSIS..18/20-21		CB6830.....C-14/41;T-16/55		.....C&S-10/28-29		GALAXY.....C&S&T-5/53-54	
SM5104 SSB..6/26-27;9/20-22		CB6834.....T-14/44		142GTL.....C&S&T-4/50;S-6/64		.....C&S-7/18-22	
For most 23 ch radios		CB6835.....T-6/18		.....C&S-23/45-47;M-23/59		GLADIATOR PLL..C-1/31,61-62	
see CRYSTAL CROSS REF.		CLARICON		.....C-15/18-19;S&T-10/41		.....S-1/61;5/55	
GUIDE.....1/6-18;2/5-13		71200.....T-21/16		148GTL.....C&S-8/16;C-18/29		NIGHTRIDER 40D...C&T-3/46	
PHASE LOCK LOOP CRYSTAL		CLARION		.....T-6/19		RANGLER 40D.....T-3/58	
CROSS REF. GUIDE.....6/1-2		QMA066.....T-3/45		148GTL-B...C-17/40-43;19/60		REBEL 23+.....T-18/58	
ANTLAFIER LINEAR SCH..26/54		JC202E.....T-3/45		.....SC-17/43;T-16/55		REDBALL.....T-1/21	
'BLACKCAT'LINEAR SCHEMATICS		RCJ003.....T-3/45		148GTL-DX.....C-15/20-24		RENEGADE 40.....C&T-3/46	
24/6-8,10-13,27,42,59-60		TC203E.....T-6/18		.....C-16/50-51;17/47,54		ROGUE 40.....C&T-3/43	
DENTRON-CLIPPERTON LINEAR		COBRA		.....C-18/13,17,23;19/37,46		SPARTAN.....C-5/30,53,55,57	
SCHEMATICS.....25/31-32		C&M89.....C-14/45-46;T-14/45		.....C-21/18-19;S-21/36;T-26/61		.....C-1/61-62;S-1/61;5/55	
KICKER LINEAR SCH.....25/12		18LTD.....T-20/36		.....SC-19/27-28;T-16/43-49		TRAVELER II.....T-18/65	
KRIS LINEAR SCH.....26/46-53		18 PLUS.....T-26/28		A-17/55-58;M-18/26;19/68		COYOTE	
MOSQUITOE LINEAR SCH..26/32		19.....T-7/51		190GTL.....T-17/42;M-19/31		23.....T-16/32	
ZZ-2017 VCO MODULE EXPAN-		19GTL.....T-12/34		1000GTL.....T-6/18;14/42		CPI	
SION.....26/21		19XS.....M-21/16;T-18/51		2000 (C.A.P.).....C-6/23		300.....C-8/21	
DUAL BOARD VCO MODULE		20LTD.....M-20/42;T-24/25		2000GTL.....C-5/20;7/15-17		400.....C-8/21;T-10/59	
EXPANSION (O2A CHA).26/21		20 PLUS.....T-26/28		.....C-18/29;C&S&T-15/25-28		2000.....C-3/25	
AIR COMMAND		21 (23 ch).....T-20/36		.....S-13/40		2000 LOW.....C-9/23	
CB-640.....T-5/38		21GTL.....T-3/41,58		COLONEL		2500.....C-5/37-38;S-5/37	
ALARON		21 PLUS.....T-26/28		FR360.....M-23/25		CRAIG	
B-4075.....T-9/30		21XLR.....C-10/58;21/25-26		COLT		L101.....T-6/20;11/42	
B-4900.....T-9/30		.....T-1/20;10/58		SK33.....C-3/4-7		L102.....T-6/20	
B-5050A.....T-9/30		25GTL.....T-3/41,58		160DX.....M-21/44		L131.....C&S-9/12-14;T-10/59	
B-5200.....T-3/41		25LTD.....T-17/35		222.....T-6/20		L132.....C-9/12;10/47;11/10	
AMERICAN MOTORS		25 PLUS.....T-26/27		290.....C-3/4-7;T-3/4		.....S&T-9/12;10/47	
3221847/48/49/50.....T-12/34		29GTL.....S-13/57;19/40		320FM.....A-19/48-51		L231.....C-9/12-14;T-10/60	
ARGO		.....T-3/45;14/42		350.....T-14/46		.....S-9/12-14;12/3	
300.A&S&T-21/49-51;T-23/33		29LTD.....T-13/59		355.....T-18/19;24/30		L232.....C&S-9/12	
5000.....M-23/25		29XLR.....T-1/20		357.....T-26/54		.....C&S&T-10/47;11/10	
AUDIOVOX		32XLR.C-4/47;M-19/52;T-3/58		390.....C-3/4-7;T-3/4		L321.....C&S-14/12	
MCB750.....C&T-3/41				480.....C&S&T-3/8-15		4102.....T-16/32	
MCB5000.....T-11/42				.....C-5/39;8/18;T-3/58			
MCU6000.....T-6/18;15/60				485.....C&S&T-3/8-15			

CODES: A - ALIGNMENT PROCEDURE; C - CONVERSION; FC - FREQUENCY CHART; M - MISCELLANEOUS INFORMATION;
S - SLIDE; SC - SCHEMATIC; T - TUNE UP; TB - TALK BACK

