## Ballantine Short Form Catalog

al voltmeters $\square$ true rms voltmeters $\square$ ac and rf stand average responding voltmeters $\square$ multi-function meters voltmeters $\square \mathrm{ac} / \mathrm{dc}$ voltage calibrator $\square$ true rms vo ac and rf standards $\square$ ac/dc digital voltmeters $\square$ ave |tage calibrator $\square$ rf voltmeters $\square$ true rms voltmeter: O rms voltmeters $\square$ average responding voltmeters [ f voltmeters $\square \mathrm{ac} / \mathrm{dc}$ voltage calibrator $\square$ true rms $\mathrm{v}_{1}$ rator $\square$ ac and rf standards $\square \mathrm{ac} / \mathrm{dc}$ digital voltmeters voltmeters $\square$ ac/dc digital voltmeters $\square$ true rms vol je responding voltmeters $\square$ ac and rf standards $\square$ mul alti-function meters $\square$ average responding voltmeters [ voltmeters $\square$ ac and rf standards $\square$ true rms voltmete $\square \mathrm{ac} / \mathrm{dc}$ digital voltmeters $\square$ multi-function meters $\square \mathrm{ac} / \mathrm{d}$ ling voltmeters $\square$ ac and rf standards $\square$ ac/dc voltage meters $\square$ average responding voltmeters $\square$ multi-func yital voltmeters $\square \mathrm{rf}$ voltmeters $\square \mathrm{ac} / \mathrm{dc}$ voltage calibri

## Ballantine's Logarithmic Scale



This is one of the many different logarithmic voltage scales offered on Ballantine Voltmeters.*
Unlike standard linear scales,
the Ballantine Scale has constant
reading accuracy end-to-end.
Always specify Ballantine instruments and receive the full accuracy paid for
*Need the dB scale uppermost? - we can do it.

Need more divisions?

- we can do it.

For any scale on any Ballantine instrument check with us - it may be standard, but if not we can
supply one to suit your
requirements at a modest additional charge.
Repair and Calibration
We maintain complete facilities and spare parts for prompt repair and calibration of all instruments manufactured by us.
Calibration standards are
available from dc to 1000 MHz , traceable to the Nationa Bureau of Standards.
Today's fast air freight service makes factory repair of precision instruments more feasible than ever. Ask us for quotations on repair and calibration, or for
calibration only, of any
Ballantine instrument.

## Prices

Prices are F.O.B. Boonton, N. J., and are subject to change without notice. Prices shown are for the portable configuration. Ask us about our many other
special versions.

## AC Voltmeters

Average Responding Voltmeters, calibrated in RMS value of a sinusoidal input voltage, are the most commonly used voltage measuring devices. They combine good accuracy and reasonable cost. Accuracy is maintained provided the input waveform is approximately sinusoidal in shape. (For example, harmonic distortion of $3 \%$ will cause less than a $1 \%$ error.)

The number of average
responding instruments available from Ballantine is second-to-none, with a wide choice of:

- Frequency Range
- Accuracy
- Sensitivily
- Special Features


## Wideband, <br> High Accuracy, <br> Sensitive <br> Voltmeter / Amplifier

Model 303


This rugged solid state voltmeter features: $\square$ Midband accuracy of $1 \%$ RDG $\square$ extra low frequency response down $02 \mathrm{~Hz} 100 \mu \mathrm{~V}$ sensitivily isolated signal ground $\square 10 \mathrm{M} \Omega$ input impedance $\square$ a rechargeable battery option The Model 303 is the perfoct instrument for field, laboratory or systems use. The Model 303-50 and 303-51 versions nclude a 20 dB probe for operation from 1 mV to 1000 V .
Voltage Range:
$100 \mu V$ to $350 V$ ( 12 ranges)
Accuracy vs Frequency:


