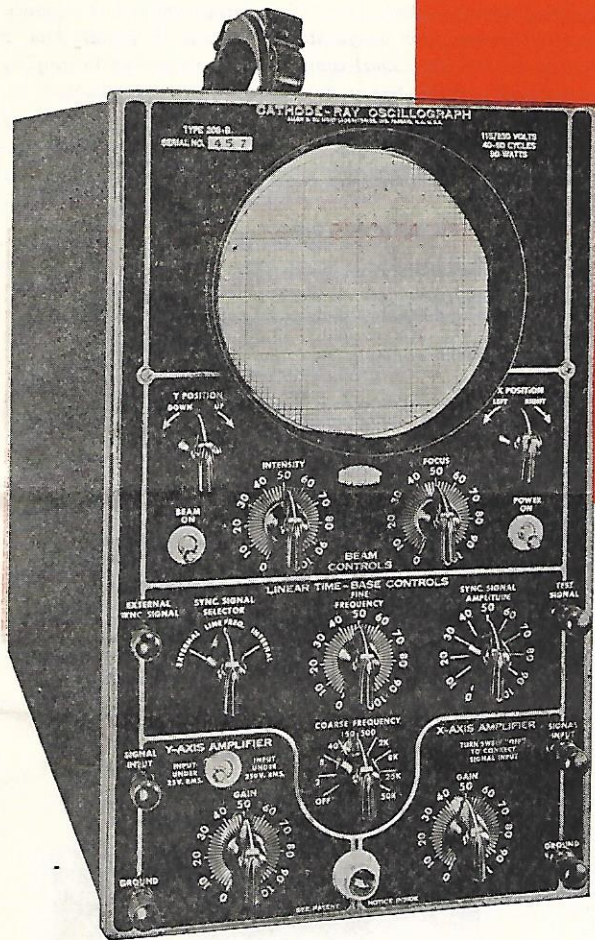


DU MONT

Cathode-ray

OSCILLOGRAPHS



**A CATALOG OF CATHODE-RAY
OSCILLOGRAPHS FOR PRECISION
MEASUREMENTS RELATING TO
ELECTRICITY, MECHANICS, LIGHT,
HEAT, AND SOUND**

"Precision electronics" is more than a slogan with Du Mont—it is a tradition!

In war, this was completely proven by the fact that Du Mont cathode-ray oscillographs were used almost exclusively by both the Army and Navy. These Du Mont instruments were of such fine precision that time intervals as small as one millionth of a second could be accurately measured!

In peace, the superiority of the Du Mont cathode-ray oscillograph has made it the preferred instrument among colleges, research laboratories, and industrial users throughout the world.

How can a Du Mont cathode-ray oscillograph help

you solve your problems? A few of the many practical uses includes the study and testing of: radio and television receivers, transmitters, welding circuits, transmission lines, electronic control devices, circuit breakers, relays, and other electrical equipment. It is equally valuable in the study of vibrations, acoustics, metal properties, detonation in the field of internal combustion engines as well as the analysis of colors and the precision adjustment of watches.

There is a Du Mont cathode-ray oscillograph to suit all requirements . . . six of our most popular models are shown on the following pages. Information about special purpose models for special applications is available upon request.

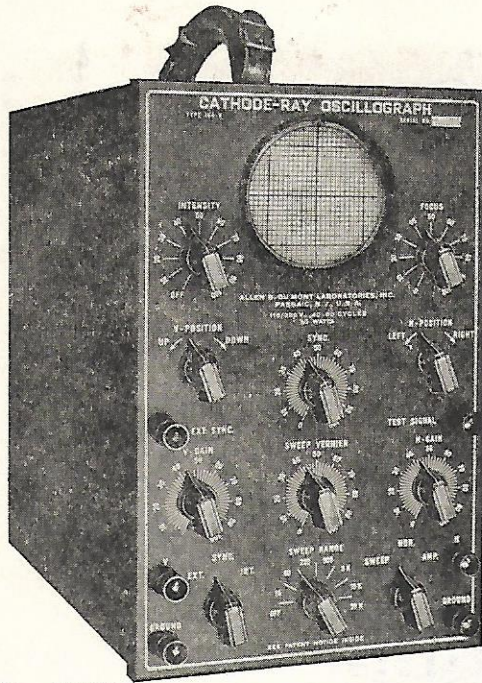
Allen B. Du Mont Laboratories, Inc.

