

NO PROBLEM

You want a bargraph & a full range counter – Optoelectronics can deliver!

\$199.

*Don't Wait,
This Offer Can't Last!
No discounts. No trade-ins.*

Now for a limited time only, \$160. off the list price. for our Full Range Model 2810 with bargraph – plus:

- Full range -10Hz to 3GHz.
- LCD display (daylight visibility).
- True state-of-the-art technology with the high speed ASIC.
- NiCads & Charger included.
- Ultra-high sensitivity.
- 4 fast gate times.
- Extruded metal case.
- Compatible with MFJ207.

Suggested options

TA100S:

Telescoping Whip Antenna.....\$ 12.

CC30

Vinyl Carry Case.....\$ 15.

BL28:

EL Backlight for use in roomlight and low light.....\$ 45.

TCXO 30:

Precision ± 0.2 ppm 20 to 40°C temp. compensated time base\$100.

Universal
Handi-Counter™
Model 3000, \$375. and
Bench Model 8030, \$579.
Both offer frequency,
period, ratio and time
interval.



**Made in
the USA**

OPTOELECTRONICS

Call for free catalog - Factory Direct Order Line:

1-800-327-5912

FL (305)771-2050 • FAX (305)771-2052

5821 NE 14th Ave. • Ft. Lauderdale, FL 33334
5% Ship/Handling (Max. \$10) U.S. & Canada.
15% outside continental U.S.A.
Visa and Master Card accepted.

CIRCLE 180 ON FREE INFORMATION CARD



OPTOELECTRONICS

The only name in HANDI-COUNTERS

Check These Incredible Features
On The All New UTC3000

- 10Hz to 2.4GHz Range.

Simply amazing!

- 10 Digit LCD Display.

1Hz resolution to over 150 MHz direct.

Readable in bright sunlight.

- RF Signal Strength Bargraph.

16 Segment, Zero, & Full Scale adjustment.

SEE the input signal!

- Super Sensitivity. <1mV 10-200MHz, <5mV to 2GHz for efficient antenna pickup.

- 6 Functions. Frequency, Period, Ratio Time Interval, Average, & Prescale.

- Hold Button.

"Locks in" your exact Measurement FAST!

- Extruded Aluminum Enclosure.

Designed to fit every hand.

- Priced Right! Only \$375.

Includes Nicads, AC Charger/Adapter.

Or Select Our Most Popular

HANDI-COUNTER, the model 2210 that set the standard in handheld frequency counter technology!

Value Priced at only \$219.

Professionals and Hobbyists all over the world have chosen OEI for 16 years! **Shouldn't YOU?**

HANDI-COUNTERS! ...Only from OEI!
Choose the model that fits your needs...
and your budget! **CALL NOW!**

UTC3000



Period Average Mode



Display Showing All Annunciators

Model	UTC3000	2600H	2210	1300H/A	2400H	CCA	CCB
Function	Freq, Period, Ratio, Interval, Avg, Prescale	Frequency	Frequency	Frequency	Frequency	Frequency	RF Indicator
Range	10Hz-2.4GHz	10MHz-2.4GHz	10Hz-2.2GHz	1MHz-1.3GHz	10MHz-2.4GHz	10MHz-550MHz	10MHz-1.8GHz
Display	10 Digit LCD w/Function Annunciators	10 Digit LCD	8 Digit LED	8 Digit LED	8 Digit LED	8 Digit LED	•
RF Signal Strength Indicator	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	•	•	•	LED with Adjustable Threshold	10 Segment Adjustable Bargraph
Price	\$375.	\$325.	\$219.	\$169.	\$189.	\$299.	\$99.
Sensitivity: <1 to <10mV typical. Time Base: ± 1 ppm.; $\pm .5$ ppm. add \$75 - LED Models; ± 2 ppm add \$80. - LCD Models. Nicads & AC charger/adapter included. (9v Alkaline - CCB.) Carry Case, Antennas and Probes extra. One year parts & labor warranty on all products.							

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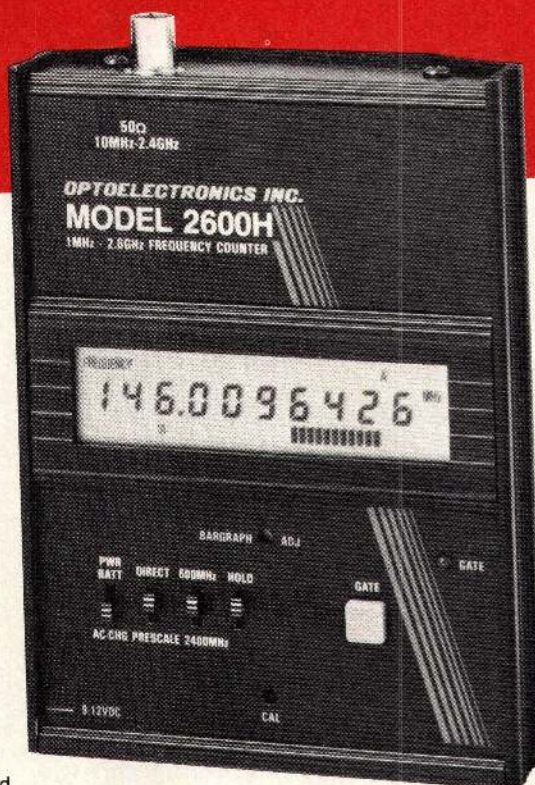


Visa, MC, COD, Cash, M.O. accepted. Personal Check allow 3 weeks. 5% Shipping, Handling, (Maximum \$10) U.S. & Canada. 15% outside continental U.S.A.



Now Look What Hand Held Frequency Counters Can Do!

New from OPTOELECTRONICS



Introducing two advanced hand held frequency counters incorporating many unique features usually found only on laboratory bench counters.

These counters are designed for virtually every measurement application from DC through Microwave including measuring RF transmission frequencies at the maximum possible distance.

The UTC 3000 does all of this and is also the world's first Hand Held universal counter timer with Period, Time Interval, and Ratio measurement capability.

- 10 Digit LCD Display with Gate, Function, and Input Annunciators.
- Direct count (1 Hz resolution in 1 Sec) to over 150 MHz.
- 16 Segment Bargraph displays Input Signal Level. Ensures reliable counting, proven effective in locating concealed transmitters.
- High Accuracy, 1 ppm 10 MHz Crystal Time Base is standard with optional 0.2 ppm TCXO available.
- More usable Sensitivity than in any other counter for efficient antenna pick up measurements.
- Four push button selectable Gate times.
- Ni-Cad battery pack and AC adapter-charger included.