VOL/PG	VOL/PG	VOL/PG	VOL/PG
CRYSLER	GENERAL ELECTRIC (cont.)	HYGAIN (cont.)	KRACO (cont.)
4048076/8077.....T-6/18	3-5811B.....T-9/31;10/61	2702 II.....T-3/48	KCB2330A.....C-9/15
DAK	3-5812A.....T-10/61	2703 III.....T-3/48	KCB2340.....T-2/42
MARK II.....T-10/60	3-5813A.....C-14/41	2716.....T-12/36	KCB2345.....T-18/34
MARK V.....T-12/34	3-5813B.....T-18/34	2795 DX.....M-23/25;SC-23/37	KCB4000.....T-11/43
MARK IX...C-5/21-23;9/18-19	3-5814B.....T-6/21		KCB4003.....C&T-3/42
.....C-21/25	3-5816A.....T-21/60	ICOM	KCB4004.....C-24/19
MARK X...C-4/39-46;S&T-4/45	3-5817A.....T-7/51	720A.....C-21/39	KCB4005.....T-9/38;11/43
DEMCO	3-5818A.....T-2/42	745.....C-23/34	KCB4006 "MAYDAY 1".....T-22/33
STAR II.....C-5/60	3-5819A.....T-11/42	751.....C-23/34	.....SC-22/45
SUPER SATELLITE.....C-5/60	3-5821A.....T-9/31	ITT	KCB4007.....M-25/20
DNT	3-5821B.....C&T-3/54	CB-4000M.....C&T-13/61	KCB4009 "MAYDAY" II.....T-22/33
HF-12/3.....C&SC-21/46-47	3-5825A.....T-9/31-32	CB-4400M.....C&T-4/17-18	.....SC-22/47
EVERSONIC	3-5825B.....C&S-20/55	JC PENNEY	KCB4020.....T-3/49
DK-222.....T-19/42	3-5826A...C-22/50-51;S-20/54	PINTO SSB.....S-1/44	KCB4030.....T-8/44
EXCALIBUR	3-5830.....T-3/42	6241.....C-8/18;T-18/51	KCB4045.....T-14/47
EXPORT SSB BASE-MC145106PLL	3-5869A.....C-14/41;T-2/42	6246.....C&T-13/61	KCB4080.....T-3/50
...C&S-22/36-38;SC-22/44	3-5871A.....T-13/60	6247.....S-13/13	KCB4088.....T-3/50
M-22/19,23,31;24/45,52-55	3-5871B.....C&T-3/46	6248.....C-8/24;S&T-13/14-15	KCB4090.....C-19/52
.....TB-26/61	3-5875A...C&S&T-10/48;T-9/32	981-6203.....T-15/30	KCB4095.....C-19/52
	3-5900A 'HELP'.....T-12/35	981-6204.....T-9/32	KCB4806.....C-15/59
FANNON	GENERAL MOTORS/DELCO	981-6221.....T-21/35	KRIS
IO-40.....T-6/20	CB0-203 CB/AM/FM.....T-3/48	981-6225.....T-14/47	XL25.....T-2/43
FANFARE 125F.....C&T-3/43	DELCO AM/FM/CB...C-11/38-40	981-6235.....T-19/42	LAFAYETTE
FANFARE 182F.....C&T-3/41	70BFMC3.....T-2/43	981-6331.....T-20/41	COMSTAT.....T-11/45
FANFARE 184DF.....C&T-3/47	80BCB2.....T-6/20	981-7461.....T-9/32	DYNA-COM 40.....T-11/44
FANFARE 185PLL.....C&T-3/46	90BCB1.....T-10/60	981-8360.....T-10/61;18/51	CHB740.....T-15/60;16/55
FANFARE 190DF...T-3/47;7/51	90BCB2 (CB0-20U)...T-12/36	JIL	HB640.....T-2/43
FANFARE 350F...C-5/57;S-5/55	90BFMC1.....C&T-12/26	615CB.....T-11/42	LM-100.....T-12/36
.....C&T-3/47;13/12	90BFPC1.....C&T-12/26	CITIZEN BPL524-77..SC-21/48	LM-300.....T-12/37
FIELDMASTER	90BFTC1 AM/FM/CB...T-10/60	JOHNSON MESSENGER	MICRO-723.....T-19/42
MICRO MINI 40.....C-11/37	91VFMCI.....C&T-12/26	40.....T-12/36	SSB75.....C&S&T-14/9
.....A-20/39;SC-20/58	4120.....C&T-3/46	50.....T-7/51	SSB140.....C-8/18;T-11/44
TR-40.....C-15/63	4145.....T-9/32	80.....T-7/51	TELESTAT 1240.....T-5/14
FORMAC	4175.....C&T-3/46	123A.....T-1/21	2400 FM.....M-19/59
240...C&M-22/19,21;SC-22/54	GLOBEPHONE	132.....T-19/42	LAKE
700.....C-23/36;T-22/32	GS-480DX.....C-20/36	352 VIKING.....S-1/34	400.....C-16/52;19/33
.....M-22/20;23/35	.....A-20/39;SC-20/58	4120.....T-3/47	410.....T-12/37
FOX	GREAT	4125.....C&T-13/61	450.....T-12/37
240.....T-23/22;M-23/23	K605.....T-16/32	4135.....T-3/48	600.....T-12/37
340.....T-23/23;M-23/23	GT818.....T-16/32	4140.....C-15/31;T-3/54	LINCOLN
440.....T-23/24;M-23/23	GT838.....T-18/65	4145.....C&T-3/54	1500.....SC-22/55
FULCOMM	HALLICRAFTER	4170.....C&T-3/47;11/43	MAJOR
2330.....T-24/51	HCM271.....C-5/50-51;6/39	4174.....C&T-13/61	MI20.C to ALPHA-24/36-38,41
FUZZBUSTER	HAM INTERNATIONAL	4175.....C&T-3/47;11/43	SC&T&FC-19/23,29,43;M-21/52
Z-40.....T-22/33	CONCORDE 2.....A-19/48-51	4250.....C&T-3/48	MARCO
GALAXY & TEXAS STAR	CONCORDE 3.....M-22/19	4730.....C&T-10/49-51	CB-444..C to ALPHA-24/39-41
2100...A-26/12-14;TB-26/61	JUMBO 3.....M-22/19	VIKING 200.....T-12/36	SC&T&FC-19/21,30,43;M-21/52
M-24/9-10;25/28;26/11,15-17	MULTIMODE 3.....SC-20/52	VIKING 260/270...C&T-3/49	MECCA
GEMTRONICS	M788.....SC-21/55	VIKING 4330/4360...T-11/43	BCB-6 (23 ch).....T-20/41
GTX23.....T-15/16	U.K. 120FM.....A&C-22/24	VIKING 4740...C&S&T-11/12	MECTRON
GT44.....T-2/42	.....M-22/20;SC-22/56	KENWOOD	ME400.....C-17/34
GT55.....C&T-3/48	HITACHI	TS-120.....C-22/12	ME502.....C-14/41
GTX44.....C-21/25	CM-2425H.....T-22/18	TS-130.....C-12/23;22/12	MEDALION
GTX66.....T-6/21	HORIZON	TS-430S...C-18/24-25;M-25/16	63-240.....C&T-3/50
GTX77...C-5/39;S-4/49;T-6/21	29A.....M-21/45	TS-530.....C-24/17-18	MIDLAND
GTX2325.....C-15/29	HYGAIN	TS-530S...C-15/32;22/18	CAP 858.....C-5/30
GTX3323.....T-17/59	681-I (23 ch).....C-8/20	TS-820S...C-14/7-8;15/32-34	100M.....T-10/67
GTX4040.....C&T-3/48	681-IA (23 ch)...C-1/22;8/20	TS-830.....C-24/17-18	102M.....T-14/42;17/59
GTX5000...C&T-3/42;13/60	PLL.....C-1/32	TS-830S...C-22/18	103M.....T-17/65
GENERAL ELECTRIC	682-II (23 ch).....C-8/20	TS-940S...C-22/11	150M.....SC-21/62;T-7/52
3-5800A.....T-3/50	682-IIA.....C-8/20	K-40	13-853.....T-22/18
3-5801A.....C-16/33;17/39	IV 673.....T-18/34	Production Models 1,2,3,6	13-857.....C-11/36
3-5804B.....T-6/21	HY-RANGE V.....T-18/51	.....SC-26/62-65	13-858.....T-14/42
3-5804F.....M-21/16;T-10/61	V.....C-8/18;S-11/11	K-40 AM.....T-15/60;26/61	13-862.....C&T-14/48-49
3-5804G.....T-12/35	V-EXPORT.....A-19/48-51	K-40 SSB.....S-20/61	13-863B.....T-20/41
3-5805A.....T-9/31;10/61	VIII.....C-8/18;T-3/59	K-40 Speech Processor Micro	13-867.....T-13/62;19/42
3-5806.....T-18/65;19/64	623.....S-1/33	phone.....SC-26/68	13-879.....T-14/50
.....SC-19/65	674A.....S&T-4/60	KRACO	13-881.....T-15/61
	V-674B.....T-1/21	KCB1401.....T-18/57;19/42	13-882C...C&T-13/62;C-15/35
	2701 I.....T-2/42	KCB2320.....T-20/36	

CODES: A - ALIGNMENT PROCEDURE; C - CONVERSION; FC - FREQUENCY CHART; M - MISCELLANEOUS INFORMATION;
S - SLIDE; SC - SCHEMATIC; T - TUNE UP; TB - TALK BACK; MA - MODULATION ADJUSTMENT