Form 579

Passaic • New Jersey
EXPORT DIVISION 630 FIFTH AVENUE, NEW YORK 20, N. Y., U. S. A.
CABLE ADDRESS: ALBEEDU, NEW YORK

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3" Du Mont Type 164-E



A compact portable instrument especially suitable for laboratory, shop, or field work. The 3-inch cathode-ray tube operates at an accelerating potential of 1,100 volts, thus providing brilliant well-defined traces. Both amplifiers have uniform frequency response over their operating range; the single-stage vertical amplifier has a voltage gain of approximately 43, the horizontal amplifier, which serves to amplify either sweep or externally applied signals, has a voltage gain of approximately 55. For added convenience, direct deflection signals may be connected to the cathode-ray tube without removing the cabinet.

SPECIFICATIONS

Three-inch Type 3AP1 tube with green medium persistence screen is standard equipment. Short persistence blue screen for photographic purposes supplied at slight additional cost. Removable calibrated scale to fit tube face is included.

INPUT IMPEDANCE: Vertical, 1,000,000 ohms; Horizontal, 800,000 ohms; Maximum potential, 400 volts d-c.

FREQUENCY RANGE: Vertical and horizontal amplifiers both uniform within ± 3 db. from 5 to 100,000 cycles.

DEFLECTION SENSITIVITY: Maximum vertical, 0.70 rms volt/in.; Maximum horizontal, 0.55 rms volt/in.; Direct sensitivity of cathode-ray tube is 30 rms volts/in.

LINEAR TIME-BASE: Variable over range from 15 to 30,000 cps. Return trace

elimination. Synchronization from vertical amplifier or external signal.

POWER SUPPLY: 115 or 230 volts, 40 to 60 cycles a-c. Power consumption, 50 watts.

TUBES: All tubes including cathode-ray tube furnished.

PHYSICAL: Black wrinkle-finish steel cabinet with carrying handle. White characters on black front panel. Height 11- $\frac{3}{8}$ ", width 7 $\frac{3}{8}$ ", depth 14". Weight 20 lbs.

CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1064A	164-E	115 v. 40-60 cycles with 3AP1 Cathode-ray Tube	\$105.00
1065A	164-E	230 v. 40-60 cycles with 3AP1 Cathode-ray Tube	105.00
1066A	164-E	115 v. 40-60 cycles with 3AP11 Cathode-ray Tube	107.50
1067A	164-E	230 v. 40-60 cycles with 3AP11 Cathode-ray Tube	107.50

3" Du Mont Type 224-A

The wide range response of this instrument provides faithful reproduction of all waveforms with steep fronts and resultant large harmonic content, thereby permitting the study of signals, such as pulses and square waves involving frequency components as high as 5 megacycles. Numerous combinations of signal input connections at the front panel provide added flexibility and convenience of operation. A special feature is the provision for intensity modulation of the grid of the cathode-ray tube. Included is a test probe with shielded cable for high frequency work and to eliminate stray pickup.

SPECIFICATIONS

Three-inch Type 3GP1 tube with green medium persistence screen and removable calibrated scale are standard equipment.

INPUT IMPEDANCE: X and Y-axis; Terminals, 2 meg., 30 μ f Probe, 1 meg., 20 μ f; Direct (balanced), 10 meg., 20 μ f; Direct (unbalanced), 5 meg., 25 μ f.

FREQUENCY RANGE: Sine wave response uniform within 3 db, Y-axis from 20 c. to 2 mc., X-axis from 10 c. to 100 kc.

DEFLECTION SENSITIVITY: With amplifier, to Y-axis 0.1 rms volt/in. deflection, to X-axis 0.7, Y-axis with probe 0.4. Direct to deflection plates, Y-axis 25 rms volts/in. deflection, X-axis 28 volts.