In addition, The Model UTC3000 features:

- In addition to Frequency, additional Functions Include: Period, Ratio, and Time Interval and Average.
- Single Shot Time Interval 100 ns, .1 ns averaged.
- Two input channels with High Impedance and 50 ohm input



Also Available from Optoelectronics, 8 Digit LED Hand Held Frequency Counters:
 Model 2210 10 Hz - 2.2 GHz General Purpose Audio to Microwave . . . \$219
 Model 1300H/A 1 MHz - 1.3 GHz RF Counter . . . \$169
 Model CCB Relative RF Signal Strength Bar Graph Meter With 10 Segment LED Display . . . \$99

Model 2600H	\$325
Model UTC 3000	\$375
Model TCXO-30	\$ 80
Model TA100S Telescoping Whip Antenna . . .	\$ 12

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OPTOELECTRONICS

ALL OF OUR PRODUCTS ARE MADE IN THE U.S.A.



Handi-Counter® 3000

The world's finest hand held multifunction counter - incorporates many unique functions usually found only in very expensive bench models.

Designed for virtually every measurement application from near DC through Microwave including measuring RF transmission frequencies at the maximum possible distance. The 3000 is also the world's first HandiCounter® with Period, Time Interval and Ratio measurement capability.

\$259.

R10 FM Communications Interceptor™

ALL NEW TECHNOLOGY!!
The Interceptor follows & locks on even when frequency changes and intercepts ALL FM Two-Way Transmissions without gaps in coverage. It does not have to tune through RF Spectrum to capture signals.
FCC Classified as

Communication Test Instrument - Increase your RF Security!!

\$359.

R20 AM Interceptor™

NEW! The R20 is both a sensitive RF signal strength meter (for ALL RF signals) and a near field AM receiver. The 10 segment LED bargraph responds with nominal 3dB increments to RF signal level received through the built in antenna.

\$119.



Bench/Portable Multifunction Counter Model 8030

10Hz - 3GHz extremely High Sensitivity, High Resolution and Accuracy, includes a Bargraph, ± 1 PPM TCXO, Two Inputs, Adjustable Trigger Level, Trigger Variable and Hold Button
Optional ± 1 TCXO: \$135.

\$579.



HandiCounter® Model 2810

Our full range counter with bargraph 10Hz to 3GHz. Ultra-high sensitivity, 4 fast gate times, outstanding quality-low, low price.

\$199.



Handi Counter® Model 2300

The Original Pocket Sized Counter. 1MHz to 2.4GHz - 8 digit LED. Maximized Sensitivity, ± 1 ppm TCXO. Includes Hold Switch, NiCads and Charger/Adapter!

\$99.



APS104

Our Active Preselector allows you to pick-up transmissions or frequencies at 10 times the distance. Use with our HandiCounter® or R-10 Interceptor™ 10MHz - 1GHz Tunable over 5 octaves

\$995.



Tone Counter Model TC200

NEW! Ideal companion for use with the R10 FM Communications Interceptor™ to measure sub audible signalling tones off the air. The TC200 can also be used with scanners and

communications receiver to monitor sub audible tones.

\$179.

ACCESSORIES

Vinyl Carry Case

CC12 - Padded Black Vinyl carrying case for 2300 size LED Counters \$ 12
CC30 - Padded Black Vinyl carrying case for 3000 size LCD counters. \$ 15

Antennas

TA100S Telescoping Whip Antenna \$ 12

Antenna Packs:

Ant-Pak 1 (includes RD27, RD800, TA100S - Save \$11) \$ 65
Ant-Pak 2 (includes five assorted rubber ducks, 27-1000MHz - Save \$32.) \$ 99

Probes

P30 - Counter/Oscilloscope probe - for direct coupling to signal sources or circuit test points. 1x/10x, switchable \$ 35
P101- Low-Pass probe attenuates RF noise from Audio frequencies. Has two stage low pass filter. \$ 20

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OEI OPTOELECTRONICS

The only name in HANDI-COUNTERS

Check These Incredible Features
On The All New UTC3000

- **10Hz to 2.4GHz Range.**
Simply amazing!
- **10 Digit LCD Display.**
1Hz resolution to over 150 MHz direct.
Readable in bright sunlight.
- **RF Signal Strength Bargraph.**
16 Segment, Zero, & Full Scale adjustment.
SEE the input signal!
- **Super Sensitivity.** <1mV 10-200MHz,
<5mV to 2GHz for efficient antenna pickup.
- **6 Functions.** Frequency, Period, Ratio
Time Interval, Average, & Prescale.
- **Hold Button.**
"Locks in" your exact Measurement FAST!
- **Extruded Aluminum Enclosure.**
Designed to fit every hand.
- **Priced Right! Only \$375.**
Includes Nicads, AC Charger/Adapter.

Or Select Our Most Popular
HANDI-COUNTER, the model 2210
that set the standard in handheld
frequency counter technology!
Value Priced at only \$239.

Professionals and Hobbyists all over
the world have chosen OEI for 16
years! **Shouldn't YOU?**

HANDI-COUNTERS! ...Only from OEI!
Choose the model that fits your needs...
and your budget! **CALL NOW!**

UTC3000



Period Average Mode



Display Showing All Annunciators

Model	UTC3000	2600H	2210	1300H/A	2400H	CCA	CCB
Function	Freq, Period Ratio, Interval, Avg, Prescale	Frequency	Frequency	Frequency	Frequency	Frequency	RF Indicator
Range	10Hz- 2.4GHz	10MHz- 2.4GHz	10Hz- 2.2GHz	1MHz- 1.3GHz	10MHz- 2.4GHz	10MHz- 550MHz	10MHz- 1.8GHz
Display	10 Digit LCD w/Function Annunciators	10 Digit LCD	8 Digit LED	8Digit LED	8 Digit LED	8 Digit LED	.
RF Signal Strength Indicator	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	.	.	.	LED with Adjustable Threshold	10 Segment Adjustable Bargraph
Price	\$375.	\$325.	\$239.	\$179.	\$189.	\$299.	\$119.

Sensitivity: <1 to <10mV typical. Time Base: ± 1 .ppm.; $\pm .5$ ppm. add \$75 - LED Models; ± 2 ppm add \$80. - LCD Models. Nicads & AC charger/adapter included. (9v Alkaline - CCB.) Carry Case, Antennas and Probes extra. One year parts & labor warranty on all products.

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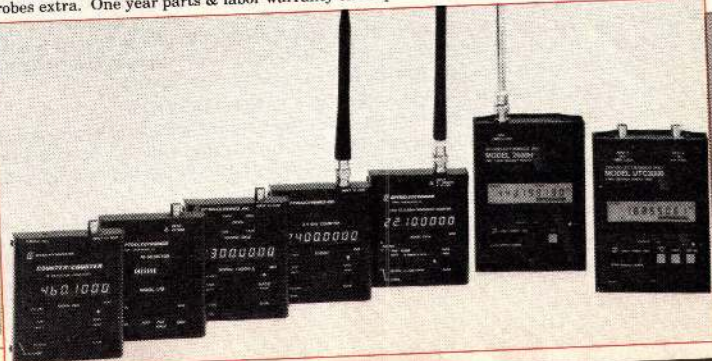
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Check allow 3 weeks. 5% Shipping, Handling,
(Maximum \$10) U.S. & Canada. 15% outside
continental U.S.A. In FL add 6% sales tax.