VOL/PG	VOL/PG	VOL/PG	VOL/PG
MIDLAND (cont.)	N. D. I.	PRESIDENT/UNIDEN	RAIDER
13-883B.....C&S-12/4	PC-102.....T-11/46	ADAMS...C&S&T-27/16;13/18-20	4060.....C-15/46
13-892..S-4/48;11/13;T-4/48	PC200.....T-7/52	.....M-21/40;EXPORT-23/36	RANGER
13-893.....S&T-4/51	PC201.....S&T-12/8	ANDREW J.....T-9/34	3300...A&M-25/4-11;26/29-31
13-898.....S-1/36	OMNIVOX	DWIGHT D.....C&T-10/62	RAY JEFFERSON
13-898B.....S-1/35	CB-1000.....T-18/66	.....S-15/62;T-14/54	CB-845.....C-12/27;T-11/48
63-445.....T-11/45	ORBITSONIC	GRANT (OLD).C&S&T-1/22-23,59	REALISTIC/TRC
76-858...C-16/21-24;T-3/49	200.....C&T-21/37	...C&S-2/17,23-26;C-21/31	MODULATION ADJUSTMENTS on
76-860.....T-14/51	PAGE	GRANT (NEW)....C&S&T-5/24-27	following radios: in 12/33
76-863.....C&T-3/50;9/33	CB144.....T-14/42	.....C&S-13/21-22;S-8/34	5,9A,11,30,30A,5Q,50B,56,
77-101B.....T-8/44	CB166...C&T-15/42,60;T-19/42	..HOME CH. CONV...14/13-17	61,68,101,230,240,& 420A
77-101C.....T-12/38	1000.....S-1/37-38	GRANT-DX.....C&S-19/34-36	PRO-26.....M&SC-26/55
77-104.....M-21/52;T-21/16	1000MC/1000BC...C-15/39-41	....SC-19/24;T&M-19/29,68	45A.....T-4/37
.....SC-24/63	DX1023B.....S-1/39	..C-20/22,40;26/42;S-20/24	47.....S-1/41;T-1/21
77-155.....T-23/27;SC-23/26	2300C.....C-19/33	....A-20/47-51;S-21/42-44	48.....S-1/42
77-808.....T-18/51	8003.....T-11/47	JACKSON-DX.C-20/31-35;21/41	50B.....MA-12/33;T-22/18
77-821.....C&T-3/42	8008.....T-2/43	C-23/20;A-20/43-46;T-19/30	57.....C-20/42;S&T-12/28
77-824.....T-8/44	8010A...C-15/43;17/60-61	....M-20/30;21/22,27,36	83.....T-19/42
77-824B.....T-12/38	8015A...C-15/43;17/60-61	....M-23/13,21;S-20/28-29	86.....T-21/35
77-824C.....T-12/39	8016.....T-11/47	....S-24/24;FC&SC-19/8-9	99A.....MA-12/33;T-4/37
77-830.....C-20/56	8025.....C-15/44;T-19/42	JAMES K (NEW).....T-12/40	100.....MA-12/33;T-4/37
77-838.....T-9/33	8041.....C-24/30;T-19/33	HONEST ABE.....C-1/60	180.....MA-12/33;T-4/37
77-849.....C&T-3/50	8046.....T-9/33	JOHN Q.....C-1/60	200...MA-12/33;T-4/37;10/63
77-853.....T-16/55	8092.....C-6/35-36;S-6/37	MADISON (NEW)....C&S-10/30	204.....MA-12/33;T-10/63
77-856.....T-11/45	8093.....C-15/48	MCKINLEY.....C&S&T-4/12-13	205.....T-12/40
77-861.....C-12/26;T-3/50	8113.....T-12/39	.....S-6/64	206.....T-14/55;19/42
77-861B.....T-11/45	8117.....T-11/47	OLD HICKORY.....T-9/34	208.....MA-12/33;T-21/35
77-865.....T-9/33	8155.....C-15/43;19/33	SEAHAWK 40.....A-22/9	209...MA-12/33;T-10/63;12/49
77-899.....T-9/33	.....T-9/34;12/40	TEDDY R.....C-1/60	210.....C-24/31-34
77-963.....C&T-3/42	8193.....S-12/9;T-7/52	WASHINGTON.C&S&T-1/22-23,59	.....T-16/32;M-19/47
78-574.....C&S&T-14/10	PACIFIC SSB	WASHINGTON(NEW)..C-10/28-29	211.....T-17/34
.....T-9/38;12/39	800 SSB...C-18/16;19/57-58	.....S-6/64;8/33-34;10/28	212.....T-17/34
78-999.....S&T-12/5	..M-21/41;S-18/15;SC-19/55	ZACHARY T.....C-1/60;T-14/54	214.....T-21/35
79-012(6001)C&S&SC-23/16-17	.....T-16/55;19/29	AR 7.....M-22/39;T-12/40	215.....T-24/42;SC-24/44
79-891.....S-12/6;T-12/5	PALOMAR	AR 44.....T-10/63	216.....T-24/42;SC-24/43
79-892.....C-15/36-38	21.....T-22/18	AR 144.....C&S&T-10/41-42	217.....T-26/27;SC-26/33
.....S-11/14;T-3/49	DC-30.....SC-25/33	.....C-11/17-18;21/28-29	218.....T-26/28
79-893.....C&T-2/20	FC-40.....SC-25/14-15	AR 711.....T-12/34	219.....T-26/28
79-900.....C-5/47;18/62	49.....T-3/60	AX 7.....T-12/45	DX300 (20-204).....M-13/64
.....S-5/47;T-9/33-34	TX-75.....SC-25/20	AX 11.....A-22/51;T-12/45	410.....T-12/29
1001.....T-17/65	300.....SC-25/29	AX 14.....T-12/45	411.....T-15/60
2001(EXPORT)..SC-T-19/26,29	500...C&S&T-4/19-20;5/32-36	AX 43.....A-22/9	412.....T-19/42
3001 (77-003).....T-12/37	.....C-8/21	AX 44.....A-22/9;T-12/45	413.....T-21/61
4001.....T-7/52	5008.....T-18/67	AX 52.....T-12/45	414.....C-21/24,51;T-19/42
5001.....T-12/37	2400 EXPORT.....A-18/30-33	AX 55.....T-12/45	417.....T-24/42
6001 (OLD) 79-006...C-11/16	.....M-17/42;SC-20/38	AX 144...C-21/28-29;A-22/10	420.....MA&T-12/33,41
.....C-16/60-62;22/48-49	4100.....C&T-3/54	..M-23/59;SC-23/40;T-12/45	421...T-8/44;MA&T-12/33,41
.....S&T-11/16	5000 (ref. 2400)....M-20/64	AX 711.....T-12/40&45	421A...C-21/42,51;T-9/35
7001 (OLD) 79-007.C&S-8/21	PANASONIC	PC 3.....M-19/68	.....MA-12/33
...C&S&T-11/16;C-16/60-62	CR-B474EU(AM/FM/CB)..T-9/34	PC 9.....M-22/39	422.....MA-12/33;T-8/45
...C-22/48-49;T-11/45-46	RJ3150.....C-18/18	PC 22.....A-22/51	422A..C-21/24,51;T-10/64,67
MOPAR	RJ3200.....T-14/42	PC 33.....T&M&SC-19/40-41	.....MA-12/33
4094I73.....T-3/51	RJ3250.....T-11/47	.....C-21/24,34;A-22/8	424.....C&T-3/57;9/35
4094I76.....C&T-3/51	RJ3600.....C-10/57;T-11/48	PC 43.....A-22/9	.....C-23/41-44;MA-12/33
4094I77.....C&T-3/49	RJ3660.....C&M&T-14/52	PC 55.....SC-20/60;T-20/53	425...MA-12/33;T-7/53;10/67
4094I78.....C&T-3/60	RJ3700.....C&S&T-13/16-17	.....C-21/24;A-22/8	426.....MA-12/33;T-10/64
MORSE	PEARCE-SIMPSON	PC 66.....A-22/9;SC-22/57	427.....MA-12/33;T-8/45
2001.....T-14/42	BENGAL.....S-1/40	PC 77.....SC-20/59;T-20/53	428.....MA-12/33;T-11/48
3005.....C-2/27	CHEETA...C-1/31-32;S-1/40	.....C-21/24;A-22/8	431.....C-7/23-24;T-4/37
MOTOROLA	COUGAR 23...C&M&T-14/53	PC 122.....M-25/17	.....C-20/8-15;MA-12/33
CB555.....C&S&T-12/7	JAGUAR 40B.....T-19/42	.....M&S&A-24/19-22;26/45	432.....MA-12/33;T-11/48
CC975AX.....T-16/40	LEOPARD B.....T-3/49	PC 244.....A-22/10	433.....T-22/33
CF925AX.....T-11/46	PUMA 23B.....T-13/62	.....SC-21/63;23/40	440...MA-12/33;T-8/45;9/35
CM540.....T-18/27	SIMBA.....C-1/31-32;S-1/40	PYRAMID	441...C-20/23,42;MA-12/33
MOCAT 40...M-24/51;T-11/46	SUPERTIGER 40A...C&T-3/60	I300.....T-24/42;SC-24/62	.....T-10/67;11/49
T4000A/05A/10A/20A...T-3/50	TIGER 23C.....T-20/41	RCA	448.....C-11/19;16/25-30
T4025A.....C-10/46	TIGER 40A.....T-9/34	IAT270.....T-9/36	.....S-11/19;17/54
MULTIPLEX	PIONEER	IAT300.....T-2/43	.....T-3/51;10/64;11/19
SAME AS PALOMAR 2400 EXPORT	GT-100G (AM/FM/CB)..T-10/62	IAT302.....C-4/36;5/11,39	449.....C&T-3/51;9/35-36
NESCO		.....S-4/49;T-3/53	450.....C&S-10/31
I249.....C-6/38		IAT303.....T-11/48	451...C&S&T-12/10-13;T-18/26
			452.C&T-3/52;T-1/21;MA12/33

