



**Power Supply Required:** 300 v; 40 ma  
6.3 v; 0.4 a

TYPE 1205-A Power Supply is recommended.

**Tube:** Sylvania 5767 Rocket.

**Mounting:** Oscillator is mounted in an aluminum casting surrounded by a spun aluminum container. Assembly is then mounted on an L-shaped panel and chassis piece.

**Accessories Supplied:** TYPE 874-R20 Patch Cord, TYPE 874-P Panel Connector, and TYPE 874-C Cable Connector.

**Accessories Available:** TYPE 1000-P6 Crystal Diode Modulator, TYPE 874 Coaxial Elements such as attenuators, filters, coupling devices, stubs, voltmeter, and mixer. See the January, 1950, *Experimenter* for details.

**Dimensions:** 7 x 6 1/4 x 9 1/4 inches, overall.

**Net Weight:** 5 1/2 pounds.

### Type 1208-A

Specifications for TYPE 1208-A are the same as those for the TYPE 1209-A, with the exceptions noted below.

**Frequency Range:** 65-500 Mc.

**Tuned Circuit:** Sliding contact type.

**Frequency Calibration Accuracy:** 2%.

**Warm-Up Frequency Drift:** 0.5%.

**Output Power:** Into 50  $\Omega$ , 100 mw at any frequency; 500 mw in center of range.

**Power Supply Required:** 300 v; 40 ma  
6.3 v; 0.9 a

TYPE 1205-A Power Supply is recommended.

**Tube:** Lighthouse 2C 43.

**Dimensions:** 6 1/4 x 6 1/4 x 8 1/4 inches, overall.

**Net Weight:** 4 pounds, 14 ounces.

Type		Code Word	Price
1209-A	Unit Oscillator, 250-920 Mc.*	AMISS	\$235.00
1208-A	Unit Oscillator, 65-500 Mc.*	AMEND	190.00

\*U. S. Patent 2,125,816. Patent Applied For.

## TYPE 874-MR MIXER RECTIFIER

A new rectifier unit has been added to the line of TYPE 874 Coaxial Elements, which can be used as a mixer in a heterodyne-frequency converter. Signals at frequencies over 50 Mc, for which receivers are not always available, can be converted to frequencies under 40 Mc and detected with a standard communication-type receiver.

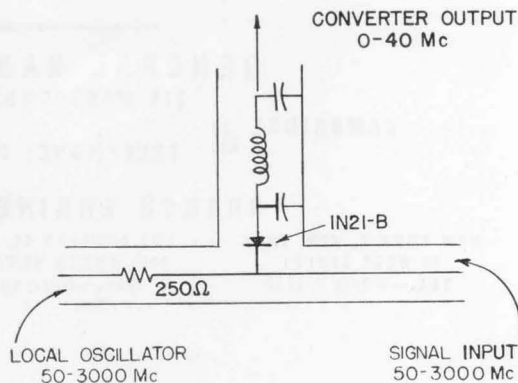
The TYPE 874-MR Mixer Rectifier is similar to the TYPE 874-VR Voltmeter Rectifier, except for the 50-ohm termination resistor which has been changed to 250 ohms to increase the input impedance for the received signal and for the filter at the output which now has a cutoff frequency of 40 Mc instead of a large by-pass capacitor.

Figure 1 is a diagram of the mixer rectifier. All three terminals are fitted with TYPE 874 Connectors. The local oscillator voltage appearing at the crystal must be limited to about 2 volts to prevent damage to the crystal. At this

high level of local oscillator input, strong harmonics will be produced in the crystal, and satisfactory operation with some loss in signal-to-noise ratio will be obtained with signal frequencies several times as high as the local oscillator frequency.

The bandwidth of the receiver used to detect the converter output should be sufficiently wide to allow for normal frequency variation in both the local oscillator and the input signal.

Figure 1. Schematic diagram of the Type 874-MR Mixer Rectifier.





The 65-500 Mc TYPE 1208-A and the 250-920 Mc TYPE 1209-A Unit Oscillators described elsewhere in this issue have been found very suitable for use as local oscillators. With

an input of 4  $\mu$ v at 500 Mc for instance, an output of 1  $\mu$ v at 30 Mc has been obtained, using the TYPE 1209-A Unit Oscillator tuned to 530 Mc. —EDUARD KARPLUS

**SPECIFICATIONS**

Operating Frequency: 50 to 3000 Mc.  
Maximum Input from Local Oscillator: 2 volts.

Cutoff Frequency of Output Filter: 40 Mc.  
Conversion Loss at 30 Mc Output Frequency: 12 db.

Type	Code Word	Price
874-MR	COAXVERTER	\$35.00

\*U. S. Patent 2,125,816. Patent Applied For.

**MISCELLANY**

**SPEAKERS** — Harold B. Richmond, Chairman of the Board, General Radio Company, delivered the principal address at the 1950 Annual Banquet of the Institute of Radio Engineers, held at the Hotel Commodore, New York, March 5. His subject: "For the Radio Engineer — Fission or Fusion."

"Inductors, Their Calculation and Losses" at the Symposium on Basic Circuit Elements, held at the 1950 I.R.E. Convention March 8.

Robert F. Field, of the General Radio Engineering Staff, delivered a paper on

Kipling Adams, of General Radio's Chicago Engineering Office, spoke at the March 19th meeting of the Chicago Section, I.R.E., on "Basic Facts You Should Know about Slotted Lines."

**RECENT VISITORS TO GENERAL RADIO**

**SWEDEN** — Dr. Hans Werthen, Swedish Telephone Committee, Stockholm.

**JAPAN** — Professor Issac Koga, University of Tokyo, and Mr. Hiroshi Shinkawa, Radio Regulatory Agency, Tokyo.

**FRANCE** — Mr. R. J. Audouin, Le Matériel Electrique, Lyon.

**ITALY** — Professor F. Vecchiacchi, School of Engineering of Milan, and Dr. E. Fagnoni, Officine Galileo, Florence.

At a recent visit to Cambridge, Mr. Paul Fabricant of Radiophon, Paris, our representatives in France and the French Colonies, addressed a group of foremen from the General Radio plant on the subject, "Customers Appreciate General Radio Quality."

**SWITZERLAND** — Dr. E. A. Keller, Werkzeugmaschinenfabrik Oerlikon, Zurich.

**GENERAL RADIO COMPANY**

275 MASSACHUSETTS AVENUE

CAMBRIDGE 39

MASSACHUSETTS

TELEPHONE: TR owbridge 6-4400

**BRANCH ENGINEERING OFFICES**

NEW YORK 6, NEW YORK  
90 WEST STREET  
TEL.—WOrth 2-5837

LOS ANGELES 38, CALIFORNIA  
1000 NORTH SEWARD STREET  
TEL.—Hollywood 9-6201

CHICAGO 5, ILLINOIS  
920 SOUTH MICHIGAN AVENUE  
TEL.—WAbash 2-3820