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OPTOELECTRONICS

Setting New Standards

IN THE WORLD OF

Communications, Test & Surveillance

Further • Better • Faster



Model 3000A

\$329.

World's most highly advanced hand held counter.

- Digital Filter: Reduces false counts - no loss of sensitivity
- Digital Auto Capture - auto hold & store; works even near strong RF Fields
- Stores and recalls frequencies
- 5-6 hour battery operation
- Fast - 250 million counts per second for high resolution - 250 MHz direct count
- 10 Hz to 3 GHz
- Ultra sensitive bargraph w/ 16 segment display
- Multi-Function Counter with Frequency, Period, Ratio and Time Interval
- Optional $\pm .2$ PPM TCXO - \$100.

Model M1

\$229.

Full Range Pocket Sized Counter

- Digital Filter
- Digital Auto Capture - Auto Hold
- Stores & Recalls Frequencies
- 4-5 hr. battery operation
- 10 Hz to 2.8 GHz
- 10 digit LCD with EL backlight

Model 8040

\$679.

Multi-Function Bench/Portable Counter Measures Frequency Period, Ratio, Time Interval and Average.

- Digital Filtering to eliminate false counts
- Auto Capture/Auto Hold
- 16 Segment Signal Strength Bargraph
- Dual 50 OHm and 1 Meg OHm input amplifiers with AC/DC Coupling, $\pm$ Polarity, Triggers Level Adj., Low Pass Filter and Attenuator
- .05PPM, 0-50°C Oversized Time Base Option
- Internal/External Clock Input
- RS-232 Serial Computer Interface

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WHEN QUALITY COUNTS.....

COUNT ON OPTOELECTRONICS FOR STATE-OF-THE-ART,
TOP QUALITY FREQUENCY COUNTERS AT PACE SETTING PRICES.

NEW Model K-7000 [Kit]	7 Digits	550 MHz	\$ 79.95
NEW Model 7010	9 Digits	600 MHz	\$145.00
NEW Model 8010	9 Digits	1 GHz	\$325.00

Note: Model K-7000 is available "KIT FORM" only, other models factory assembled only. Model K-7000 requires #AC-70 Adapter (\$4.95) for 115VAC Operation, AC Adapters are included with the other models. See chart below for NI-CAD Battery Pack Option, etc.

ALL MODELS HAVE MANY STANDARD QUALITY FEATURES INCLUDING:

- ANODIZED ALUMINUM CASES - PROVIDING RF SHIELDING
 - 1 MEG AND 50 OHM INPUTS - WITH EXCELLENT SENSITIVITY
 - AUTO DECIMAL PLACEMENT AT Hz AND MHz
 - AC-DC or NI-CAD BATTERY PORTABLE OPERATION
 - FULL YEAR 100% GUARANTEE [PARTS ONLY ON K-7000 KIT]
 - NBS TRACEABLE CALIBRATION
- MADE IN U.S.A.
 - COMPACT SIZES: 8010 = 3" H x 7½" W x 6½" D
K-7000/7010 = 1¾" H x 4¼" W x 5¼" D



MODEL	\$ PRICE	RANGE 10Hz to	LED DIGITS	SENSITIVITY				GATE TIMES	RESOLUTION			TCXO TIME BASE		EXT CLOCK INPUT	NI-CAD BATT PACK
				25-250 MHz	250-450 MHz	450 MHz-1GHz	Hi-Z INPUT 10Hz - 80 MHz		12 MHz	60 MHz	MAX FREQ	20°-40°C	FREQ.		
K-7000 kit	79.95	550 MHz	7	5-20 mV	10-30 mV	20-50 mV to 550 MHz	1-10 mV	(2), 1, 1 SEC	10 Hz	10 Hz	100 Hz 550 MHz	1.6 PPM	5.24288 MHz	NO	YES OPTION \$15.
7010 * 7010.1	145.00 225.00	600 MHz	9	5-20 mV	10-30 mV	20-40 mV to 600 MHz	1-10 mV	(3), 1, 1, 10 SEC	.1 Hz	1 Hz	10 Hz 600 MHz	1 PPM 0.1 PPM	10 MHz	YES OPTION \$25.	YES OPTION \$15.
8010 * 8010.1	325.00 405.00	1 GHz	9	1-10 mV	5-20 mV	10-35 mV	1-10 mV	(8), 0.1-20 SEC	.1 Hz	1 Hz	10 Hz 1 GHz	1 PPM 0.1 PPM	10 MHz	YES STD	YES OPTION \$39.

*Has precision (0.1PPM) TXCO Time Base

Enjoy the great looks and ruggedness of the RF shielded metal case. Discover unsurpassed quality throughout for years of trouble free operation. Call or write for additional information or quick delivery of your order.

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we honor
master charge
THE INTERNATIONAL CARD

VISA

TERMS: Orders to U.S. and Canada, add 5% for shipping, handling and insurance, to a maximum of \$10.00. All other orders, add 10% C.O.D. collection fee \$1.00. Orders under \$15.00 add extra \$1.00 handling. Regular checks must clear before order is shipped. Florida residents add 4% sales tax.

OPTOELECTRONICS

"Here at Radio School classes held throughout the country, the only counters that we will use are Optoelectronics' Handi-Counters."

Gordon West
Gordon West
President
Radio School,
Inc.



Made in the USA

Our Name says quality, service and dependability - Our customers agree!

"The best part of the Optoelectronics LCD counters are their extreme sensitivity, their brilliant LCD readout that can be seen even in bright sunlight and the rugged construction allowing them to get banged around, but still continue to operate smack dab on frequency... Yours is the only counter which reliably gives us (at Radio School) an instant frequency readout with its rock-steady LCD digits featuring incredible 1Hz resolution."

Gordon West

Optoelectronics has satisfied its customers for over 18 years - See for yourself what countless others have already discovered!



"I was encouraged by one of my readers words of wisdom, and bought the Model 2300. Your service was superb! After testing this unit I personally feel that all serious radio enthusiasts should own an Optoelectronics Frequency Finder"

Ron Bruckman
Radio Monitors Newsletter
Of Maryland

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Visa and MasterCard accepted.

Model	8030	3000	2600H	2810	2600HA	2210A	2300
Function	Freq. Period Ratio, Interval	Freq. Period Ratio, Interval	Frequency	Frequency	Frequency	Frequency	Frequency
Range	10Hz-3.0GHz	10Hz-3.0GHz	1MHz-3.0GHz	10Hz-3.0GHz	1MHz-3.0GHz	10Hz-2.4GHz	1MHz-2.4GHz
Display	10 Digit LCD w/Function Annunciators	10 Digit LCD w/Function Annunciators	10 Digit LCD	10 Digit LCD	10 Digit LCD	8 Digit LED	8 Digit LED
RF Signal Strength Indicator	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	.	.	.	.
Hold Switch	Yes	Yes	Yes	Yes	Yes	No	Yes
Price	\$579.	\$375.	\$325.	\$259.	\$225.	\$179.	*\$99.