CODES: A - ALIGNMENT PROCEDURE; C - CONVERSION; FC - FREQUENCY CHART; M - MISCELLANEOUS INFORMATION;
S - SLIDE; SC - SCHEMATIC; T - TUNE UP; TB - TALK BACK; MA - MODULATION ADJUSTMENT

VOL/PG	VOL/PG	VOL/PG	VOL/PG
REALISTIC/TRC (cont.)	SANKO	SHARP (cont.)	TEABERRY (cont.)
453.....A&M&S-24/19-22;26/45	SCS-555.....C&S-11/40	CB-2170.....T-12/43	STALKER II.....T-1/21
.....SC-23/39	SBE	CB-2460.....M-21/60;T-18/57	STALKER III.....T-7/55
454.....MA-12/33;T-8/45	LCB-8.....T-12/43	CB-4370/4470.....T-12/43-44	STALKER IV.....T-12/44
455.....C-12/30;C-20/23;T-3/60	LCBS-4.....C&S&T-7/29-33	CB-4670.....T-7/55	STALKER V.....T-7/55
456.....T-10/67	LCM-5.....T-9/36	CB-5470.....C&S&T-11/24	STALKER VIII.....T-10/65
457.....C&S&T-10/36;T-9/35-36	LCM-8.....T-9/36;12/42	SILTRONIX	STALKER IX.C-4/7-9;15/55-57
458.....S-8/39-40;T-9/35	LCMS-4.....C&S&T-7/34-37	SSB.....S-1/45	.....S-4/7-8;T-10/65
.....M-21/40	LCMS-8 (MB8719).....C-10/25	1011C.....C-1/46	STALKER IX (EXPORT).....
459.....C&S&T-10/32-35	.....M&SC-26/66-67	1011D.....C-1/46	.....C-15/50-54;SC-19/20
461.....C&T-3/51;MA-12/33	CATALINA II.....T-21/16	SOMMERKAMP	STALKER XII.....T-7/56
462.....MA-12/33;T-9/36	CONSOLE II.....C-15/49;S-1/48	TS-788DX.....C-13/25-30	STALKER XV.....C&S-4/7-9
466.....MA-12/33;T-3/51	CONSOLE IV.....C&S&T-2/28-40	TS-340DX.....A-20/39;SC-20/58	.....C&S&T-10/39
468.....MA-12/33;T-3/57	CONSOLE V.....C&S&T-2/28-40	SONAR	STALKER XX.....C&S&T-10/40
470.....T-9/39;12/41;16/40	.....C&S-24/15-16;T-15/61	FS-2340.....C&T-5/31;M-24/55	STALKER 101/202.....S-4/10
.....MA-12/33	CONSOLE VI.....C-8/14	SPARKOMATIC	TENNA
471.....MA-12/33;T-8/45	CORTEZ.....C&T-14/56-57	CB4020S.....C-14/41	I0901.....C-15/63;T-10/58
473.....T-20/53	CORTEZ 40.....C&T-3/61	SR-42/CBM.....T-3/54	I0902.....T-10/65
480.....C&S&T-10/37-38;T-7/53	FORMULA D.....C-1/49	STANDARD HORIZON	I1302 AM/FM/CB.....T-9/37
490.....C&S&T-12/14-15;T-11/49	FORMULA D40.....T-3/61	29.....T-1/22	TEXAS STAR-2100 same as
500.....SC-24/50;T-24/50	MALIBU 40.....T-9/36	29A.....C-5/59;C&T-13/63	GALAXY-2100
REGENCY	SIDE BANDER II.....C&S-1/47	STONER	TRAM
CR240.....T-16/32	SIDE BANDER IV.C&S&T-2/28-40	PRO-40.....C&S-4/52-53	DI2.....C-10/56;T-3/54
ROADRUNNER	SIDE BANDER V..C&S&T-2/28-40	SUPERSCOPE AIRCOMMAND	D42.....C-4/47;5/40;19/52
CB5000A.....T-16/41	.....C&S-24/15-16	CB-340.....C-8/19;9/24	D60.....C&S-1/52-53
ROBERTS	SIDE BANDER VI.....C-8/14	CB-1040.....T-14/57	D62.....S-10/45-46;15/15-17
40 CH.....T-14/42	STOWAWAY (47CB).....C&T-3/53	SUPER STAR	.....C-19/52
ROBYN	TAHOE 40 (49CB).....C&T-3/53	95.C-19/45;SC-19/19;T-19/30	D64.....C-11/12;S&T-13/31
007-I40.....T-3/52	TOUCH/COM.....C-1/50-51	120 AM.....C-20/25;SC-20/62	D80.....C-10/30
AM 5000.....T-3/52	TOUCH/COM 40 (43CB).....T-3/53	.....T-20/29	D201.....C-1/56;3/22-23;4/48
DG 130D.....T-3/56	TRINIDAD III...T-3/61;15/61	120 AM/FM.....C-20/27	.....C-17/53
GT 4100.....T-3/57	SEARS	360.....SC-18/4	D201A.....C-3/23;10/54;17/53
GT 4400.....C-1/23	23 Ch. SSB.....S-1/44	360 FM.....C-21/18-19;S-24/23	D300.....C-8/11-13;S-12/19
LB 120.....T-3/52	CM-6000LA.....T-3/59	.....TB-26/61	XL-5.....T-16/32
SB 505.....C&S&T-5/41-42	CM-6000LC.....T-3/59	1700.....M-22/21;23/25	XLR (23 SSB).....C-17/53
SB 520D.....C&T-2/21-22	D63911 (861C).....C-12/26	.....A&T&M-23/10	TRISTAR
SB 5400.....C-5/19;36;7/25-28	ROADTALKER (SMS104).....S-12/18	2000.....C-18/28	240.....SC&T-25/18-19
.....S-5/19	370-38050700.....T-3/54	2000(50 Ch Select).SC-21/56	727.....SC-19/22;T-19/30
SX 401.....C&T-3/57	562-38200700.....C&T-3/55	3600 FM.....M-21/44	747.....C-15/58;16/68
SX 4020.....C&T-3/57	562-38220700.....C-10/56	3600 (LOW BAND).....A-22/25-27	.....S-17/35;A-19/48-51
T2400.....S&T-13/60;63;T-3/56	663-38020800.....T-7/53	.....C-22/34-35;M-22/23,31	TRS CHALLENGER
WV 23.....C-1/24-25	663-38030050.....T-21/60	.....S-24/25;TB-26/61	432.....T-4/27-28;14/59
WV110.C-12/31;T-3/56;11/50	663-38070700.....T-3/61	3900(HIGH BAND).....C-22/40-41	460.....T-4/27-29;9/37
ROYCE	663-38100050.....C&S&T-11/22	A&M-22/23,28-31;TB-26/61	600.....T-4/27,30
580.....T-16/32	.....C&S&T&FC-21/13-17	VOICE SCRAMBLER MARK I...C-26/24;SC-24/61	730.....T-4/27,30
582.....T-12/42	663-381050.....T-11/21	SUPER TINY	850.....C&S&T-4/21-27,32-35
600.....T-19/64	934-3671160.....T-21/60	23.....T-22/18	.....S-16/55;T-7/55
601.....C-1/26	934-36740500.....T-18/57	SURVEYOR	1200.....T-4/27,31;12/44
604.....T-3/56-57	934-36760600.....C-22/22	620.....T-3/55	1400.....C&S&T-4/21-27,32-35
607.....T-12/42	934-3677150.C&S&T-12/16-17	2610.....C&T-3/54	.....S-16/55
611.....T-14/55	934-36772600.C&S&T-12/16-17	SWAN SIGNET	TRUTONE
612.....C-5/45-46	934-38060700.....T-17/65	270.....C-5/58	CYJ4832-A-87.....T-2/43
617.....C&T-3/52	934-38061700.....T-11/50	TEABERRY	CYJ4837-A-87.S-11/14;T-3/59
619.....T-3/56	934-38080700.....T-9/37	52 Ch CAPABILITY.....C-1/43	CYJ4862-A-87.....T-9/39
621.....T-3/57	934-38081700.....T-9/38	CAP MOD.....C-5/30	MCC4434-A-57.....T-14/60
625.....C&T-3/56	934-38120700.....T-3/61	BIG T.....T-15/61	MCC4726-A-67.....T-15/61
632.....C&S&T-11/21	934-83260700.....C-6/26-27	MODEL T.....C-4/3-4;T-3/55	UNIDEN (SEE PRESIDENT)
.....C&S-13/23;S-5/14	.....C-11/23;C-23/28-33	.....M-19/68	UNIMETRIC
639.....C-15/48;T-12/41	.....S-10/52;T-7/53	RACER T.....C-1/58;T-3/55	DOLPHONE.....T-18/65
A-26/37;M-26/35-36,40-41	934-38270700.....C&S-5/28-29	RANGER T.....C-4/1-2;6/24-25	UNIVERSE
.....SC-26/38-39	.....C&S-9/20-22;T-7/54	T BEAR.....C-4/14-15	CB747.....M-21/16
641.....C&S&T-11/20	934-38310700.....S-5/19;9/22	T CHARLIE.....T-10/65	USACO
.....S&T-4/51;T-3/60	.....T-7/54-55	T COMMAND.....C&T-3/55	U900CB.....T-10/53
642.....C&S&T-13/24;T-18/51	SHAKESPEARE	T DISPATCH.C-4/14-15;T-3/55	
650.....T-14/42	CB240.....T-3/53	TITAN T...C-4/14-15;T-15/61	
651.....T-7/55	SHARP	STALKER I.C1/57;4/5-6;10/11	
655.....C-15/47;T-11/50	CB-23.....T-13/63		
660.....T-2/42	CB-700.....T-20/41		
673.....C&T-3/52	CB-750A.....C-19/52		
675.....C&T-3/53	CB-800.....T-2/42		
680.....C&T-3/52			