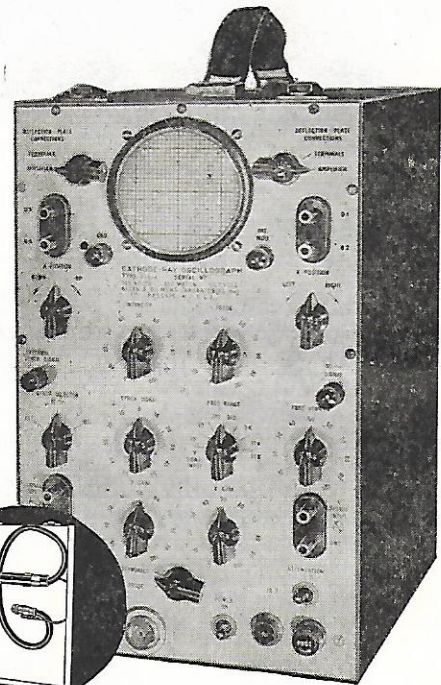
LINEAR TIME-BASE: Continuously vari-

able frequency range from 15 to 30,000 cps. Synchronizing signal sources: internal Y-axis signal, power supply frequency, or external. Synchronization by either polarity of synchronizing signal.

POWER SUPPLY: 115 volts, 50 to 60 cycles. Power consumption 150 watts.

TUBES: All tubes furnished.

PHYSICAL: Olive-drab wrinkle-finished steel cabinet with carrying handle. Black characters on etched bright metal panel. Height 14 $\frac{1}{8}$ ", width 8 $\frac{3}{8}$ ", depth 15 $\frac{1}{8}$ ". Weight 49 lbs.



CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1191A	224-A	115 v. 40-60 cycles with 3GP1 Cathode-ray Tube and Test Probe	\$250.00
1203A	224-A	115 v. 40-60 cycles with 3GP11 Cathode-ray Tube and Test Probe	252.75

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

5" Du Mont Type 208-B

A moderately priced 5-inch instrument embodying many recent improvements that facilitate its application to the great majority of laboratory and production requirements. The Type 208-B is furnished with a 5-inch intensifier type, high vacuum tube which operates at an accelerating potential of 1,400 volts thus insuring trace brilliance. Freedom from origin distortion, sharp focus at all deflecting frequencies, and a high deflection sensitivity that permits the viewing of moderately low potential signals without the use of amplifiers are additional features. The wide-band amplifiers provide symmetric deflection and are direct coupled to eliminate "electrical backlash."

SPECIFICATIONS

Type 5LP1 intensifier type, high vacuum CRT with four free deflection plates and green medium persistence screen is standard. Type 5LP11 with blue short persistence screen available at slight additional cost. Removable calibrated scale supplied.

INPUT IMPEDANCE: Amplifiers, X-axis 5 meg., 25 μ f Y-axis 2 meg. 30 μ f. Continuous attenuation control without frequency discrimination or amplitude distortion.

FREQUENCY RANGE: Plus or minus 10% from 2 to 100,000 sinusoidal cycles for both X and Y-axis amplifiers.

VOLTAGE GAIN: Y-axis 2,000, X-axis 43.

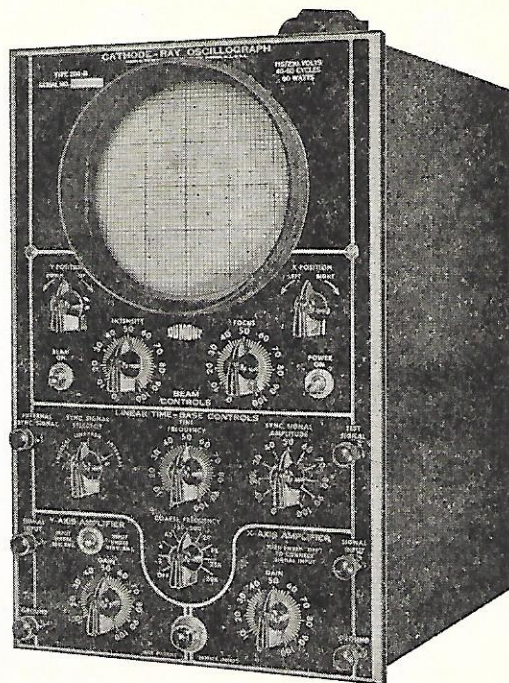
DEFLECTION SENSITIVITY: Maximum, Y-axis 0.010 rms volt/in., X-axis 0.5; Direct, Y-axis 21 rms volts/in., X-axis 22 rms volts/in.

LINEAR TIME-BASE: Recurrent over continuously variable range from 2 to 50,000 cycles.