Sensitivity: <1 to <10mV typical. Time Base: ± 1 ppm; ± 2 ppm add \$100. - LCD Models only. Nicads & AC charger/adaptor included except for 2300. *For 2300, available with NiCad installed & AC charger/adaptor, complete package \$128.
A full line of Antennas, Probes & Carry case are sold separately. (One year parts & labor warranty.)

OFF THE BENCH AND RUNNING

When OPTOELECTRONICS took frequency counters off the bench we created a whole new dimension - Frequency Finding.

Our Handi-Counters™ make Frequency Finding a reality by allowing you to pick-up radio transmitters at the maximum possible distance.

Monitoring Enthusiast, Security Specialists, Broadcast and Design Engineers, Two Way and Amateur Radio Operators and Service Technicians have all made the move. *Shouldn't you?*



3000
Top of the Line Universal
Handi-Counter™,
\$375.



2600
Super Sensitive RF
Frequency Finder.
\$325.



2210A
Full Range
Pocket
Size LED.
\$239.



8030
Bench Portable (Fits in an attaché case) with ALL the Handi-Counter™ Features plus More. \$579.



1300H/A
Low Cost Ultra
Sensitive (HF,
UHF, VHF).
\$179.

Model	Range Low High	Display 8 Digit LED	Display 10 Digit LCD	Signal Strength Bargraph	Universal Counter	TCXO Option
8030	10Hz 2.4GHz		•	•	•	± 1ppm add \$125.
3000	10Hz 2.4GHz		•	•	•	± .2ppm add \$ 80.
2600	1MHz 2.4GHz		•	•	•	± .2ppm add \$ 80.
2210A	10Hz 2.4GHz	•				± .5ppm add \$ 75.
1300H/A	1MHz 1.3GHz	•				± .5ppm add \$ 75.

Sensitivity: <1 to <10mV typical. NiCads & AC Charger/Adapter included. Carry Case, Antennas and Probes extra. One year parts & labor warranty on all products.

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ALL NEW

Real-State-of-the-Art

TWO NEW AC•DC•BATTERY PORTABLE COUNTERS

OPTO-8000 .1A 10Hz to 600 MHz — FREQUENCY COUNTER

- Precision TCXO time base 0.1 PPM Stability 17-40°C
- Super Sensitivity with preamps in both HI-Z & 50 Ohm inputs <10mV to 50MHz, 25 mV @ 150 MHz <50mV to 600MHz
- Auto Decimal Point • Aluminum Case • Socketed IC's
- Three position attenuator: X1, X10, X100 (avoids false counting)

#OPTO-8000.1A	Factory Assembled	\$329.95
#OPTO-8000.1AK	Kit Form	\$279.95
#NI-CAD-80	NI-CAD Battery Pack	\$ 19.95

OPTO-7000 10 Hz to 600 MHz MINIATURE COUNTER

- XTAL (TCXO) Time Base ± 0.08 PPM/°C
 - Aluminum Case • HI-Z & 50 Ohm inputs
 - 1 Sec. & 1/10 Sec. Gate times • Auto Dec. Pt.
 - Built-in Prescaler and Preamps Standard
- | | | |
|-------------|--|----------|
| #OPTO-7000 | Factory Assembled - 1 Year-Guar | \$139.95 |
| #OPTO-7000K | Kit Form | 99.95 |
| #AC-70 | AC Power Pack | 4.95 |
| #NI-CAD-70 | NI-CAD Battery Pack | 19.95 |
| #TCXO-70 | Precision TCXO Time Base
<0.1PPM, 17-40°C | 79.95 |

ACCESSORIES

PROBES:

#P-100	50 Ohm, 1X	\$13.95
#P-101	Lo-Pass	16.95
#P-102	H1-Z, 2X	16.95
#AP-8015	UHF Counter Preamp 20 MHz to 600 MHz 15-50 DB Gain (Not Shown)	\$49.95/Kit \$39.95

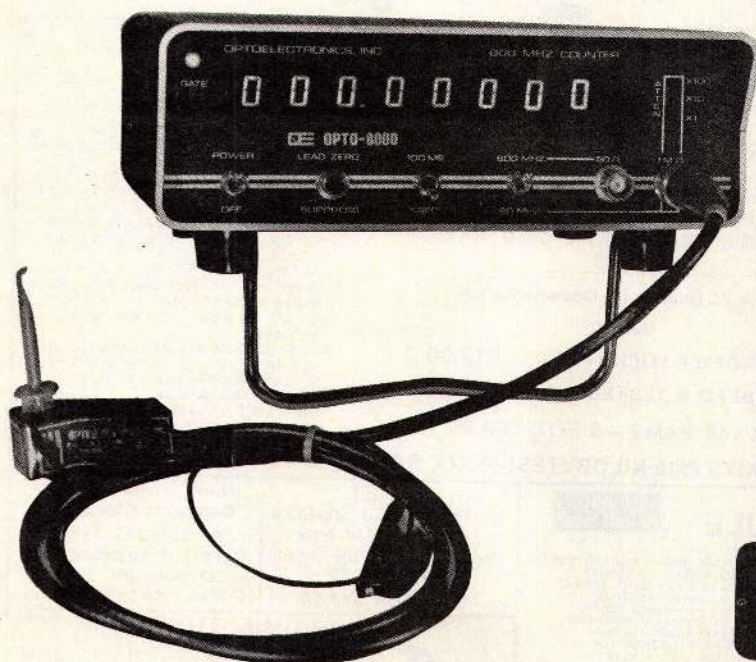
#D-450 Antenna

Rubber Duck RF Pick-up 450 MHz ... \$12.50

#D-146 Same as above

146.5MHz ... \$12.50

#RA-BNC Right-Angle BNC Adapter for above Antenna ... 2.95



✓ 03

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Phone orders accepted

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TERMS: Orders to U.S. and Canada, add 5% to maximum of \$10.00 per order for shipping, handling and insurance. To all other countries, add 10% of total order. Florida residents add 4% state tax. C.O.D. fee: \$1.00. Personal checks must clear before merchandise is shipped.