CODES: A - ALIGNMENT PROCEDURE; C - CONVERSION;
FC - FREQUENCY CHART; M - MISC. INFORMATION;
S - SLIDE; SC - SCHEMATIC; I - TUNE UP.

VOL/PG

UTAC
 TRX-30.....T-22/18
 TRX-400.....C&T-3/59
 TRX-500.....C&T-3/56

VECTOR

X.....T-2/43
 770.....C-4/56-57;T-9/37
 790.....C-4/58-59;T-9/37

WARDS

GEN-680A.....T-14/61
 GEN-696A.....T-14/61
 GEN-716A.....T-22/18
 GEN-719A.....C&S&T-11/10
 GEN-730A.....T-22/18
 GEN-774A.....T-22/18
 GEN-775A.....T-3/61

WKS

100.....T&SC&M-19/64,66,67

XTAL

XCB-71.....T-21/32
 XSSB-10.....T-1/22

YAESU

101.....C-5/58
 FT-7B.....C-7/38-41
 FT-102.....C-18/25
 FT-707.....C-10/20-24
 FT-726R.....C-21/27
 FT-757GX.....C-18/16;M-21/27
 FT-757GX-SX.....C-19/52
 FT-901.....C-6/3-12

OOPS! WE GOOFED! AND CORRECTION INDEX!

ORIGINAL VOLUME	PAGE #	CORRECTION IN VOLUME	PAGE #
1	23	5	18
1	61	16	72
2	20,21	5	18
3	4,7,11,25,33	5	18
3	25	11	78
3	33	10	71
4	5,45,50	5	17
4	38	12	66
4	39	13	66
4	51	9	44
4	54	17	70
4	10	21	23
5	19,20,28	6	25
5	24,28,48	10	72
5	32	8	41
5	47	18	62
6	3,12	13	66
6	31,32	7	62,63
6	32	11	78
7	28	18	79
7	31,37	8	42,43
7	46	19	42
7	49	10	25
7	43,53	11	78
7	54	13	66
8	16,17	10	72,73
8	17	9	29
8	52	11	78
9	9,29,51	10	72,74,75
9	12	18	79
9	13	19	79
10	2	11	78
10	10,16,28	12	66
10	25,48	13	66,67
10	49	18	79
10	67	20	42
10	18	26	5
11	3,10,15,16,71	12	66
11	4,6,11,41,75	13	67
11	10	19	68
11	49	20	42
12	7	15	69
12	27,28	16	72
12	66	26	5
13	63	15	69
14	12	15	69
14	22,41	16	72
15	58	17	70
15	63,65	16	72
15	48	22	6
16	33	25	17
16	50,72	17	70
18	23,26	19	54,61
18	25	25	16
18	28	20	4
18	16	21	27
19	20,35	20	76
19	35,36	20	24
19	34	21	35
19	34	26	5
20	35,40,51	21	27,22,16
20	53	23	5
21	14	26	5
21	18,35	22	6
21	46	24	6
22	21	23	5
25	6,19,28	26	5

1 60 27 6
 26 61 27 6

MISCELLANEOUS INDEX LISTED BY VOLUME

VOLUME 1

	PAGE #
CRYSTAL CROSS REFERENCE GUIDE.....	5-10
LETTER CHART FOR CRYSTAL FREQ. CORRELATION.....	11-18
GOLDEN EAGLE MARK IV PING MODIFICATION.....	20
GENERAL INFORMATION.....	63-67
LINEARS.....	68-70

VOLUME 2

	PAGE #
NEW CRYSTAL CROSS REFERENCE GUIDE.....	5-9
LETTER CHART FOR CRYSTAL FREQ. CORRELATION.....	10-13
PRESIDENT GRANT RF GAIN & ADJ. CH. REJ. MOD.....	18-19
ROBYN 5100/5200 NOISE BLANKER ALIGNMENT.....	25-26
COBRA 139XLR SERVICE BULLETIN ON CRYSTAL DRIFT PROBLEM & PCB CRACKING.....	45-50
SERVICE BULLETIN ON SIDEBANDER II & CONSOLE II FOR IMPROVING CROSS MODULATION REJECTION.....	51
SERVICE BULLETIN - COBRA 29 ON MODULATION IMPROVEMENT, ALSO NOISE BLANKER.....	52
ANTENNA REPORTS.....	53-55
BETA-COM INFO (UPGRADING 23 CHANNEL RADIOS).....	57-87

VOLUME 3

	PAGE #
PRESIDENT MADISON FREQ. COUNTER MOD.....	16-18
NOISE WHINE CURE.....	24
MICROPHONE WIRING INSTRUCTIONS.....	26-32
PLL CHANNELIZER.....	33-40
ANTENNA SECRETS.....	63-64
SPECIAL SECTION ON LINEAR AMPLIFIERS:	
50-70W MOBILE.....	66
300-400W BASE.....	67-69
70W BASE.....	70-71
EAGLE 200.....	72
EAGLE 500.....	73
CONVERSION FROM AMATEUR TRANSMITTER TO LINEAR AMP.....	74
LINEAR AMP PROBLEMS & SOLUTIONS.....	75-76

VOLUME 4

	PAGE #
HOW TO BUILD YOUR OWN RELAY MODULE.....	16
02A CHIP INFORMATION.....	54-55
HINTS & KINKS ON COBRA 62XLR & 142GTL.....	61
TURNER MIC EXPANDER (500AMC DISABLE).....	62
K40 BLINKIE.....	63
SUNSPOT PREDICTION CHART.....	64
LINEAR REPORT SECTION:	
D & A MAVERICK.....	65
D & A 500 TRIPLE CONVERSION.....	65
EAGLE 515 MODIFICATION.....	66-67
UNIDEN SSB 10 METER POWER CONVERSION.....	68-70
SUPER CLARIFIER DIODE.....	71

VOLUME 5

	PAGE #
10 METER CONV. WITH MICROMONITOR.....	1-5
ECHO BOX.....	6
250 WATT DUMMY LOAD-"SECRET CB'S LITTLE DUMMY".....	7
BUILT IN POWER MIKE.....	8-9
5-MILE SIMULATOR.....	10
RECEIVER PRE-AMP.....	11
GLEN DIGITAL CONTROLLER.....	12-13
GETTING SWR DOWN ON BASE ANTENNAS.....	15
APARTMENT ANTENNA.....	16
GROUNDING MOBILE RADIOS.....	17
DAK MARK IX POWER MODIFICATION.....	21-23
SUPER POWER MODULATION MOD FOR BOWMAN BASE CBH990.....	43
THE ART OF WIDEBANDING 858 CHIP.....	44
CONVERSION KIT + MARS & CAP FOR SSB.....	48-49
CONVERSION OF AM/SSB TO 10 METER AMATEUR.....	52
REDCO UFO INSTALLATIONS.....	61-69
HINTS & KINKS - COBRA 140/142/148GTL REGULATOR IC SHORTING OUT.....	70
SLIDE INCREASE, ALL SSB RADIOS.....	71