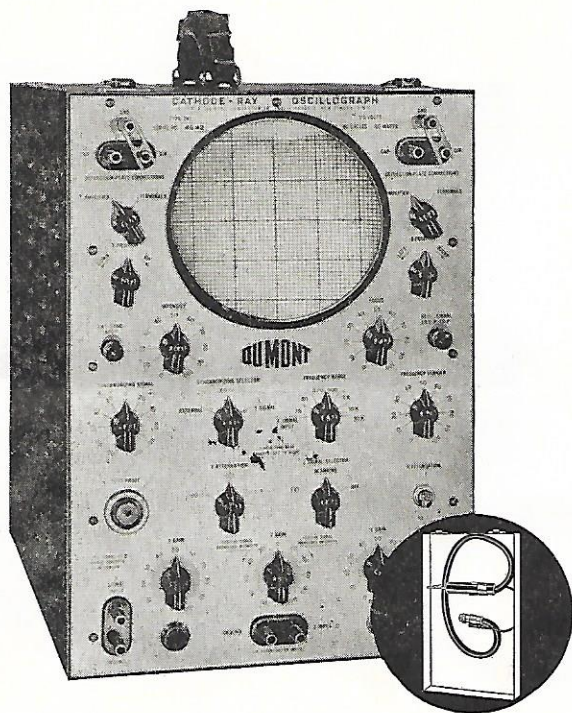
POWER SUPPLY: 115 or 230 volts, 40 to 60 cycles a-c. Power consumption 90 watts. Voltage regulation for amplifiers and positioning controls.

TUBES: All tubes furnished.

PHYSICAL: Black wrinkle finish steel cabinet with carrying handle. Black finish front panel with raised polished characters. Height 15 $\frac{3}{4}$ ", width 8 $\frac{3}{8}$ ", depth 20 $\frac{1}{4}$ ". Weight 54 lbs.



CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1146A	208-B	115 v. 40-60 cycles with 5LP1 Cathode-ray Tube	\$235.00
1147A	208-B	230 v. 40-60 cycles with 5LP1 Cathode-ray Tube	235.00
1148A	208-B	115 v. 40-60 cycles with 5LP11 Cathode-ray Tube	237.75
1149A	208-B	230 v. 40-60 cycles with 5LP11 Cathode-ray Tube	237.75
1150A	208-B	115 v. 40-60 cycles with 5LP7 Cathode-ray Tube	240.50
1151A	208-B	230 v. 40-60 cycles with 5LP7 Cathode-ray Tube	240.50



5" Du Mont Type 241

Designed for application requiring the observation of audio and video frequency signals above the operating range of standard oscillographs, the Type 241 is well adapted for problems involving non-sinusoidal waveshapes such as pulses and square waves. Cathode-loaded input stages to the balanced deflection amplifiers permit the use of a low-impedance attenuator thus preventing attenuator frequency discrimination. Elimination of over-compensation at high frequency greatly extends the useful range of the amplifiers. A test probe and shielded cable, for high frequency work, is contained in the removable front cover.

SPECIFICATIONS

Type 5JP1 intensifier type tube with green medium persistence screen and calibrated scale are standard equipment. Four free deflection plates with neck terminals reduce input capacitance and permit the use of improved wide band deflection amplifiers.

INPUT IMPEDANCE: X- and Y-axis; Terminals 2 meg. 40 μ f; Probe 1 meg., 10 μ f; Direct (balanced) 5 meg. 20 μ f. Direct (unbalanced) 5 meg., 25 μ f.

FREQUENCY RANGE: Uniform within 3 db., Y-axis 20 c. to 2 mc., X-axis 5 c. to 100 kc., Z-axis 30 c. to 2 mc.

DEFLECTION SENSITIVITY: With amplifier, to Y-axis 0.07 rms volt/in., with probe 0.70; to X-axis 0.70; to deflection plates, Y-axis 22 rms volts/in.; X-axis 21.

LINEAR TIME-BASE: Continuously variable 15 to 30,000 cps. Synchronizing

signal sources, internal Y-axis signal, power supply frequency, or external. Synchronization by either polarity of synchronizing signal.