A LIFETIME GUARANTEE AND 11 OTHER REASONS TO BUY AN "OPTOELECTRONICS" FREQUENCY COUNTER

- 1. SENSITIVITY:** Superb amplifier circuitry with performance that can't be matched at twice the price. Average sensitivity of better than 15 mV from 10 Hz to 500 MHz on every model and better than 30 mV from 500 MHz to 1.1 GHz on the Series 8010A and 8013.
- 2. RESOLUTION:** 0.1 Hz to 12 MHz, 1 Hz to 50 MHz, 10 Hz over 50 MHz.
- 3. ALL METAL CASES:** Not only are the heavy gauge aluminum cases rugged and attractive, they provide the RF shielding and minimize RFI so necessary in many user environments.
- 4. EXTERNAL CLOCK INPUT/OUTPUT:** Standard on the 8010/8013 series and optional on the 7010 series is a buffered 10 MHz clock time base input/output port on the rear panel. Numerous uses include phase comparison of counter time base with WWVB (U.S. National Bureau of Standards). Standardize calibration of all counters at a facility with a common 10 MHz external clock signal, calibrate scopes and other test equipment with the output from precision time base in counter, etc., etc.
- 5. ACCURACY:** A choice of precision to ultra precision time base oscillators. Our ± 1 PPM TCXO (temperature compensated xtal oscillator) and ± 0.1 PPM TCXO are sealed units tested over 20-40°C. They contain voltage regulation circuitry for immunity to power variations in main instrument power supply, a 10 turn (50 PPM) calibration adjustment for easy, accurate setability and a heavily buffered output prevents circuit loads from affecting oscillator. Available in the 8010 and 8013 series is our new ultra precision micro power proportional oven oscillator. With $\pm .05$ PPM typical stability over 10-45°C, this new time base incorporates all of the advantages of our TCXO's and virtually none of the disadvantages of the traditional ovenized oscillator. Requires less than 4 minutes warm-up time, small physical size and has a peak current drain of less than 100 ma.
- 6. RAPID DISPLAY UPDATE:** Internal housekeeping functions require only .2 seconds between any gate or sample time

period. At a 1 second gate time the counter will display a new count every 1.2 seconds, on a 10 second gate time a new count is displayed every 10.2 seconds. (10.2 seconds is the maximum time required between display updates for any resolution on any model listed).

7. PORTABILITY: All models are delivered with a 115 VAC adapter, a 12 VDC cord with plug and may be equipped with an optional ni-cad rechargeable battery pack installed within its case. The optional Ni-Cad pack may be recharged with 12 VDC or the AC adapter provided.

8. COMPACT SIZES: State-of-the-Art circuitry and external AC adapters allowed design of compact easy to use and transport instruments.

Series 8010/8013: 3" H x 7-1/2" W x 6-1/2" D

Series 7010: 1-3/4" H x 4-1/4" W x 5-1/4" D

9. MADE IN U.S.A.: All models are designed and manufactured at our modern 13,000 square foot facility at Ft. Lauderdale, Florida.

10. CERTIFIED CALIBRATION: All models meet FCC specs for frequency measurement and provided with each model is a certificate of NBS traceable calibration.

11. LIFE TIME GUARANTEE: Using the latest State-of-the-Art LSI circuitry, parts count is kept to a minimum and internal case temperature is only a few degrees above ambient resulting in long component life and reliable operation. (No custom IC's are used.) To demonstrate our confidence in these designs, all parts (excluding batteries) and service labor are 100% guaranteed for life to the original purchaser. (Transportation expense not covered).

12. PRICE: Whether you choose a series 7010 600 MHz counter or a series 8013 1.3 GHz instrument it will compete at twice its price for comparable quality and performance.

MODEL 8010A/8013 1.1 GHz/1.3 GHz



MODEL	RANGE (From 10 Hz)	10 MHz TIME BASE			AVG. SENSITIVITY		GATE TIMES	RESOLUTION			EXT. CLOCK INPUT/OUTPUT	SENSITIVITY CONTROL	NI-CAD BATTERY PACK
		STABILITY	AGING	DESIGN	10 Hz to 500 MHz	500 MHz to 1.1 GHz		12 MHz	60 MHz	Max. Freq.			
7010A	600 MHz	± 1 PPM	<1 PPM/YR	TCXO*	15 mV	N/A	(3) 1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (600 MHz)	YES OPTIONAL	NO	YES OPTIONAL
7010.1A		± 0.1 PPM											
8010A	1.1 GHz	± 1 PPM	<1 PPM/YR	TCXO*	15 mV	30 mV	(4) 01, 1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (1.1 GHz)	YES STANDARD	YES	YES OPTIONAL
8010.1A		± 0.1 PPM											
8010.05A	1.3 GHz	$\pm .05$ PPM	<1 PPM/YR	OCXO**	15 mV	30 mV	(4) 01, 1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (1.3 GHz)	YES STANDARD	YES	YES OPTIONAL
8013.1		± 0.1 PPM											
8013.05		$\pm .05$ PPM		OCXO**									

TCXO = Temperature Compensated Xtal Oscillator

**OCXO = Proportional Oven Controlled Xtal Oscillator

SERIES 7010A

#7010A	600 MHz Counter - 1 PPM TCXO	\$199.95
#7010.1A	600 MHz Counter - 0.1 PPM TCXO	\$249.95
OPTIONS:		
#70-H	Handle/Tilt Bail (not shown)	\$2.95
#Ni-Cad-701	Ni-Cad Battery Pack & Charging Circuitry Installed Inside Unit	\$19.95
#EC-70	External Clock Input/Output	\$35.00
#CC-70	Carry Case - Padded Black Vinyl	\$9.95

SERIES 8010A/8013

#8010A	1.1 GHz Counter - 1 PPM TCXO	\$399.00
#8010.1A	1.1 GHz Counter - 0.1 PPM TCXO	\$450.00
#8010.05A	1.3 GHz Counter - .05 PPM Oven	\$499.00
#8013.1	1.3 GHz Counter - 0.1 PPM TCXO	\$550.00
#8013.05	1.3 GHz Counter - .05 PPM Oven	\$599.00

OPTIONS

#Ni-Cad-801	Ni-Cad Battery Pack & Charging Circuitry Installed Inside Unit	\$49.95
#CC-80	Carry Case - Padded Black Vinyl	\$ 9.95

ACCESSORIES

#TA-100	Telescope antenna with right angle BNC	\$ 9.95
#P-100	Probe, 50 Ohm, 1X	\$13.95
#P-101	Probe, Lo-Pass Audio Usage	\$16.95
#P-102	Probe, Hi-Z General Purpose	\$16.95
#LFM-1110	Low Frequency Multiplier X 10, X 100, X 1000 For High Resolution of Audio Freq.	\$119.95



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A LIFETIME GUARANTEE AND 11 OTHER REASONS TO BUY AN "OPTOELECTRONICS" FREQUENCY COUNTER

1. SENSITIVITY: Superb amplifier circuitry with performance that can't be matched at twice the price. Average sensitivity of better than 15 mV from 10 Hz to 500 MHz on every model and better than 30 mV from 500 MHz to 1.1 GHz on the Series 8010A and 8013.

2. RESOLUTION: 0.1 Hz to 12 MHz, 1 Hz to 50 MHz, 10 Hz over 50 MHz.

3. ALL METAL CASES: Not only are the heavy gauge aluminum cases rugged and attractive, they provide the RF shielding and minimize RFI so necessary in many user environments.

4. EXTERNAL CLOCK INPUT/OUTPUT: Standard on the 8010/8013 series and optional on the 7010 series is a buffered 10 MHz clock time base input/output port on the rear panel. Numerous uses include phase comparison of counter time base with WWVB (U.S. National Bureau of Standards). Standardize calibration of all counters at a facility with a common 10 MHz external clock signal, calibrate scopes and other test equipment with the output from precision time base in counter, etc., etc.