VOLUME 6

	PAGE #
PLL CRYSTAL CROSS REFERENCE GUIDE.....	1-2
SECRET CB TEST TONE.....	13
ERRONEOUS SIGNAL LOCATOR.....	14
LOW COST AMATEUR CONVERSION FOR 10 METERS.....	15
BASE ANTENNA GROUNDING.....	16-17
SUPER CLARIFIER 10-TURN POT.....	22
THUMBWHEEL 200 CHANNEL CONV. FOR 858 CHASSIS.....	31-34
REDCO UFO APPLICATIONS.....	40-52
SPECIAL SECTION ON LINEAR AMPLIFIERS:	
PDX 400.....	54
D & A MAVERICK 250.....	55
MACO DUSTER 300, 750 & 1000 TRANSMITTER.....	56-57
MACO 75.....	58
500 CX & 700 CX 10 to 11 METER CONVERSION.....	58
RDX-75.....	59
HDX-50.....	59
MDX-200.....	60
PDX-400.....	61
10 METER EXPERIMENTER BOARD INFORMATION.....	62-63
HOW TO MAKE CYBERNET CHASSIS SLIDE.....	65
HOW TO HOOK UP GLEN 310 TO PRES. WASHINGTON.....	67
SUPER CLARIFIER HINTS.....	66
REDCO DX-50.....	68-70

VOLUME 7

	PAGE #
HOW TO MAKE YOUR EAGLE SCREAM.....	14
IMPROVED SLIDE MOD FOR 02A SSB RADIOS.....	42
UPDATED 200 CHANNEL AMATEUR CONV. FOR 858 CHIP.....	43-48
10 METER CONVERSION FOR SSB RADIOS USING MB8719.....	49-50
HOW TO MAKE YOUR 858 CHASSIS SLIDE.....	56
LINEAR AMPLIFIER NOTES.....	57
RECEIVE AMP - SILTRONIX.....	58-59
ECHO BOX SPEECH PROCESSING FOR TRC-449.....	60
ADDING PING.....	61
CORRECTION TO THUMBWHEEL 200 CHANNEL CONV.....	62-63
MICROMONITOR TECH NOTES.....	64-69
MICROMONITOR INSTALLATION FOR RADIOS USING 858.....	70-71
AMP FOR RF PROBE.....	72
OSCILLOSCOPE MOD FOR RF & MODULATION DISPLAY.....	73
THE BANDIT ANTENNA.....	74-76
SECRET CB'S OWN "TROUBLESHOOTER".....	77

VOLUME 8

	PAGE #
WHAT'S NEW ON THE ELECTRONICS HORIZON?.....	1-6
UHF FM CB (GMRS).....	7-10
UNIDEN MB8719 PLL CHIP FREQUENCY CONVERSION.....	15
FREQUENCY MOD FOR J.C. PENNEY, COLT, LAFAYETTE, HYGAIN, ETC.....	18
BROWNING MARK IVA MOD & UFO INSTALLATION.....	22-23
BROWNING MARK IV TRANSMITTER TROUBLESHOOTING.....	25-32
LINEAR AMPLIFIER NOTES:	
INSTALLING A TROUBLESHOOTING LINEAR AMPS.....	47-49
10 METER AMP BOARD MOD TO UPRIGHT DRIVER.....	50
YOU CAN BUILD IT:	
TWO TONE GENERATOR.....	51
YAESU 601 (B) FREQ. COUNTER MOD. TO READ CB LOW, MIDDLE, HIGH FREQ.....	52-54
RF TEST METER.....	56-67
REDCO UFO MODIFICATION (from 20 to 29.995 MHz).....	55
SECRET CB'S POWER VECTORING.....	58
HOW THE ECHO BOX CAN ACTUALLY SURPASS THE POWER OF A LINEAR IN SSB.....	59
MICROMONITOR QUESTIONS.....	60-62
MICROMONITOR INSTALLATION INSTRUCTIONS:	
SM5104 PLL.....	63-64
ICOM 22S.....	65-67
NEW PRODUCT RELEASE:	
ZAPPER 9000 MOD. & REFERENCE CHART.....	68-69
REDCO DIGI-SCAN UFO ELITE.....	70
CHOPPER CHARLIE ANTENNA.....	71
TROUBLESHOOTER.....	73
AMATEUR VSB-1 (VOICE SIGNAL BOOSTER).....	82

VOLUME 9

	PAGE #
SSB'ER LOSE OUT AGAIN.....	1
FCC ANNOUNCES PLANS FOR SIDEBAND.....	2-3
FCC DELAYS NPM: SSB FREQS. DOUBTFUL.....	3-4
SPEED-O-MATIC "SPEEDO-1" X-BAND RADAR GUN.....	5-6
CONVERSION TIPS FOR ALL SSB RADIOS.....	7
RELAY CRYSTAL SWITCHING.....	25-26
LETTER FROM A FRIEND.....	27-28
HINTS & KINKS-ELECTRONIC CRYSTAL SWITCHING.....	29
SOLVING T.V.I.....	40-42
RADACRUZ.....	42
IMPORTANT FACTS ABOUT ECHO BOXES.....	43-44
VOICE SIGNAL BOOSTER (VSB-1) INSTALLATION.....	45-48
POWER SUPPLY MODIFICATION FOR REALISTIC PRE-AMP NOISE-CANCELLING MIKE #21-1175.....	49-50
HINTS & KINKS - SWITCHABLE MODULATION INCREASE.....	51
RF ATTENUATOR.....	52-54
PRESIDENT SERVICE BULLETINS.....	55-61

VOLUME 10

	PAGE #
SECRET CB TROUBLESHOOTER.....	2-4
VOICE SIGNAL BOOSTER - VSB-1.....	5-19
REPLACING MB8734 with MB8719.....	35
UPD2816C PLL PIN OUT.....	42
TECH TIPS ON 858.....	55
UNCONVERTIBLE CHIP LIST.....	66
LINEAR SUGGESTIONS.....	68-69
ZAPPER 9000 INSTALLATION HINTS.....	70
CB PARABOLIC TYPE ANTENNA.....	77

VOLUME 11

	PAGE #
CPI ALC MODIFICATION FOR INCREASED SSB POWER.....	9
HOW TO ADD RF GAIN CONTROL TO A CPI 300/400.....	11
VSB-1 UPDATE ON NEW GRANT AND MADISON.....	25-26
NEW FRONTIER: FM CB.....	27-29
NEW PRODUCT: DIGI-SCAN DS-400.....	30-31
SERIAL DATA/PLL FREQUENCY SYNTHESIZERS.....	32
UNCONVERTIBLE AT THIS TIME: GE 3-5900A/TC9101P... ..	33
ADD CH 9 & 19AT TO COLT 210.....	33
ZAPPER 9000 INSTALLATION UPDATES.....	34
RADIO MODULATION ADJ. FOR VARIOUS MODELS.....	51-53
HINTS ON SERVICING.....	54
SERVICE NOTES-GOLDEN EAGLE MARK IV TRANSMITTER....	55
D104 & D104M6 ASTATIC MIKE MODIFICATION.....	55
HOW TO SOLVE NOISE PROBLEMS.....	56-57
MORE ON THE "TROUBLESHOOTER".....	57
NOISE IN DIESEL TRUCKS.....	58
IN HOUSE VALUE LISTING.....	59
TRUCKERS SPECIAL POLARITY PROTECTOR WITH SHARTS... ..	60
HOW TO BUILD:	
LOW PASS FILTER.....	61
20dB ATTENUATION PAD.....	61
BALUN COIL.....	62
1000Hz TONE.....	63
ADD A SECOND BATTERY.....	64
20 AMP POWER SUPPLY.....	65
SIGNAL INJECTOR.....	66
CMOS LOGIC PROBE.....	67
REFERENCE OSC-DIVIDER.....	68
READOUT MODIFICATION.....	69
ASTATIC MIC MOD.....	70
BILATERAL SWITCH.....	71
PLL PINOUT DIAGRAMS.....	72-77
THE "BANDIT ANTENNA".....	53