Input Impedance:
10 Ms shunted by 15 or 25 pF
scales:
Logarithmic voltage, 1 to 3 and 3 to 10 ; inear $\mathrm{dB}, 0$ to 10
Amplifier:
Gain, 40 dB ; output, 100 mV ; source, $150 \Omega$; linearity $\pm 0.5 \mathrm{~dB}, 2 \mathrm{~Hz}$ to $6^{\prime} \mathrm{MHz}$
Prices:
Model $303-01$ (AC line operated) Model 303 (battery and line operated) Model 303.50 (battery/ line probe) $\$ 335$
$\$ 395$ Model 303-51 (line probe)

## Wideband, Sensitive

Voltmeter / Amplifier
10 Hz to 6 MHz
Models 310B and 314A


Both the Model 310 B and 314A have proved to be standards of the industry. They feature: $\square 20 \mathrm{~dB}$ decaded ranges $\square 30 \mu \vee$ null detector mode
$\square$ Highly stable performance $\square$ an amplifier that operational over the entire The Model 314 A includes an attenuator probe to increase the voltage range to 1000 V and the input impedance to $10 \mathrm{M} \Omega$.
Voltage Ranges:
Model $310 \mathrm{~B} 100 \mu \mathrm{~V}$ to 100 V ( 6 ranges) Model 314A
(without probe) $100 \mu V$ to 100 V ( 6 ranges) (with probe) 1 mV to 1000 V ( 6 ranges) Accuracy vs Frequency: (both models)


Input Impedance:
Model $310 \mathrm{~B} \quad 2 \mathrm{M} \Omega$ shunted by 15 or 25 pF Model 314A 2 M $\Omega$ shunted by 25 pF
(without probe)
$0 \mathrm{M} \Omega$ shunted by 7.5 pF (with probe)
Scales:
Logarithmic voltage, 1 to 10 ; Linear $\mathrm{dB}, 0$ to 20
Amplifier:
 linearity, $1 \mathrm{~dB}, 10 \mathrm{~Hz}$ to 6 MHz
Prices:
Model 310B
Model 314A (includes probe)
$\$ 385$
$\$ 435$

AC Voltmeters (continued)

## Low Cost, <br> Sensitive <br> Voltmeter/Amplifier <br> 10 Hz to 1 MHz <br> Model 300H <br> 

In addition to an expected calibration
stability of 5000 hours, the
Model 300 H features.
$\square$ decaded 20 dB ranges
$\square$ amplifier output $\square 30 \mu \mathrm{~V}$ sensitivity
$\square$ wide frequency range
$\square$ high reliability at low cost.
This popular instrument is an outstanding
value as both an amplifier with
response variation of only $\pm 1 \mathrm{~dB}$
from 10 Hz to 1 MHz and as a
$2 \%$ of reading voltmeter.
Voltage Range:
$300 \mu V$ to $330 \vee$ ( 6 ranges)
to $30 \mu \mathrm{~V}$ in SENS X10 function
Accuracy vs Frequency:


[^0]Mechanically
Programmable,
Hali-Rack,
Voltmeter/Amplifier
for systems use
Model 300E


The Model 300E features:
$\square$ decaded 20 dB ranges $\square$ isolated
signal ground $\square$ rear input and output $\square$ switch shaft extended to the rear for attachment to a rotary-relay actuator.
The Model 300 E is ideal for systems
use where panel meter readout or
amplified ac output is required.
Voltage Range:
$300 \mu V$ to $300 V$ ( 6 ranges)
Accuracy vs Frequency:


Input Impedance:
Input Impedance:
$2 \mathrm{M} \Omega$ shunted by 20,30 or 40 pF
Scales:
Logarithmic voltage: 3 to 30 ; Linear $\mathrm{dB}_{4}-10$ $0+10$
Programming:
Provision for actuator operated switch
connection
Amplifier: 45 dB ; output, 0.6 V ; source,
Gain 45 dB ; output, 0.6 V ; source, $300 \Omega$; nearity, $\pm 1 \mathrm{OB}, 30 \mathrm{~Hz}$ to 200 kHz
Price:
Model 300E
$\$ 335$

High Accuracy
Voltmeter / Amplifier
AC
10 Hz to 250 kHz
Model 300G


By combining Ballantine's best mechanical and electrical features, the Model 300 G has become widely accepted as an industry standard. The instrument features: $\square 1 \%$ midband accuracy $\square 20 \mathrm{~dB}$ decaded ranges $\square$ an amplified output $\square \square$ unique leedback design that ensures a long, stable and trouble-free life.
Voltage Range:
1 mV to 1000 V ( 6 ranges)
Accuracy vs Frequency:


Input Impedance:
$2 \mathrm{M} \Omega$ shunted by 15 or 25 pF
Scales:
Logarithmic voltage, 1 to 10 ; Linear $\mathrm{db}, 0$ to 20
Amplifier:
Gain, 60 dB ; output, 10 V ; source, $300 \Omega$; linearity, $\pm 1 \mathrm{~dB}, 10 \mathrm{~Hz}$ to 250 kHz
Price:
Model 300G

## AC/DC VOM

 High Accuracy,(ac, de and ohms)

## Model 345



Accuracies of $1 \%, 2 \%$ and $3 \%$ of reading for dc, ac and ohms respectively make the Model 345 far superior in accuracy than any other multi-function boasts an extremely wide range of resistance measurement from $25 \mathrm{~m} \Omega$ 5000 M $\Omega$. The versatile Model 345 also features: $\square$ simple decade ranging (not confusing 15 to 50 scales)
$\square$ fewer scales $\square$ internal calibration voltages $\square$ half-rack mechanical design $\square$ a full range of accessories
DC Voltage Range:
0 to 1100 V (to $10,000 \mathrm{~V}$ with optional Model
3345 Multiplier)
AC Voltage Range:
0 to 350 V
Frequency Range:
20 Hz to 1000 MHz
Ohms Range:
0 to $5000 \mathrm{M} \Omega$
Accuracy, \% of Reading:
DC, $1 \%, 1 \mathrm{~V}$ to $1100 \mathrm{~V} ; \mathrm{AC}, 2 \%, 1 \mathrm{~V}$ to 350 V , 50 Hz to $100 \mathrm{MHz}^{\prime} 0 \mathrm{hms}, 3 \%, 1 \Omega$ to 100 Ms Input impedance:
$D C, 112 \mathrm{M} \Omega ; A C, 10 \mathrm{M} \Omega$ and 2.2 pF
Price:
Model 345

Model 305A


The sensitive Model 305A is the only available instrument that measures positive or negative peak and peak-to-peak value of repetitive pulses, Hinmoids and complex waverorms. in its measurement capability. in its measurement capability. allows measurement of low energy pulses. A meter reset button enables rapid consecutive measurements to be made. The integral high gain ac amplifier may also be used for many varied purposes, such as a counter pre-amp or low level signals or as a pre-amp where high voltage output is of interest.

## Voltage Range:

1 mV to 1000 V peak or peak-to-peak
Accuracy and Range (\% RDG):
Sine Wave:
$\pm 2 \%$ from 20 Hz to 200 kHz ;
$\pm 4 \%$ from 5 Hz to 500 kHz
Pulses:
$\pm 3 \%$ above $3 \mu$ s and 100 pps ; $\pm 5 \%$ above $1 \mu \mathrm{~s}$ and 100 pps ; $\pm 5 \%$ above $0.5 \mu \mathrm{~s}$ and 5 pps
with correction
Input Impedance
M? shunted by 10 or 25 pF
Scales:
ogarithmic voltage, 1 to 3 and 3 to 10 ;
inear dB, 0 to 10 .
Amplifier:
Gain, 86 dB ; output, $+70 \mathrm{~V},-40 \mathrm{~V}$; source, $3 \Omega$; linearity, $\pm 3 \% ; 5 \mathrm{~Hz}$ to 500 kHz Price:
Model 305A
0.01 Hz to 30 kHz

Model 316


The unique frequency response
characteristics of the Model 316 make it ideally suited for such applications as sine and square wave voltage
measurement in automatic control systems Special features have been included to
educe measurement tedium to an
absolute minimum. Negligible flutter
0.01 Hz is virtually eliminated at 0.05 Hz .