5. ACCURACY: A choice of precision to ultra precision time base oscillators. Our ± 1 PPM TCXO (temperature compensated xtal oscillator) and ± 0.1 PPM TCXO are sealed units tested over 20-40°C. They contain voltage regulation circuitry for immunity to power variations in main instrument power supply, a 10 turn (50 PPM) calibration adjustment for easy, accurate setability and a heavily buffered output prevents circuit loads from affecting oscillator. Available in the 8010 and 8013 series is our new ultra precision micro power proportional oven oscillator. With $\pm .05$ PPM typical stability over 10-45°C, this new time base incorporates all of the advantages of our TCXO's and virtually none of the disadvantages of the traditional ovenized oscillator: Requires less than 4 minutes warm-up time, small physical size and has a peak current drain of less than 100 ma.

6. RAPID DISPLAY UPDATE: Internal housekeeping functions require only .2 seconds between any gate or sample time

period. At a 1 second gate time the counter will display a new count every 1.2 seconds, on a 10 second gate time a new count is displayed every 10.2 seconds. (10.2 seconds is the maximum time required between display updates for any resolution on any model listed).

7. PORTABILITY: All models are delivered with a 115 VAC adapter, a 12 VDC cord with plug and may be equipped with an optional ni-cad rechargeable battery pack installed within its case. The optional Ni-Cad pack may be recharged with 12 VDC or the AC adapter provided.

8. COMPACT SIZES: State-of-the-Art circuitry and external AC adapters allowed design of compact easy to use and transport instruments.

Series 8010/8013: 3" H x 7-1/2" W x 6-1/2" D
Series 7010: 1-3/4" H x 4-1/4" W x 5-1/4" D

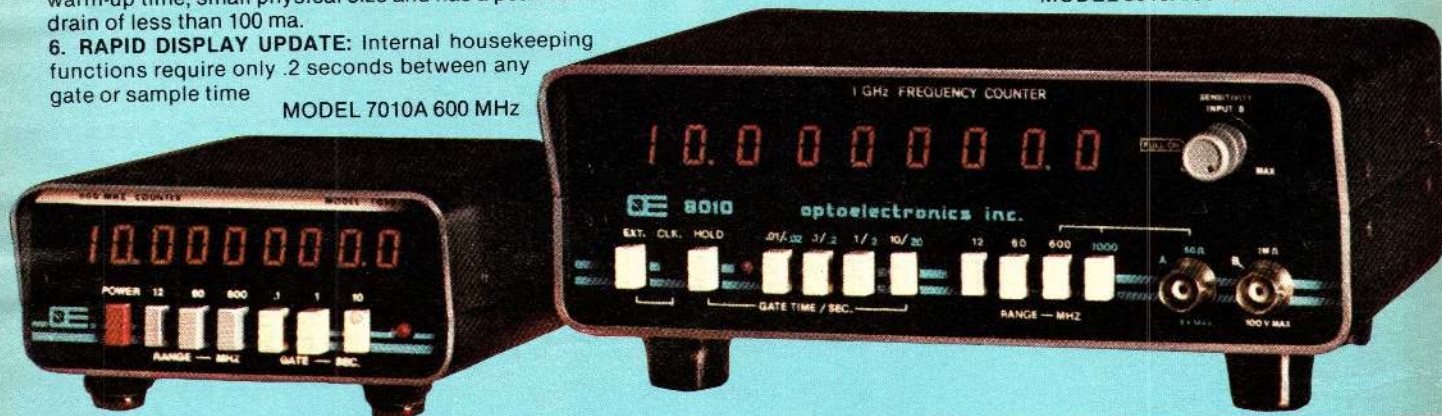
9. MADE IN U.S.A.: All models are designed and manufactured at our modern 13,000 square foot facility at Ft. Lauderdale, Florida.

10. CERTIFIED CALIBRATION: All models meet FCC specs for frequency measurement and provided with each model is a certificate of NBS traceable calibration.

11. LIFE TIME GUARANTEE: Using the latest State-of-the-Art LSI circuitry, parts count is kept to a minimum and internal case temperature is only a few degrees above ambient resulting in long component life and reliable operation. (No custom IC's are used.) To demonstrate our confidence in these designs, all parts (excluding batteries) and service labor are 100% guaranteed for life to the original purchaser. (Transportation expense not covered).

12. PRICE: Whether you choose a series 7010 600 MHz counter or a series 8013 1.3 GHz instrument it will compete at twice its price for comparable quality and performance.

MODEL 8010A/8013 1.1 GHz/1.3 GHz



MODEL	RANGE (From 10 Hz)	10 MHz TIME BASE			AVG. SENSITIVITY		GATE TIMES	RESOLUTION			EXT. CLOCK INPUT/OUTPUT	SENSITIVITY CONTROL	NI-CAD BATTERY PACK
		STABILITY	AGING	DESIGN	10 Hz to 500 MHz	500 MHz to 1.1 GHz		12 MHz	60 MHz	Max. Freq.			
7010A	600 MHz	± 1 PPM	<1 PPM/YR	TCXO*	15 mV	N/A	(3) .1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (600 MHz)	YES OPTIONAL	NO	YES OPTIONAL
7010.1A		± 0.1 PPM											
8010A	1.1 GHz	± 1 PPM	<1 PPM/YR	TCXO*	15 mV	30 mV	(4) .01, 1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (1.1 GHz)	YES STANDARD	YES	YES OPTIONAL
8010.1A		± 0.1 PPM											
8010.05A	1.3 GHz	$\pm .05$ PPM	<1 PPM/YR	OCXO**	15 mV	30 mV	(4) .01, 1, 1, 10 sec.	.1 Hz	1 Hz	10 Hz (1.3 GHz)	YES STANDARD	YES	YES OPTIONAL
8013.1		± 0.1 PPM		TCXO*									
8013.05		$\pm .05$ PPM		OCXO**									

TCXO = Temperature Compensated Xtal Oscillator

**OCXO = Proportional Oven Controlled Xtal Oscillator

SERIES 7010A

#7010A 600 MHz Counter - 1 PPM TCXO \$199.95
#7010.1A 600 MHz Counter - 0.1 PPM TCXO \$249.95

OPTIONS:

#70-H Handle/Tilt Bail (not shown) \$2.95
#Ni-Cad-701 Ni-Cad Battery Pack & Charging Circuitry Installed Inside Unit \$19.95
#EC-70 External Clock Input/Output \$35.00
#CC-70 Carry Case - Padded Black Vinyl \$9.95

SERIES 8010A/8013

#8010A 1.1 GHz Counter - 1 PPM TCXO \$399.00
#8010.1A 1.1 GHz Counter - 0.1 PPM TCXO \$450.00
#8010.05A 1.3 GHz Counter - .05 PPM Oven \$499.00
#8013.1 1.3 GHz Counter - 0.1 PPM TCXO \$550.00
#8013.05 1.3 GHz Counter - .05 PPM Oven \$599.00