VOLUME 12

	PAGE #
ADD A FINE TUNE TO YOUR CLARIFIER (LIKE 2000)....	20
SIMPLE CURE FOR RX-TX TRACKING PROBLEMS.....	21
VSB-1 HOOK-UP: STALKER XX,TRC490,WARDS 719A.....	25
MODULATION ADJUSTMENTS FOR VARIOUS REALISTICS....	33
ZAPPER 9000 REFERENCE CHART.....	46
ZAPPER 9000 TROUBLESHOOTING HINTS.....	47-48
TC9106 PLL OPERATION ANALYSIS.....	50-53
SPREAD EAGLE ANTENNA FOR TRUCKERS.....	54-55
BASIC PLL.....	56
ELECTRONIC TERMINOLOGY.....	57
SCANNER PROGRAMING TIPS.....	58
INTO THE KNOW WITH JAPANESE SEMICONDUCTORS.....	59
TRANSISTOR SPECIFICATIONS.....	60
RESISTOR COLOR GUIDE.....	61-62
CAPACITOR CODES.....	62
YOU CAN BUILD:	
"SECRET CB" SUPER DUPER POWER SUPPLY CONTROLLER	63
AUDIO TEST STATION.....	64
POWER LINE FILTER - T.V.I. FILTER.....	65

VOLUME 13

	PAGE #
INTRODUCING THE SOMMERKAMP TS-7880X.....	4-9
MB8719 PINOUT.....	32
AGC SELECTOR SWITCH.....	38
BUILD VCO BLOCK - CYBERNET 02A CHASSIS.....	39
HOW TO HOOK UP A 10 TURN POT TO 2000 GTL.....	40
2824C OPERATION ANALYSIS.....	41-43
VSB-1 HOOK UP: TRC-488, MIDLAND 77-0004 4001....	43-44
TROUBLESHOOTING CLARIFIER PROBLEMS ON THE 858....	45-47
SUPER REGULATOR.....	48
BUILD A RECEIVER PREAMP.....	49
LINEAR NOTES.....	50-51
MODULATION GUNN OSCILLATOR.....	52-56
CYBERNET 02A AM POWER INCREASE.....	59
REALISTIC DX300 (20-204).....	64
BEARCAT 250.....	65

VOLUME 14

	PAGE #
MB8719/11.3258 TRUTH TABLE.....	15-17
FM-30B THRU-LINE FREQ. COUNTER.....	18-19
"KIT A" FOR LC7130/7131 & TC9106P CHIPS AND INSTALLATION INSTRUCTIONS.....	20-40
BROWNING PING INFORMATION.....	41
25-29 MHz FREQUENCY ASSIGNMENTS.....	62-63
ELECTRONIC TERMINOLOGY.....	63
YOU CAN BUILD:	
FET RECEIVER PRE-AMP.....	64
BUILD YOUR OWN SPACE SOUND.....	65
BUILD AN AMPLIFIER (150 WATT).....	66-67

VOLUME 15

	PAGE #
NEW MICROSCAN PLUS SYSTEM.....	5-6
BREAKING THAT CHIP.....	7-11
02A TRUTH TABLE.....	12-13
MEASURE FREQUENCY ON SCOPE.....	17
PM77 POWER MODULATOR KIT.....	19
DIGITAL PROCESSOR KIT/UPD2824.....	28
WIRE GAUGE CONVERSION CHART.....	41
02A 23 CHANNEL AM MOD.....	59
POWER MOD. FOR AM UNITS.....	65
PRE-CONVERSION TIPS.....	70
CONVERT A SALVAGED METER TO VOLT METER.....	71
STATE/INTERNATIONAL DESIGNATORS.....	72

VOLUME 16

	PAGE #
VSB-1 UPDATE FOR COBRA 2000.....	6
SAMS CB MANUAL - OUT OF PRINT.....	7
CALL SIGNAL/FREQUENCY CHARTS.....	9-20
HINTS/KINKS/GOOFS.....	31
M58472P PLL CHIP MOD.....	33
OSCILLATOR CHECKER, LOW CAPACITY PROBE.....	34
TROUBLESHOOTER GUIDE.....	35-36
INTO THE KNOW WITH POTS.....	37
"MY WAY" SLIDE.....	38
BLEED-OVER FILTER.....	40
LOOP FILTER - WHAT IS IT?.....	42
COLOR CODE GUIDE FOR CHOKES.....	42
ANTENNA INFORMATION.....	56
O2A CLARIFIER/BANDSWITCH MOD.....	57-59
HIGH CURRENT METER.....	63-64
SWR VS REFLECTED POWER CHART.....	65
CUSTOM FREQUENCY STANDARD.....	66-67
CHECKING MODULATION.....	69
DIGITAL PROCESSOR KIT (#146) UPDATE.....	70-71

VOLUME 17

	PAGE #
"B" KIT FOR LC7130/7131 & TC9106P CHIPS AND INSTALLATION INSTRUCTIONS.....	4-33
SECRET CB KIT #106 FOR TRC-451.....	36-38
M58472 PLL CHIP (UPDATE).....	39
FORGOTTEN ACCIDENT (23CH XTAL CONV. INFO).....	39
HINTS/KINKS/GOOFS.....	46
U-BUILD IT: BURGLAR ALARM.....	48
U-BUILD IT: CUSTOM REGULATED POWER SUPPLY.....	49-50
GYPSEY FREQUENCY CHART/KIT INFO.....	51-52
PLL CHIP INFO.....	59
REALISTIC PRO-54 SCANNER (D.C. MOD.).....	62-64
VIDEO "DUBBING/COPYING" TIPS.....	64-65
VCR VIDEO MOD. TRS-80 VIDEO DISPLAY.....	66-69

VOLUME 18

	PAGE #
EXPORT ROUNDUP INFO.....	5-12
M8 CHASSIS SERVICE NOTE.....	13
CAUTION-CIRCUITS-QUICKIE.....	14
SH5104 PLL FREQUENCY MOD. (AM CHASSIS).....	20-21
10KHz FLIP-FLOP.....	23
REALISTIC PRO-22 (SPECIAL NOTES).....	33
PARTS INFO: LAFAYETTE, COLT, SBE, PALOMAR.....	34
TROUBLE SHOOTING TABLES - SSB UNITS: REC86345, O2A (2-BOARD), 858, 8734/8719, 2824/2816.....	35-39
LINEAR TIPS FOR SQUEAL ON TX.....	41
HINTS/KINKS/GOOFS.....	42
ROBYN OWNERS-PARTS SOURCE & TECH NOTES.....	43
HELP WANTED.....	43
861 PLL AM CHASSIS (UPDATE).....	45
CONVERSION CHARTS.....	46
M8719 WITH 11.1125 CRYSTAL INFO.....	47
RADIO SHACK MIKE WIRING.....	48-49
\$MONEY MAKERS\$.....	50
ANTENNA TUNING.....	51
KIT 137 INSTALLATION INSTRUCTIONS & SPEC.....	52-53
LARK FREQUENCY CHART.....	54
SAMS CB/SCANNER MANUAL '84 UPDATE.....	55
\$S\$INDIVIDUAL I.R.A. - TUBES\$.....	57
SURVEY RESULTS.....	58-59
SAVE THE CHIP-MAYBE THE METER.....	60
REMOTE CONTROL OF AMPLIFIER.....	61
THINK SMALL! CRYSTAL INFO.....	62
VIDEO (UPDATE).....	63-65
ANTENNA MOUNTING-MOBILE.....	66
VOLTAGE REGULATOR DESIGN.....	69
ALL ABOUT CRYSTALS.....	70

