

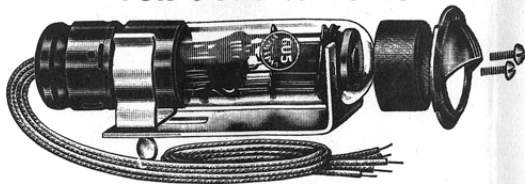


# MAGIC EYE

## ASSEMBLIES FOR ELECTRON-RAY TUBES

For Tuning Indicators, Recorders, Test Equipment

### FOR 6-PRONG TUBES



No. MEA6 — \$1.25 List

Complete assembly for easily adapting or replacing a 6-prong Magic Eye (electron-ray) tube in any apparatus. Includes all necessary parts, with exception of tube. 6-contact socket is completely wired with 22" color coded cable. One megohm target-to-plate resistor is included inside drawn metal socket shield. Slotted mounting bracket permits adjusting tube to come flush with surface of any thickness panel. A fibre light shield slips over front of tube to keep out light from tubes and dial bulbs. Hood type escutcheon is finished in antique bronze to harmonize with modern radio cabinets.

**TUNING INDICATOR** — Assembly is easily connected to any superhet receiver having automatic volume control (AVC). Tube visually indicates when receiver is in resonance with the broadcast signal. Eliminates listening to distorted side bands. Permits tuning with volume control turned off to avoid "blasting". Easily understood instructions are given below for connecting.

**FREQUENCY MODULATION** — Receivers constructed to receive frequency modulated signals definitely require a tuning indicator for bringing the receiver in resonance with the signal or the high fidelity of F.M. is lost. See typical wiring diagram in border.

**RECORDER LEVEL INDICATOR** — To make good semi-professional and home recordings a visual amplitude indicator is required. Simple but effective circuit is shown in border. By switching grid of Magic Eye, a single tube will serve for both Resonance and Recorder Level Indicator.

**TEST EQUIPMENT** — Used by laboratories and service shops, in signal tracers, balance indicators in bridge circuits, condenser testers, vacuum tube voltmeters, output indicators and other apparatus.

**AMATEUR RADIO** — Used to indicate modulation or over modulation. Also an acceptable resonance indicator (6U5, 6E5 and 6N5 types) for communication receivers. Not as accurate as "R", "S" or Carrier Level Meters, but permits finding station carrier, tuning to exact resonance for checking frequencies, etc.

### INSTALLING TUNING INDICATOR

Working in front of the radio cabinet drill a 1/8" hole. Press fibre light shield over front of tube. Insert tube in the 1/8" hole from the back. If hole is proper size the tube will hold itself in place. Using the escutcheon as a template, drill two 1/8" mounting holes. Through these holes insert the two art-head screws into the tapped assembly holder. Run cable through any convenient hole in the chassis and wire as directed below. Although the spring clip grips the tube firmly, the tube can be rotated until the eye movement is centered in the lower half of the escutcheon.

### WIRING INSTRUCTIONS

**RED WIRE** — Connect to "B" plus, from 200 to 250 volts.  
**BLACK WIRE** — Connect to chassis or to ground.  
**GREEN AND BLUE WIRES** — Connect to the filament terminals of any tube socket except the rectifier.  
**YELLOW WIRE** — In most installations the yellow wire can be connected directly to diode load. If Eye remains closed or shows only slight action, disconnect the yellow wire and connect as instructed in the border.

Packaged Individually in Blue and White Carton.



No. 10-1 — 25c List

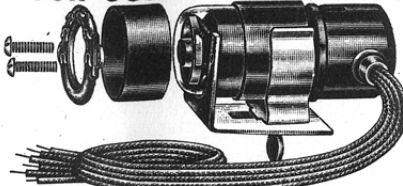
For magic eyes. Modernistically designed to match the other components of your apparatus. Brass, finished in antique bronze.



No. 10-2 — 30c List

Full vision escutcheon for octal-base Magic Eyes. Also used as escutcheon over drilled hole in panel or cabinet for small cable connectors. Inside diam., 1 1/16". Brass, finished in antique bronze.

### FOR OCTAL BASE TUBES



No. MEA8 — \$1.25 List

Complete assembly for connecting octal base Magic Eye tubes, such as 6AF6G and 6AD6G, to receivers and test equipment. Eyes of this type have two movements which can be controlled separately, but common usage is to connect ray-control elements in parallel and amplify the AVC through a tube of the 6K7 or 6J5 type for strong eye action on weak signals. Not recommended for adapting a tuning indicator to an old receiver. Intended for constructing new apparatus.

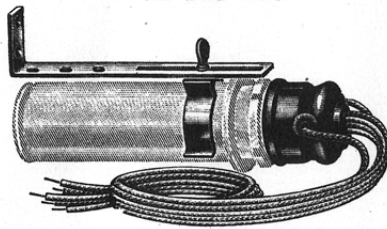
Assembly is similar to MEA6 listed to left but has shorter bracket to accommodate the small octal base tubes. Completely wired with a six wire 22" cable. Supplied with full vision escutcheon finished in antique bronze. For list of parts see top of border.

### Color Code of Cable

**Black** — No. 2 Contact      **Red** — No. 5 Contact  
**Green** — No. 3 Contact    **Black** — No. 7 Contact  
**Blue** — No. 4 Contact      **Brown** — No. 8 Contact

Packaged Individually in Blue and White Carton.

