NEW PAL VCO TUNING MONITOR Made in U.S.A.

THE ONLY VCO THAT USES A CRYSTAL FOR NO DRIFT STABILITY
TUNES VARIABLE 1 KC AT A TIME FROM 27.115 TO 27.505 PLUS

"SOLID AS A ROCK"
WITH
2-6 & 36 TO 1 VERNIER
DUAL TUNING
"NO DRIFT"
"SUPERIOR QUALITY"

Size: 4" High, 5⅜" Wide, 5¾" Deep

Operates both 12 Volts DC (Neg. Ground) and 117 AC

Sugg. List **$149.95**

This **PAL** VCO is great for monitoring stations in the USA and foreign countries now on 11 Meters. Will operate on any of the 23 Channel AM or SSB crystal synthesized transceivers that are listed below.

Great for testing CB gear on a dummy load!

Variable Controlled Oscillator

PAL Products warranted for 1 year parts — 1 year labor.
ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

— PAL VCO's are listed by model number. —

IF YOUR TRANSCEIVER IS NOT LISTED IN THE FOLLOWING LIST BUT HAS THE FREQUENCY SHOWN, THE VCO WILL PROBABLY WORK ON YOUR RADIO!

MODEL A-1
Replaces Xtal 11.0035
COBRA
138/ A
139
MIDLAND
893
895

MODEL A-2
Replaces Xtal 11.150
COURIER
Centurion
Gladiator
PEARCE-SIMPSON
Cheeta
Simba

MODEL A-3
Replaces Xtal 11.750
JOHNSON
351B
352B

MODEL A-4
Replaces Xtal 11.650
PACE
1023
1023B

MODEL A-5
Replaces Xtal 11.855
BROWNING
Brownie
COBRA
Cam 85
Cam 135
GEMTRONIX
GTX-2325
KRIS
XL-70
MIDLAND
878
890B
PACE
CBST 23
PAL
Coyote
SBE
6CB
8CB
14CB
SILTRONIX
SSB23
SSB-23A
Albatross
TRAM
XL Mobile

MODEL A-6
Replaces Xtal 11.890
PACE 1000
Sidetalk

MODEL A-7
Replaces Xtal 11.955
COURIER
Spartan SSB
PEARCE-SIMPSON
Bengal SSB
Panther SSB
REALISTIC
TRC-47
REGENCY
CR-123
CR-123B

MODEL B-1
Replaces Xtal 16.315
BROWNING
LTD
COBRA
132B
135B
TRAM
Diamond 60

MODEL B-2
Replaces Xtal 16.385
PALOMAR
Tube
Skipper 73 Spec.

MODEL B-3
Replaces Xtal 16.420
BROWNING
Mark II SSB
Mark III SSB

MODEL B-4
Replaces Xtal 17.115
AMERICAN ELECT.
76-501 Sprint
76-601 Freedom
BROWNING
SST
SST LP
COBRA
20
28-A
990
CRAIG
4101
4102
LAFAYETTE
Mark IV
Comstat 23
MIDLAND
871
881B
PACE
145
PAL
Roadrunner
SBE
Coronado II
Cortez
Catalina III
Trinidad II
TRAM
Diamond 40

SEE ADDITIONAL MODELS ON OTHER SIDE →

MODEL C-1
Replaces Xtal 23.440

COBRA
19
21
29
Cam 89

COURIER
Cadet 23
Caravelle II
Conqueror II
Classic III
Rebel 23+

FANNON
Fanfare 100CB
120
880

GEMTRONIX
GTX2300

HY-GAIN
Hy-Range I
Hy-Range II
Hy-Range III
Hy-Range IV

KRIS
Tube 23+
99'er
T-23
Vega

LAFAYETTE
Comstat 25B (Tube)
35B (Tube)
HB525E
HB625A

MIDLAND
13-857
856
862B
883
886

PEARCE-SIMPSON
Tomcat
Cougar

REALISTIC
TRC24B & C
TRC30A
TRC52
TRC56

REGENCY
202

ROBYN
T123B (Tube)

