

Bliley
CRYSTALS

BLILEY CCO CRYSTAL CONTROLLED OSCILLATOR MODEL CCO-2A

INSTRUCTION SHEET

The CCO-2A is a crystal controlled oscillator produced specifically for use as a basic unit in amateur transmitters operating in the 2, 6, 10 and 11 meter bands. Band switching is accomplished simply by inserting the proper crystal unit and placing the DPST switch in the correct position, then tune for maximum output.

The output frequency of the CCO-2A is always two (2) times the nameplate frequency of the crystal unit. When operating in the 10 and 11 meter bands, use a Bliley AX2 crystal unit with a nameplate frequency of $\frac{1}{2}$ the desired transmitter output frequency.

EXAMPLE: For operation at 28.5 mc use an AX2 crystal unit at 14.25 mc.

For operation in the 6 meter band use a Bliley type AX3 crystal unit with a nameplate frequency at $\frac{1}{2}$ the desired transmitting frequency.

EXAMPLE: To transmit on 50.5 mc, an AX3 unit at 25.25 mc should be used.

For 2 meter operation it is necessary to use the CCO-2A in conjunction with a tripler, which means that the AX3 crystal frequency should be $\frac{1}{6}$ the desired transmitting frequency.

EXAMPLE: For operation at 144.6 mc use an AX3 crystal at 24.1 mc.

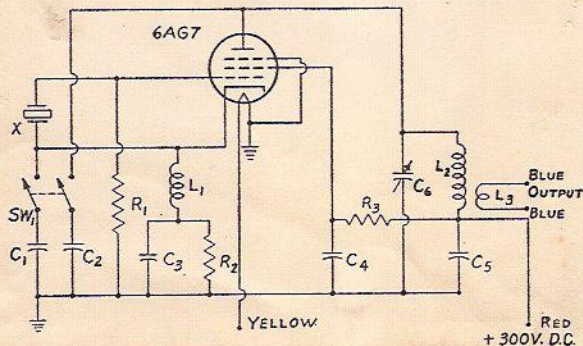
The CCO-2A operated on the 10 and 11 meter band is conservatively rated at 3- $\frac{1}{2}$ watts, at 6 meters 2- $\frac{1}{2}$ watts. For two meter operation 2- $\frac{1}{2}$ watts is available to drive the tripler. For recommended tripler design refer to QST—September 1947. Operation of either amplifiers or triplers in the VHF range depends to a large extent on proper design and construction. Your A.R.R.L. Handbook is an excellent reference.

The CCO-2A is designed to operate on plate voltages ranging from 250 to 300 volts with a filament voltage of 6.3 volts. DO NOT EXCEED THESE OPERATING CONDITIONS. The entire oscillator requires 32 ma at 300 volts.

To place the CCO-2A in operation, insert the proper crystal and tune for maximum output.

Note: The CCO-2A is supplied less crystal and tube. Shown below is the schematic diagram.

This instrument has been thoroughly tested and is guaranteed to be free of electrical and mechanical defects for a period of six months after purchase date.



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|----------------|--------------------------------------|----------------|---------------------------------------|
| C ₁ | 50 mmf. | L ₂ | Coil-9T-14E-15PW- $\frac{1}{2}$ I.D. |
| C ₂ | 40 mmf. | L ₃ | Coil-2T-22Ga-15PW- $\frac{1}{2}$ I.D. |
| C ₃ | .002 mfd. | R ₁ | 33,000 ohms- $\frac{1}{2}$ W. |
| C ₄ | .002 mfd. | R ₂ | 220 ohms-1W. |
| C ₅ | .002 mfd. | R ₃ | 7,500 ohms-2W. |
| C ₆ | 30 mmf. VARIABLE | SW | DPST SLIDE SWITCH |
| L ₁ | Coil-9T-14E-CL.W- $\frac{1}{2}$ I.D. | X | CRYSTAL UNIT |

BLILEY ELECTRIC COMPANY, Erie, Pa.

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