Voltage Range:
20 mV to 200 V , peak-to-peak
Frequency Range:
Frequency
0.05 Hz to 30 kHz (down to 0.01 Hz with correction)
Accuracy:
$3 \%$ of reading
Input Impedance:
$10 \mathrm{M} \Omega$ shunted by 30 or 40 pF
Scales:
Logarithmic voltage, 2 to 20; Linear $\mathrm{dB}, 0$ to Price:
Model 316

## Digital Voltmeters

Programmable
Digital Measuring System
Model 3570
AC Voltmeter Module
DC Voltmeter Module


A fully programmable sensitive voltage measuring system consisting of a Digital Display Module and associated AC and DC Converter Modules.

## Description

Ballantine, the recognized leader in ac voltage measurements now offers the FIRST Automatic Digital Voltage
Measuring System to 10 MHz . The
Digital Display Module in combination system with exceptional voltage form a system with exceptional voliage and features make it ideally suited for $\square$ automated production test stands $\square$ high accuracy laboratory applications $\square$ data acquisition systems
$\square$ process monitoring and control.

## System Features

Front panel functions on all modules remotely programmable
Printed circuit construction with plug-in ICs assures ease of maintenance
Modules are 3.5 inches high and can be combined side-by-side for standard 9 inch rack-mount operation,
or over-and-under for portable use.

## Model 3570 Display Module

Features
Four digit Nixie readout with overrange
Dual-slope integration with four selectable integration times

- System compatibility assured - all information available in digital form
Optional 20 MHz frequency
counter capability
Auto-ranging option


## Model 3571 AC Converter Module

## Features

30 Hz to 10 MHz frequency coverage unsurpassed by any instrumen currently available

- 10 mV full scale sensitivity for low-level measurements
$10 \mathrm{M} \Omega$ input impedance
Selectable filter time constant for smoothing de input to display
Auto-ranging capability with Model 3570


## Model 3572 DC Converter Module

Features

- 100 mV to 1000 V full scale decade ranges
- Input resistance $10 \mathrm{M} \Omega \ldots 1000 \mathrm{M} \Omega$
panel selected on 100 mV and 1 V ranges
- Auto-ranging capability with Model 3570
- Ext. thermal potentials can be bucked-out by front panel control

Update your present DVM
By adding converter modules you can achieve state-ot-the-art measurements.

## AC System

Voltage Range:
10 mV fs to 300 V fs ( 6 ranges)
Accuracy vs Frequency:


Input Impedance:
$1000 \mathrm{M} \Omega$ panel sel, 100 mV and IV is ranges Price:
Price: 3570 Display Module
Model 3572 DC Module $\$ 1150$

Option 1 Frequency Counter
Option 2 Autoranging
801 Rack Interconnecting Kit
802 Bench Interconnecting Kit $\quad \$ 50$

Sensitive
AC / DC
Digital Voltmeter

## 30 Hz to 250 kHz and DC

## Model 355



This self-balancing servo-driven unit combines the accuracy and speed of digital readout with the well known peaking and nulling. As well as ac and dc peaking and nulling. As well as ac and dc by the use of optional input resistors. Features such as: $\square$ long-life ball bearing mechanism $\square$ half-rack packaging $\square$ amplifier output $\square$ reading retention $\square$ overrange indication make the Model 355 unbeatable as an economical investment for most general purpose c and dc measurements.

Voltage Range:
AC: 10 mV is to 1000 V fs (6 ranges)
DC: 100 mV is to 1000 V fs (5 ranges)
Display:
digits (least significant graduation), I overrange
Resolution:
$A C, 1 \mu V ; D C, 10 \mu V$
Accuracy vs. Frequency


Accuracy (DC):
$\pm 0.25 \%$ fs to 1000 V
Input Impedance:
$2 \mathrm{M} \Omega$ shunted by 25 or 40 pF
AC Amplifier:
Gain, 60 db ; output, 10 V ; source, $300 \Omega$;
inearity, $\pm 1 \mathrm{~dB}, 30 \mathrm{~Hz}$ to 250 kHz
Balancing Time:
4 seconds to full scale
Price:
Model 355
$\$ 695$

All True RMS techniques allow accurate voltage measurements on any waveform, provided the peaks do not exceed the dynamic range of the instrument and the frequency components of the input waveform do not exceed the frequency range of the instrument. Distortion of itself does not cause error. Ballantine offers True RMS voltmeters with a far wider frequency range and superior accuracy compared to the best competitive units and therefore enjoys the position of being a leader in this field.