SHARP
CBT58

TEABERRY
Tele T
Mode T (Tube)
Mighty T
T Scout
T Control
Charlie T

MODEL C-2
Replaces Xtal 23.480

HY-GAIN
Hy-Range V

LAFAYETTE
Telestat 55B
25A
SSB75
SSB50A
SSB100

MIDLAND
13-892
13-894
898
898B

REALISTIC
TRC46
TRC48

REGENCY
230

ROYCE
631
640

UNIMETRICS
Stingray II

MODEL C-3
Replaces Xtal 23.4875

ROYCE
630
635

MODEL D-1
Replaces Xtal 32.850

JOHNSON
Messenger 122
123A
123B
123SJ
130A
132
250
223 (Tube)

MODEL D-2
Replaces Xtal 32.985

JOHNSON
124M
323M

MODEL D-3
Replaces Xtal 33.160

LAFAYETTE
Micro 923

PEARCE SIMPSON
Old Tube
Guardian 23

REALISTIC
TRC55

MODEL D-4
Replaces Xtal 33.121

KRIS
Victor
Victor II

PACE
CB2376B
DX2300B

MODEL D-5
Replaces Xtal 27.750

AUDIOVOX
MCB500
MCB1000

COURIER
Cruiser 23 & 23A
Comet 23
Classic II
Redball
Regal

CRAIG
4103
4201

DEMCO
Super Satalite

ELECTRONIC
2000

FANNON
700

FIELDMASTER
Micro Mini 23
TR18M

FULLCOMM
Stereo Sonic
2300
2301
2302

GEMTRONIX
GTX23
GTX36

J.I.L.
852CB
606

KRIS
Valiant
Ventura
XL23

LAFAYETTE
Micro
723
925
Telestat
Comphone 23
1022
HB700
Com-Phone Mark II

MIDLAND
12-862B
863
864
867
869
870D
870B
887

PACE
CB-113
123A
133
143
144

PANASONIC
RJ3200

PEARCE-SIMPSON
Bearcat 23C
Bobcat 23C
Cougar 23B
Lynx 23
Super Lynx
Tiger 23C
Puma 23B

RAY-JEFFERSON
CB-705

RCA
14-T 100/ 200

REALISTIC
Mini 23B
TRC49 (Pro Miner)
TRC50B

REGENCY
142
165
186

ROBYN
DG30
GTVIIB
LB-23A
SX-101
TR123C
XL2
T123
WVZ3A

ROYCE
1-402
600B
602A
603
605A
606
620

SBE
Trinidad
Catalina II

SURVEYOR
2100
2300
2400
2600

TEABERRY
Big T
5 X 5

UNIMETRICS
Marlin I
Porpoise I
Sea Horse I
Dolphin

UTAC
Micro Mini 23
TR-18M
Studio 4000

XTAL
XCB5
XCB7

PAL ELECTRONICS CO.

Division of Fire Comm. Corp.

2614 E. ADAMS
PHOENIX, ARIZONA 85034

CONGRATULATIONS

You have just purchased the new Pal VCO "PLUS" designed to monitor as high as 27.505 plus. By removing one crystal your transceiver will now monitor 25 channels above the CB band. By being crystal controlled for stability and frequency drift, it is the finest VCO made.

Please follow instructions for best performance.

PRELIMINARY PROCEDURE

1. Check your transceiver schematic with your dealer to determine the particular type of oscillator circuit used.
2. Remove the crystal which operates channels 13 thru 16 or in some cases 13-17-21-23.

VCO INSTALLATION

1. If your crystal oscillator uses crystals which are grounded to the chassis, then the special coax cable can be inserted into the crystal holder. Be sure the center of the cable is on the HOT side and the shield on the GROUND side. Make firm connections.
2. If your crystal oscillator circuit has a floating ground, then the center of cable should be inserted in the HOT side of the crystal holder and the shield connected to the closest chassis ground.