VOLUME 19

	PAGE #
EARS.....	5-7
EXPORT ROUNDUP.....	10-17
EDITORS NOTES.....	18
CAUTION-DOUBLE BOARD EXPORTS.....	31
DOUBLING-UP FOR CURRENT.....	31
CROSS-REFERENCE ON SAMS CB MANUALS.....	32-33
SERVICE TIPS - EXPORT - CYBERNET O2A PLL.....	37
GEORGE FREQUENCY CHART.....	38-39
ALPHA FREQUENCY CODE CHART.....	43
POLARITY PROTECTOR AND OVER-VOLTAGE PROTECTION.....	44
DUOFONE ET-350 (R/S 43-366).....	45
HOW TO ORDER CRYSTALS.....	47
"SECRET CB" SUPER CLARIFIER DIODE & SUPER SLIDE.....	53
BONUS - HAVING TROUBLE BROADBANDING ON UNITS?.....	54
ROYCE OWNERS PARTS INFO.....	54
CORRECTION FOR 10Kc FLIP-FLOP, V18/P23.....	54
HINTS/KINKS/GOOFS.....	55
FREQUENCY CHART FOR 10KHz FLIP FLOP MOD IN V18.....	56
MODULATION SWITCH - 858 SSB CHASSIS.....	59
WARNING - ANTENNA'S.....	59
TROUBLE SHOOTING TIP - 858 SSB CHASSIS.....	60
BLEED OVER FILTER (UPDATE).....	61
SALVAGE OF POWER SUPPLIES.....	62
VIDEO TAPE.....	63
858 SSB CHASSIS - ADJACENT CHANNEL REJECTION.....	67

VOLUME 20

	PAGE #
TRAM PARTS SOURCE.....	4
R/S 1175 "EXPORT" WIRING HOOK-UPS.....	6-7
WINNER & ANSWER TO "SUPER DIODE PUZZLE CONTEST".....	16
RATING THE EXPORTS.....	17
"EDITED" EXPORT ROUNDUP.....	18-19
EXPORTS.....	20-21
TESTING THOSE "BULK PAK/QUESTIONABLE/ UNMARKED" ZENERS.....	26-27
NEEDED INFO.....	28
MODIFICATION OF EXPORT O2A 5-CRYSTAL CHASSIS.....	37
O2A 'EXPORT' CHASSIS "MULTIPLEX & DIRECT" BAND SWITCHING.....	38
SAMS CROSS REFERENCE: HELP.....	54
HINTS/KINKS/GOOFS.....	55
EXPORT LIST.....	63-64
SATELLITE PROGRAM INFORMATION.....	65-68

VOLUME 21

	PAGE #
TONE MODULES.....	7
MRF 477.....	7
BOGUS 2SC1307.....	7
VOICE SCRAMBLERS.....	8-9
EXPORTS/FEEDBACK/RUMORS.....	10-11
MASTER EXPORT FREQUENCY CHART.....	12
MODIFICATION OF 'CRYSTAL TYPE' WALKIE TALKIE.....	20-21
HINTS/KINKS/GOOFS.....	23
PARTS SOURCE: DAK, DEMCO, LINEARS.....	23
SAMS CROSS REFERENCE.....	24
TALK BACK.....	27
TROUBLE SPOT.....	29
5Kc SWITCH FOR 858 SSB CHASSIS.....	30
FACTORY "SCREW UPS" O2A EXPORT PCB's.....	32
UPDATE ON CB & SCANNER MANUALS.....	33
PARTS SOURCE: TEABERRY, PRESIDENT, SANYO.....	36
PREVENTATIVE MAINTENANCE/REPAIRING TOP LOAD WHIPS.....	38-39
SALVAGE THOSE BATTERY OPERATED IRONS.....	45
STALKER 'ELITE' NOTES.....	52
HEATH BATTERY ELIMINATOR MODEL IP-2715.....	54
O2A "EXPORT" SCHEMATIC OF PTOS011A0X PCB.....	54
OAK CATV EQUIP. "UNSCRAMBLING".....	57-59
U.S. VERSION M8719/8734 PLL CHASSIS FEEDBACK.....	61
CONTRIBUTORS FORM.....	72

VOLUME 22

	PAGE #
EXPORT LIST.....	14-17
INTERCHANGEABLE PARTS.....	43
UPDATE: 5 KC SWITCH - 858 CHASSIS.....	46
READ THE SPECS!.....	49
TROUBLE SPOTS - COBRA AM UNITS WITH UPD2816 PLL...	50
BEWARE.....	51
PERSONAL COMMUNICATOR CONVERSION 49 MHz.....	52-53
ANTENNA FOR 49 MHz.....	58
CABLE T.V. AMPLIFIER TEST.....	58
WANTED: FACTORY SERVICE MANUAL FOR SCANNERS.....	58
LINEAR AMP - GOLDEN EAGLE 1K SCHEMATIC.....	59-61
LINEAR AMP - GOLDEN EAGLE 150 SCHEMATIC.....	62
LINEAR AMP - GOLDEN FALCON 2000 SCHEMATICS.....	63-64
LINEAR AMP - THUNDERBOLT 101 SCHEMATIC.....	65
INDEX OF VOLUME 1 THRU VOLUME 21.....	66-72

VOLUME 23

	PAGE #
CLARIFIER TRACKING CIRCUIT.....	11
BASE STATION "TAPE" MONITOR.....	12
SCRAMBLING UPDATE.....	14
HINTS/KINKS/GOOFS.....	15
PT5006A0X - 02A EXPORT PCB SCHEMATIC.....	15
MIDLAND 79.012 (NEW 6001) INSTRUCTIONS FOR KIT 106	18-19
02A PLL 23 Ch. CHASSIS LOW FREQ. LOGIC MOD.....	38
COBRA 146GTL INSTALLATION INSTRUCTIONS FOR KIT 106	46-47
PHASE LOCK LOOP I.C. CHART.....	48-59
TALK BACK ON COBRA 146GTL AND UNIDEN AX-144.....	59
NOISE REDUCTION TECHNIQUES.....	60
INDEX OF VOLUME 1 THRU VOLUME 22.....	61-68

VOLUME 24

	PAGE #
PARTS SOURCE FOR DOSY & JOE GUNN EQUIPMENT.....	10
ANTRON '99' BASE ANTENNA.....	14
HELP LINE.....	14
CLARIFIER POTS - 'CENTER NOTCH REMOVAL'.....	23
UHIC-005 WIDEBANDING FOR 858 CHASSIS.....	26
REPAIR THOSE WALKIE-TALKIE ANTENNAS.....	28-30
DISCONTINUED TRANSISTORS & SUBSTITUTION CHART.....	35
HINTS/KINKS/GOOFS/TECH TIPS.....	46
MICRONTA FREQUENCY COUNTER (RADIO SHACK #22-351)..	47
"BEEF THE TUBE".....	48
IMPROVING YOUR EARS.....	56-58
SCHEMATIC OF WAWASSEE 'BLACK CAT' FREQ. COUNTER...	64
INDEX OF VOLUME 1 THRU VOLUME 23.....	65-72
CORRECTION INDEX.....	72

VOLUME 25

	PAGE #
UHIC -005 VCO CHIP WIDEBANDING MOD. UPDATE.....	13-14
SECRET CB KIT #146 INSTALLATION INSTRUCTIONS.....	17
SCANNER TRICKS.....	21-26
TECH TIPS.....	26-27
SQUEAL CURES.....	27
THINGS TO KNOW ABOUT AN AMPLIFIER.....	30
DOSY MDL. TR-1000 METER SCHEMATIC.....	33
VC-100 SCHEMATIC.....	34-35
'NEW PRODUCT' RELEASE "LTD KIT".....	36-38
"LTS KIT" INSTALLATION PROCEDURES.....	39-68

VOLUME 26

	PAGE #
"LTD KIT" UPDATE INFO. ON INSTALLATIONS.....	7-10
HINTS/KINKS/GOOFS.....	18
MANUFACTURES KEY CODES.....	18
SANYO SEMICONDUCTOR LIST.....	19-20
RF POWER TRANS. FOR USE UP TO 30MHz.....	22-23
MANUFACTURES ADDRESS & PHONE NUMBERS.....	25-26
TURNER M+2U, JM+2U, & +2 - SCH. & ASSEMBLIES.....	56-59
ELKHART - RX AMPLIFIER SCHEMATIC.....	60
INDEX FOR VOLUMES 1 THRU VOLUME 25.....	69-76
CORRECTION INDEX.....	76