Highest Accuracy, Widest Bandwidth, True RMS Voltmeter

Model 323


No other true RMS voltmeter offers a basic accuracy of $\pm 1 \%$ and a frequency range to 20 MHz .
Compare specifications with our well known competitor, particularly down scale, and you will see that we are often orders of magnitude better with twice the frequency range.
The wide frequency range of the harmonic content of complex waveforms, thus allowing more accurate and / or higher frequency measurements. By specifying the Model 323, input waveform can be disregarded and the ultimate in measurement accuracy attained. Features which make the Model 323 a standout are:
$\square$ solid-state-design rechargeable
isolated signal ground treedom
from overload damage ability to
handle crest factors encountered in noise, complex waveforms and all but lowest duty cycle pulses. The Model 323 is also a widely accepted tool in sound and vibrations analysis.
Voitage Range:
$300 \mu \vee$ to $330 \vee$ ( 12 ranges)
Accuracy vs Frequency:


Scales:
Logarithmic voltage, 1 to 3 and 3 to 10 ; Linear dB, 0 to 10
Input Impedance:
2 Ms shunted by 15 or 25 pF
Crest Factor:
$5: 1$ at $\mathrm{fs} ; 15: 1$ at $1 / 3$ fs
Overload:
500 V peak on all ranges
Price
Price
Model $323-01$ (line)
Model 323 (battery/line) $\$ 525$
$\$ 590$

## Sensitive,

Medium Bandwidth, True RMS Voltmeter / Amplifier

## 5 Hz to 4 MHz

## Model 320A



The Model 320A is the only True RMS Voltmeter with an ac amplifier output. This field proven instrument is a high-feedback design provides accurate RMS voltage measurements of sinusoidal and a wide variety of non-sinusoidal and random waveforms including noise. Features such as: $\square$ long stable life $\square$ no effect on calibration due to tube change $\square$ extra low frequency response $\square$ high input impedance $\square 10 \mu \mathrm{~V}$ sensitivity as a null detector, make this instrument the perfect choice for tough Model 320A handles crest factors encountered in noise, complex waveforms and all but the very lowest duty cycle pulses.

Voltage Range:
$100 \mu V$ to 330 V ( 13 ranges)
Null Detector:
$10 \mu \mathrm{~V}$ sensitivity
Accuracy vs Frequency:


Scales
Logarithmic voltage, 1 to $3 ; 3$ to 10 ; Linear dB, 0 to 10
Input Impedance:
$10 \mathrm{M} \Omega$ shunted by 11 or 27 pF
Crest Factor:
$5: 1$ at is and $15: 1$ at $1 / 3$ fs
Amplifier:
Gain, 90 dB ; output 25 V ; source, $350 \Omega$ linearity, $\pm 0.5 \mathrm{~dB}, 5 \mathrm{~Hz}$ to $2 \mathrm{MHz},-1 \mathrm{~dB}$ at 4 MHz
Price:
Model 320 A

True RMS, Average and Peak Voltmeter / Amplifier Model 321


Unlike most average or peak responding voltmeters that are calibrated in RMS, the Model 321 both responds to and indicates the true average and peak voltages ol
the input waveform. As a True RMS Voltmeter it is identical in range, facilities and features to the Model 320A True RMS Mode:
True RMS Mode:
See 320A specifications
See 320 A specitic
Voltage Range:
300 LV to 330 V (12 range
Accuracy vs Frequency:


Input Impedance:
$10 \mathrm{M} \Omega$ shunted by 11 or 27 pF
Crest Factor:

Price:
Price:
Model 321

## Sensitive,

High Accuracy,
True RMS
RF-Voltmeter,

## Model 340



No other if voltmeter can offer a basic accuracy of $\pm 4 \%$ of reading and indicate true RMS at all voltage levels. Accurate readings are obtained when measuring complex waveforms, pulses and Mois 340 is unlike waves. The Model who is unke competitive units whose response characteristics change responding calibrated in the RMS value of a sine wave.
Features such as: $\square$ low noise $\square$ null balance mode $\square$ a full range of input accessories, make the Model 340 one of the best RF Voltmeters available.