OPTIONS

#Ni-Cad-801 Ni-Cad Battery Pack & Charging Circuitry Installed Inside Unit \$49.95
#CC-80 Carry Case - Padded Black Vinyl \$ 9.95

ACCESSORIES

#TA-100 Telescope antenna with right angle BNC \$ 9.95
#P-100 Probe, 50 Ohm, 1X \$13.95
#P-101 Probe, Lo-Pass \$16.95
#P-102 Probe, Hi-Z \$16.95
#LFM-1110 Low Frequency Multiplier X 10, X 100, X1000 \$119.95
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When quality counts

Do not be fooled by the low prices, these brand new lab quality frequency counters have important advantages over instruments costing much more. The models 7010 and 8010 are not old counters repackaged but 100% new designs using the latest LSI state-of-the-art circuitry. With only 4 IC's, our new 7010 offers a host of features including 10 Hz to 600 MHz operation, 9 digit display, 3 gate times and more. This outperforms units using 10-15 IC's at several times the size and power consumption. The older designs using many more parts increase the possibility of failure and complexity of troubleshooting. Look closely at our impressive specifications and note you can buy these lab quality counters for similar or less money than hobby quality units with TV xtal time bases and plastic cases!

Both the new 7010 and 8010 have new amplifier circuits with amazingly flat frequency response and improved dynamic range. Sensitivity is excellent and charted below for all frequencies covered by the instruments.

Both counters use a modern, no warm up, 10 MHz TCXO (temperature compensated xtal oscillator) time base with external clock capability - no economical 3.579545 MHz TV xtal.

Quality metal cases with machine screws and heavy gauge black anodized aluminum provide RF shielding, light weight and are rugged and attractive - not economical plastic.

For improved resolution there are 3 gate times on the 7010 and 8 gate times on the 8010 with rapid display update. For example, the 10 second gate time on either model will update the continuous display every 10.2 seconds. Some competitive counters offering a 10 second gate time may require 20 seconds between display updates.

The 7010 and 8010 carry a 100% parts and labor guarantee for a full year. No "limited" guarantee here! Fast service when you need it too, 90% of all serviced instruments are on the way back to the user within two business days.

We have earned a reputation for state-of-the-art designs, quality products, fast service and honest advertising. All of our products are manufactured and shipped from our modern 13,000 square foot facility in Ft. Lauderdale, Florida.

When quality counts...count on Optoelectronics.



- 100% U.S.A. FACTORY ASSEMBLED
- 100% PARTS & LABOR YEAR GUARANTEE
- CERTIFIED NBS TRACEABLE CALIBRATION
- EXTERNAL CLOCK INPUT

- DISPLAY HOLD FUNCTION
- 9 RED LED DIGITS 4" HIGH
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- 0.1 PPM 10 MHz TCXO TIME BASE

- LAB/PORTABLE AC ADAPTER INCLUDED
- 1 MEGOHM & 50 OHM INPUTS
- STATE-OF-THE-ART LSI DESIGNS
- COMPREHENSIVE USER MANUAL PROVIDED

• COMPACT SIZES—7010: 1-3/4" Hx4-1/4" Wx5-1/2" D. 8010: 3" Hx7-1/2" Wx6-1/2" D.

MODEL	PRICE	RANGE 10Hz to	LED DIGITS	SENSITIVITY				GATE TIMES	RESOLUTION			TCXO TIME BASE		EXT. CLOCK INPUT	NI-CAD BATT. PACK
				25-250 MHz	250-450 MHz	450 MHz-1GHz	HI-Z INPUT 10Hz - 60 MHz		12 MHz	60 MHz	MAX. FREQ.	20°-40°C	FREQ.		
7010	145.00	500 MHz	9	5-20 mV	10-30 mV	20-40 mV to 500 MHz	1-10 mV	[3] .1, 1, 10 SEC	.1 Hz	1 Hz	40 Hz 600 MHz	1 PPM 0.1 PPM	10 MHz	YES OPTION \$25	YES OPTION \$15
*7010.1	225.00														
8010	325.00	1 GHz	9	1-10 mV	5-20 mV	10-25 mV	1-10 mV	[8] .01-20 SEC	.1 Hz	1 Hz	10 Hz 1 GHz	1 PPM 0.1 PPM	10 MHz	YES STD	YES OPTION \$39
*8010.1	495.00														

* Has precision 0.1 PPM TCXO time base.

MODEL 7010

#7010 600 MHz Counter - 1 PPM TCXO \$145.00
#7010.1 600 MHz Counter - 0.1 PPM TCXO \$225.00

OPTIONS

#Ni-Cad-701 Ni-Cad Battery Pack & charging circuitry
Installs inside unit \$ 15.00
#EC-70 External Clock Input, 10 MHz \$ 25.00
#CC-70 Carry Case, Padded Black Vinyl \$ 8.95

MODEL 8010

#8010 1 GHz Counter - 1 PPM TCXO \$325.00
#8010.1 1 GHz Counter - 0.1 PPM TCXO \$495.00
#8010.1-13 1.3 GHz Counter - 0.1 PPM TCXO \$495.00

OPTIONS

#Ni-Cad-801 Ni-Cad Battery Pack & charging circuitry
Installs inside unit \$ 39.00
#CC-80 Carry Case, Padded Black Vinyl \$ 9.95

ACCESSORIES

#TA-100 Telescope Ant with Right Angle BNC \$ 9.95
#P-100 Probe, 50 ohm, 1x \$13.95
#P-101 Probe, Lo-Pass, Audio Usage \$16.95
#P-102 Probe, Hi-Z, General Purpose \$16.95



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- More usable Sensitivity than in any other counter for efficient antenna pick up measurements.
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- Functions Include: Frequency, Period, Ratio, and Time Interval and Average.
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Both counters use a modern, no warm up, 10 MHz TCXO [temperature compensated xtal oscillator] time base with external clock capability - no economical 3.579545 MHz TV xtal.

Quality metal cases with machine screws and heavy gauge black anodized aluminum provide RF shielding, light weight and are rugged and attractive - not economical plastic.

For improved resolution there are 3 gate times on the 7010 and 8 gate times on the 8010 with rapid display update. For example, the 10 second gate time on either model will update the continuous display every 10.2 seconds. Some competitive counters offering a 10 second gate time may require 20 seconds between display updates.

The 7010 and 8010 carry a 100% parts and labor guarantee for a full year. No "limited" guarantee here! Fast service when you need it too, 90% of all serviced instruments are on the way back to the user within two business days.

We have earned a reputation for state-of-the-art designs, quality products, fast service and honest advertising. All of our products are manufactured and shipped from our modern 13,000 square foot facility in Ft. Lauderdale, Florida.

When quality counts...count on Optoelectronics.