### FOR CATHODE RAY TUBES 902 and 913



No. 913 — \$1.00 List

For mounting the 913, 902 and similar cathode ray tubes. Adjustable bracket permits mounting the tube in any position at any angle. An ideal foundation for laboratory men, amateurs and servicemen who wish to construct an oscilloscope or modulation checker. Assembly consists of molded bakelite socket mounted in a protective metal shell, completely wired with a 22" 8-wire color coded cable. "L" bracket permits mounting on front panel or base. Spring clip holds tube firmly in place. Thumb screw fastening of clip gives easy adjustment to position of tube. Spring clip will expand sufficiently to permit insulation of tube with bakelite or fibre.

### Color Code of Cable

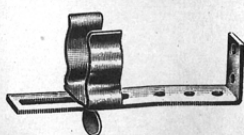
**Black** — No. 1 Contact      **Yellow** — No. 2 Contact  
**Brown** — No. 3 Contact    **Green** — No. 4 Contact  
**Red** — No. 5 Contact      **Blue** — No. 6 Contact

**Blue with Yellow Tracer** — No. 7 Contact

**Black with White Tracer** — No. 8 Contact

Universal bracket permits mounting cathode ray tube in any position and can be affixed to chassis base, front panel, tuning condenser or cabinet.

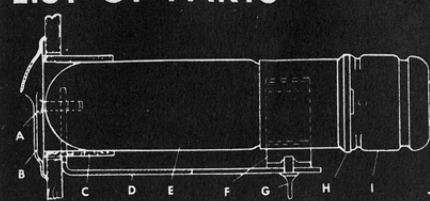
### BRACKET AND TUBE CLIP



Convenient bracket and tube clip as used on above No. 913 Cathode Ray Assembly. Used extensively for holding Magic Eye and other tubes which must be mounted away from

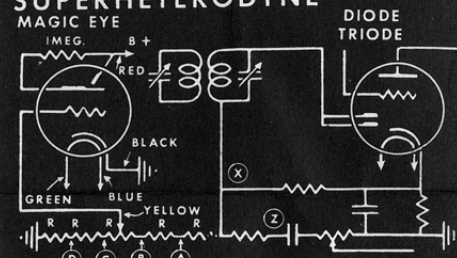
chassis. Also ideal for holding tubes which are mounted upside down as in aircraft or other compact apparatus. Steel clip is formed to grip tube base firmly. Has wing screw for tightening with fingers. Steel bracket is 3 7/8" long, has long slotted hole for sliding adjustment of clip, and three 3/8" holes for mounting or setting clip closer to tube. Base of bracket is 1" long and has two 3/8" mounting holes. See dimensions in border. Finished in cadmium.  
**No. CTWS** — Clip and wing screw only.....10c List  
**No. CB** — "L" Mounting Bracket only..... 8c List

## LIST OF PARTS



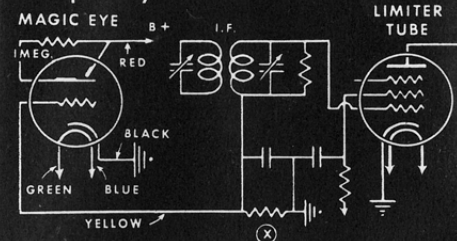
A—Art Head Screws; B—Escutcheon; C—Fibre Light Shield; R—Mounting Bracket; E—Magic Eye Tube (not included); F—Adjustable Spring Clip; G—Wing Screw; H—Bakelite Socket; I—Black Japanned Metal Socket Cover; J—Color Coded Cable, 22" long.

## WIRING INSTRUCTIONS SUPERHETERODYNE



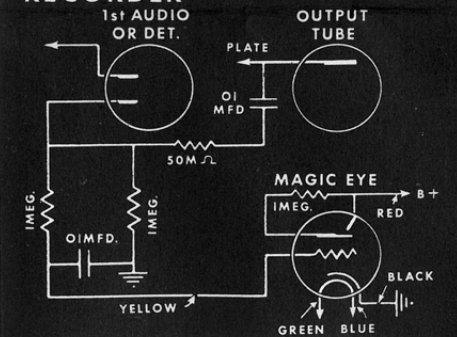
Connect Yellow wire to points "X", or "Z" (any place in the A.V.C. network). If closing sections overlap, connect five 1/4 watt, 3-megohm resistors in series from the I.F. coil to ground. (See resistors "R"). Try Yellow wire at points "A", "B", "C" and "D".

## Frequency Modulation



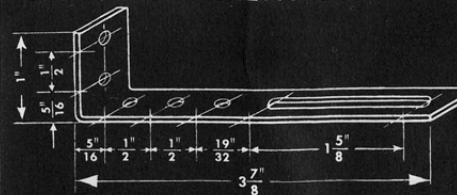
Connect Red, Green, Black and Blue wires as for superhets. Connect Yellow wire to coil side of resistor "X". If Eye action overlaps replace resistor "X" with 10 resistors in series which have a total resistance equal to "X". I.e., if "X" is 10,000 ohms, use ten 1000 ohm resistors. Try at each junction.

## RECORDER



A typical circuit for using a Magic Eye as a visual amplitude indicator for recording. One diode of 1st audio or det. remains connected as in original circuit, the other is used to rectify audio current.

## BRACKET DIMENSIONS



Several Million Magic Eye Assemblies Wired by Amphenol Yearly

AMFORM NO. 867 PRINTED IN U.S.A.

AMERICAN PHENOLIC CORP., 1830 S. 54th AVE., Chicago 50, Illinois