## Voltage Range:

$300 \mu \vee$ to $3 V$ ( 8 ranges)
Accuracy vs Frequency:


Scales:
Logarithmic voltage, 1 to 3 and 3 to 10; Linear dB, 0 to 10
Crest Factor:
Min 3:1; $\max$ 100:1
Input Impedance:
Varies between $25 \mathrm{k} \Omega \& 1 \mathrm{M} \Omega$ shunted by 4 pF
VSWR ( $50 \Omega$ TEE adapter)
1.15 up to 700 MHz below 30 mV
1.2 up to 500 MHz above 30 mV

Price:
Model 340
0.01 pF to $12 \mu \mathrm{FF}$

Model 520


The Model 520 measures true, threererminal capacitance over an extremely wide range with the speed and
convenience of a voltmeter. It effectively gnores the loss of the capacitor within of its adapters, can be mechanically and of its adapters, can be mechanically and values. The instrument's logarithmic scale allows accuracy to be stated in percent of indication as would be the case with bridge methods of measurement.
Capacitance Range:
Capacitance Range:
0.01 pF to $12 \mu \mathrm{~F}(9$ ranges, lowest 0.12 pF , fs)
Accuracy, as \% of reading
$2 \%$ rdg from 0.1 pF to $12 \mu \mathrm{~F}$ and $5 \% \mathrm{rdg}$
from 0.01 pF to 0.1 pF
Test Frequency:
1 kHz
Test Levels:
0.01 pF to $0.01 \mu \mathrm{~F} ; 10 \mathrm{~V}$ RMS
$0.01 \mu \mathrm{~F}$ to $12 \mu \mathrm{~F} ; 100 \mathrm{mV}$ RMS
Meter:
Logarithmic, reading from 1 to 12
Maximum Capacitance Dissipation Factor:
0.05

Price:
Model 520

100
anc
$1000 \mathrm{~Hz}, 400 \mathrm{~Hz}$
and DC
Model 421A


At a reasonable price, the Model 421A provides a precisely settable source of ac or dc voltage of adequale level and accuracy for checking analog voltmeters
and oscilloscopes. AC voltage output can be in terms of RMS or peak-to-peak and the dc voltage output can be of positive or negative polarity. The portability of this calibrator is quite unique and can prove invaluable for routine checks outside the calibration laboratory. An accessory error computer (the Model 2421) reads calibration errors directly in \%. In addit:on a indicator error in \% even in the presence of range error.

Voltage Range:
0 to 111 V ( 6 ranges) $A C$ and $D C$ (100 to 1000 V high output at 400 Hz only)
Functions:
$D C+, D C-$
DC+, DC-, RMS, Peak-to-Peak
Frequencies:
400 Hz and 1 kHz
Accuracy:
$\mathrm{AC}, 0.15 \%$ of setting to 111 V
C $0.35 \%$ of setting 111 V to 1000 V
DC, $0.2 \%$
Distortion:
Line Stability:
Line Stability:
Less than $0.05 \%$ for $\pm 10 \%$ variation Price:
$21 A$
Model 2421 Error Computer $\$ 735$
$\$ 75$

## A-T Voltmeter <br> (AttenuatorThermoelement)

## Model 390



The Model 390 is a laboratory reference standard designed for calibration of
a voltmeles from 1 MHz to 1000
The instrument consists of a stable,
adjustable waveguide-below-cut-off
attenuator feeding a UHF thermocouple.
Micrometer setting for standard dc output
is determined from NBS calibration at
various frequencies and voltages.
Calibration by NBS is required, but not
included in the price. Design is based on NBS of NBS.