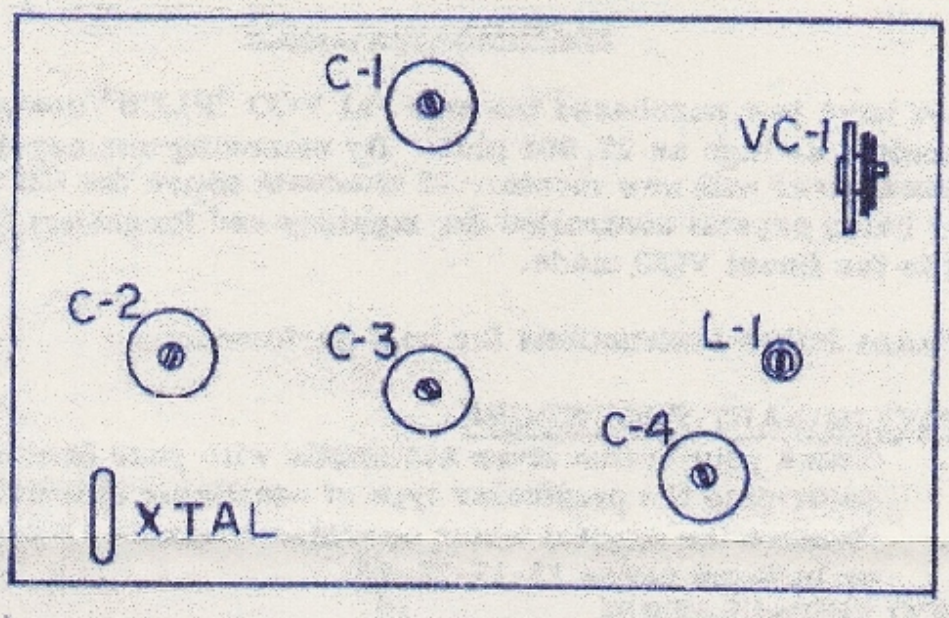
ADJUSTMENT OF VCO VARIABLE CONTROLLED OSCILLATOR

1. Remove cover from the VCO.
2. Set your receiver to any channel showing a strong signal on the front panel meter.
3. Reset your receiver to channel 13, now on VCO, and tune the VCO dial to the same channel as in step 2.
4. Adjust the variable output control so that the needle swing is the same as in step 2. This is very important to minimize harmonics. The variable output control is a yellow, blue or white thumbwheel located near rear end of circuit board standing out about 3/4 inch on right side. Replace cover.

NOTE: Many synthesized transceivers move up 10 kc's each on ch-14 & 15 and 20 kc's on ch-16.

With this VCO installed and it is covering such a high range in frequency, possibly your transceiver should be aligned at the top end of the band, or channel 23. This is to increase sensitivity across the new range of frequencies received.

Good luck with your new Pal VCO and happy monitoring.



ALIGNMENT INSTRUCTIONS - VCO DIAL

1. Adjust VCO dial to channel 13.
2. Set coil, L-1, to transceiver channel 13 crystal frequency. Clockwise lowers & counterclockwise raises.
3. Readjust VCO dial to channel frequency 27.435. (Dial reads 435) which remains through steps 4. through 8.
4. Frequency on counter should read 320 kHz above transceiver crystal frequency.
5. If the counter reads low, multiply the difference of step 4. by 9 and add to the counter reading.
6. If counter reads high, multiply difference of step 4. by 9 and subtract from the counter reading.
7. Adjust C-1 to read the compensating error frequency calculated in step 5. or 6.
8. Adjust L-1 to read the correct frequency, 320 kHz above the transceiver crystal frequency.
9. Repeat above steps until the VCO dial properly tracks, completing the alignment.
10. Adjust C-3 and C-4 for maximum output signal near mid-band dial setting. Typical output is near 4 volts P-P with VC-1 set to max.

* * * NOTE * * *

The above alignment is to be done only by qualified and properly equipped dealers and technicians.