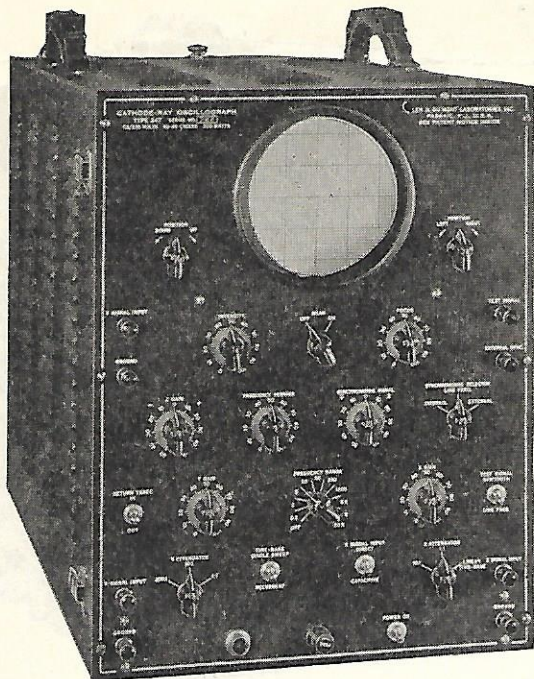
POWER SUPPLY: 115 volts, 50 to 60 cycles. Power consumption 160 watts.

TUBES: All tubes furnished.

PHYSICAL: Black wrinkle-finish steel cabinet with carrying handle. Satin finish steel panel with etched black markings. Height 17 $\frac{1}{2}$ ", width 20 $\frac{3}{4}$ ", depth 21". Weight 65 lbs.

CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1192A	241	115 v. 50-60 cycles with 5JP1 Cathode-ray Tube	\$458.00
1204A	241	115 v. 50-60 cycles with 5JP7 Cathode-ray Tube	463.50
1205A	241	115 v. 50-60 cycles with 5JP11 Cathode-ray Tube	460.75

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5" Du Mont Type 247

Combining outstanding performance with remarkable flexibility of operation, the Type 247 features an extended time-base range which makes it equally valuable in the study of low-frequency transients as well as r-f signals as high as 500 kc. Another new feature is the beam-control circuit for single sweep which extinguishes the beam, except when plotting a trace . . . a feature which makes it possible to achieve brilliant photographic results when making oscillograms.

SPECIFICATIONS

A Type 5CP1 intensifier type, high vacuum CRT with a green medium persistence screen is standard. Type 5CP11 with blue short persistence screen (for high speed photographic work) or 5CP7 with amber long persistence screen (for visual low speed studies) are available at a slight additional cost. Accelerating potential is 3,000 volts.

INPUT IMPEDANCE: Amplifiers, Y-axis 2 meg. 30 μ f, X-axis 2 meg. 45 μ f. Continuous attenuation control without frequency discrimination.

FREQUENCY RANGE: Y-axis uniform within 10% from 2 c. to 200 kc. X-axis response uniform within 20% from 1 c. to 100 kc. Z-axis 20 c. to 2 mc. sinusoidal.

DEFLECTION SENSITIVITY: X-axis amplifiers better than 0.5 rms volt/in., Y-axis 0.05. Direct connection approx. 20 to 25 rms volts/in.

LINEAR TIME-BASE: Recurrent rate 0.5 to

50,000 cps. Variable single sweep writing rates corresponding to .5 c. to 10 kc. recurrent operation. Either polarity of synchronizing signal will operate sweep.

POWER SUPPLY: 115 or 230 volts, 40 to 60 cycles. Power consumption 300 watts.

TUBES: All tubes furnished.

PHYSICAL: Black wrinkle-finish steel cabinet with two carrying handles. Copper plated steel chassis, black front panel with white markings. Height 20 $\frac{1}{4}$ ", width 14 $\frac{3}{4}$ ", depth 26 $\frac{3}{4}$ ". Weight 130 lbs.

CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1193A	247	115 v. 40-60 cycles with 5CP1 Cathode-ray Tube	\$835.00
1195A	247	115 v. 40-60 cycles with 5CP11 Cathode-ray Tube	837.75
1197A	247	115 v. 40-60 cycles with 5CP7 Cathode-ray Tube	840.50

Above instruments available for 230-volt operation with no change in price

5" Du Mont Type 248

The Type 248 includes the following special features: driven or "slave" sweep speeds which exceed one inch per microsecond, visual display of non-repetitive transients that produce writing rates of three or more inches per microsecond, a one-half microsecond delay network which permits observation of the initial part of a transient, a separate trigger oscillator, internally provided timing markers at 1, 10, and 100 microsecond intervals, and a complete and separately housed power supply.