Frequency Range:
Voitage
Voitage Range:
0.5 V to 300 V
Accuracy:
$\pm 1 \%$ (with NBS calibration)
Price:
Model 390, including Model 2390 Tee Adapter (not including dc microammeter or NBS calibration)
Model 2390 Accessory Tee Adapter required by NBS for calibration of Model $390 \quad \$ 150$

## Micropotentiometer

0 to 900 MHz
Model 440


The Model 440 is designed as a low impedance source of accurately known
voltage at frequencies from 0 to 900 MHz voltage at frequencies from 0 to 900 it consists of a UHF thermocouple When the combination is connected to an external signal source the voltage drop across the resistor, which constitutes the low impedance output, can be held to a known value over the entire range of frequencies by monitoring the dc output of the thermocouple. Each thermocoupleresistor combination selected can be operated over an output voltage range o
4 to 1 within the overall limits of $17 \mu \mathrm{~V}$ and 1.4V RMS. Ideal for calibration of ac voltmeters, oscilloscopes and signal generators. Calibration to 500 MHz is included in the price. Design based on that of Myron C. Selby of NBS.

## Frequency Range: <br> 0 to 900 MHz

Voltage Ranges:
Voltage Ranges:
4:1 ratios from $17 \mu \mathrm{~V}$ to 1.4 V (depending on
thermocouple and resistor used)
Uncertainty:
(typical)
0 to 5 MHz
400 MHz
500 MHz $\qquad$
$\pm 3 \%$
$\pm 4 \%$
$\pm 6 \%$
see NBS
Thermocouples:
$5,10,15,25$ and 50 mA
Radial Resistors
(21 values) $0.01 \Omega$ to $22 \Omega$
Model 440 with one radial resistor and one thormocouple housing. Price ... $\$ 250$ Additional Radial Resistors. Prict $\$ 175$ Additional Thermocouple and Housing.
Price

## Accessories

## Adapters



## Model 617 Adapter

A single binding post to UHF male connector which may be plugged into a UHF receptacle on voltmeters to provid binding post instead of a UHF coaxial
Price


Model 618 Adapter
A single binding post to BNC mal
connector which may be plugged into a BNC receptacle on voltmeters to provide a binding post instead
input connection
Price


Model 2314 Adapter
A UHF male coaxial to twin binding post UHF coaxial connector to provide a twin binding post input connection.
Price

Rack Adapter


Model $\mathbf{8 0 0}$ Rack Mounting Kit
Consists of a complete set of hardware and panel, painted gray, for 19 inch rack mounting of either one or two of the Ballantine Models 303, 323, 345, 353 or 355. Price \$45

Probes, High Voltage


Model 1301 High Voltage Probe
A 10,000 to 1 capacitive attenuator
designed for measurements of voltages up
to 10,000 rms or 28,000 peak to peak when connected to the binding post input of Ballantine voltmeters.
Price


## Model 1311

A probe similar to Model 1301 designed to connect into the coaxial input receptacle of Ballantine voltmeters. Price

## Resistors



## Series 600 Precision Shunt

 ResistorsValues of $0.01,0.1,1.0,10,100,1000$ ohms may be plugged into the binding post input terminals of Ballantine voltmeters or measurement of current from 0.1
microampere to 10 amperes.
Prices:
Prices:
$1,10,100 \& 1000 \Omega$ $\$ 20$
$\$ 25$
$\$ 35$

## Switch



Model 1355 Foot Switch and

## Cable Assembly

Designed for hold/read operation when plugged into a jack on Ballantine digital voltmeter Model 355.
Price

Interconnecting Kits


Model 801 Interconnecting Ki
Used to electrically and mechanically
connect the Model 3570 Display Module to connect the Model 3570 Display and to adapt the package to rack mounting.
Price


Model 802 Interconnecting Kit
Used to electrically and mechanically an associated converter module and to provide a bail-handle for bench use.
Price

## Sales Representatives




[^0]:    nput Impedance:
    $\mathrm{M} \Omega$ shunted by 15 or 25 pF
    Scales:
    Logarith
    $10+10$
    Amplifier:
    Amplifier:
    Gain, 40 dB ; output, 300 mV ; source, $3 \Omega$;
    linearity, $\pm 1 \mathrm{~dB}, 10 \mathrm{~Hz}$ to 1 MHz
    Price:
    Mode! 300 H