SPECIFICATIONS

Type 5JP1 intensifier type, high vacuum CRT with a green medium persistence screen is standard. Deflection plate terminals at the neck of the tube decrease the input capacitance to the deflection plates. Provision is made for operating the tube at accelerating potentials of both 2,000 and 4,000 volts.

INPUT IMPEDANCE: Y-axis, 1 meg., 40 μ f; probe 5 meg. 10 μ f; X-axis terminals 1 meg., 30 μ f.

FREQUENCY RANGE: Y-axis uniform within 30% from 20 cps to 5 mc.; X-axis within 30% from 20 cps to 2 mc., no positive slope at h.f. end of response curve. Z-axis usable to above 5 mc.

DEFLECTION SENSITIVITY: With amplifier, to Y-axis 0.1 rms volt/in., to X-axis 2.75 rms volts/in., Y-axis with probe 2.0 rms volts/in., Direct to deflection plates with 4,000 volts accelerating potential, 120 d-c volts/in.

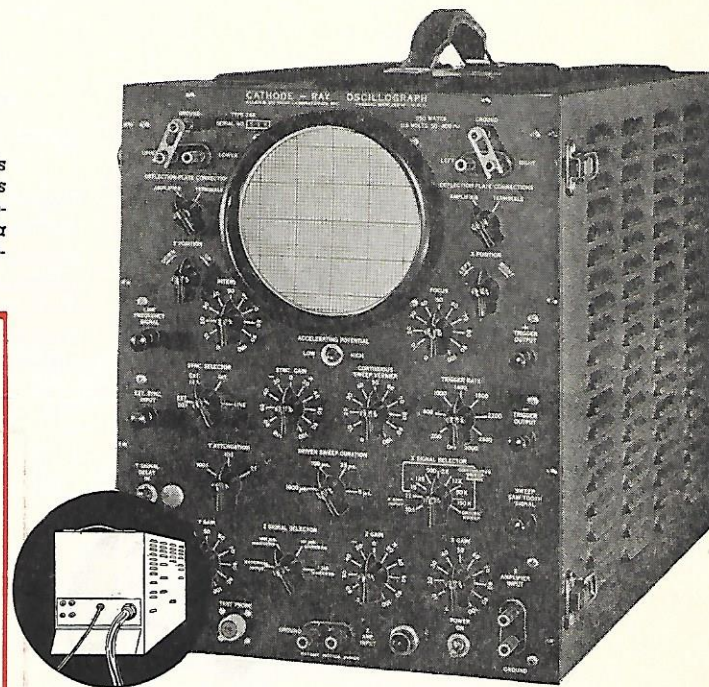
LINEAR TIME-BASE: Continuously variable from 15 cps to 150 kc. Sweep may be synchronized with signal of from 15 cps to 5 mc. and synchronizing phase duration of as low as 0.1 microsecond.

DELAY NETWORK: Constant attenuation and linear phase shift to 6 mc. more than 0.5 microsecond delay.

DRIVEN SWEEPS: Durations of 5, 25, 100, and 1,000 microseconds. Sweeps initiated by pulse of either polarity with duration as little as 0.1 microsecond.

TRIGGER OSCILLATOR: Pulse rate 200 to 3,000 per second; duration 0.5 microsecond, output impedance less than 500 ohms.

MECHANICAL CONSTRUCTION: Two units with interconnecting cable. Both units app. 16" x 13" x 21". Power supply 126 lbs., indicator unit 71 lbs. Cabinets black wrinkle, cadmium-steel chassis, dull black front panel with white lettering.



CAT. No.	TYPE No.	DESCRIPTION	NET PRICE
1199A	248	115 v. 50-400 cycles with 5JP1 Cathode-ray Tube	\$1870.00
1200A	248	115 v. 50-400 cycles with 5JP11 Cathode-ray Tube	1872.75
1201A	248	115 v. 50-400 cycles with 5JP7 Cathode-ray Tube	1875.50

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