CIRCLE 5 ON FREE INFORMATION CARD

MODEL 7010 600 MHz



MODEL 8010 1 GHz



- 100% U.S.A. FACTORY ASSEMBLED
- 100% PARTS & LABOR YEAR GUARANTEE
- CERTIFIED NBS TRACEABLE CALIBRATION
- EXTERNAL CLOCK INPUT

- DISPLAY HOLD FUNCTION
- 9 RED LED DIGITS 4" HIGH
- 1 Hz RESOLUTION
- 0.1 PPM 10 MHz TCXO TIME BASE

- LAB/PORTABLE AC ADAPTER INCLUDED
- 1 MEGOHM & 50 OHM INPUTS
- STATE-OF-THE-ART LSI DESIGNS
- COMPREHENSIVE USER MANUAL PROVIDED

• COMPACT SIZES—7010- 1-1/4" Hx4-1/2" Wx5-1/4" D. 8010- 3" Hx7-1/2" Wx6-1/2" D.

MODEL	PRICE	RANGE 10Hz to	LED DIGITS	SENSITIVITY			HI-Z INPUT 10Hz - 60 MHz	GATE TIMES	RESOLUTION			TCXO TIME BASE		EXT. CLOCK INPUT	NI-CAD BATT. PACK
				25-250 MHz	250-450 MHz	450 MHz-1GHz			12 MHz	60 MHz	MAX. FREQ.	20°-40° C	FREQ.		
7010 7010.1	145.00 225.00	600 MHz	9	5-20 mV	10-30 mV	20-40 mV to 600 MHz	1-10 mV	(3) .1, 1, 10 SEC	.1Hz	1 Hz	10 Hz 600 MHz	1 PPM 0.1 PPM	10 MHz	YES OPTION \$25	YES OPTION \$15
8010 8010.1	325.00 405.00	1 GHz	9	1-10 mV	5-20 mV	10-25 mV	1-10 mV	(8) .01-20 SEC	.1 Hz	1 Hz	10 Hz 1 GHz	1 PPM 0.1 PPM	10 MHz	YES STD	YES OPTION \$39

* Has precision 0.1 PPM TCXO time base.

MODEL 7010

#7010 600 MHz Counter - 1 PPM TCXO \$145.00
#7010.1 600 MHz Counter - 0.1 PPM TCXO \$225.00

OPTIONS

#NI-Cad-701 Ni-Cad Battery Pack & charging circuitry
Installs inside unit \$ 15.00
#EC-70 External Clock Input, 10 MHz \$ 25.00
#CC-70 Carry Case, Padded Black Vinyl \$ 8.95

MODEL 8010

#8010 1 GHz Counter - 1 PPM TCXO \$325.00
#8010.1 1 GHz Counter - 0.1 PPM TCXO \$405.00
#8010.1-13 1.3 GHz Counter - 0.1 PPM TCXO \$495.00

OPTIONS

#NI-Cad-801 Ni-Cad Battery Pack & charging circuitry
Installs inside unit \$ 39.00
#CC-80 Carry Case, Padded Black Vinyl \$ 9.95

ACCESSORIES

#TA-100 Telescope Ant with
Right Angle BNC \$ 9.95
#P-100 Probe, 50 ohm, 1x \$13.95
#P-101 Probe, Lo-Pass,
Audio Usage \$16.95
#P-102 Probe, Hi-Z,
General Purpose \$16.95

master charge

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5821 N.E. 14th Avenue, Fort Lauderdale, Florida 33334

1-800-327-5912

FROM FLORIDA (305) 771-2051/2

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The Fastest Counter Starts with the Fastest Chip

Optoelectronics Puts the OE10 Inside

Since the 70's the frequency counter chip most used was the 7216 (8 digits, 10 million counts per second). The only way to have a faster more reliable counter was to design our own chip. So we did — the OE10. Faster — 10 digits, 220 million counts per second. Reliable — zero field failures.



MADE
IN THE
USA

And now we have added a microprocessor to unleash the power of the OE10.

Optoelectronics introduces the 3000A Multifunction Micro HandiCounter® with these new and exciting features:

- **Digital Filter Technique** *(patent pending)*
Filters stable signals from background clutter
- **Digital Auto Capture** *(patent pending)*
Holds present reading and stores previous reading for hands free unattended operation
- **Works Even in Presence of Strong RF Signals**
- **Stores Frequencies**
- **Increased Sensitivity**
- **Synchronous RF Detection**
Super sensitive 16 segment bargraph operates independently from counter
- **High Speed ASIC**
220 million counts per second.
- **10Hz-3GHz**
- **Multifunction HandiCounter®**
- **Dual High Impedance Amplifiers**
For ratio and time interval functions
- **High Resolution**
Direct count to over 200MHz
- **Extended Battery Use**
- **1 Year Full Warranty**
- **All This and More for the Low Price of \$279.**

Options for the NEW 3000A

- TCX030
± .2ppm\$100.
- BL30/Backlight45.
- Antenna - TA100S
Telescoping Whip Antenna12.
- Antenna Pack 2
Includes RD27, RD50, RD100
RD440, RD800 - Save \$3299.
- CC30
Padded black vinyl
carrying case15.

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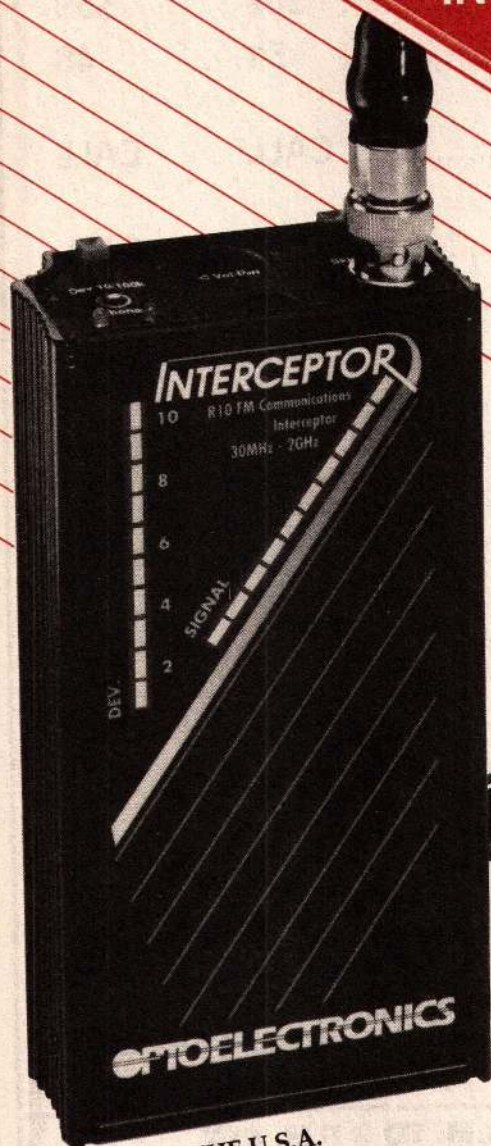
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BE SURE YOU HAVE AN OE10 INSIDE

ELIMINATES SEARCHING, SCANNING, TUNING INTERCEPTOR™

INTERCEPT, DETECT & CAPTURE
Near Field Transmissions with
Optoelectronics' New
INTERCEPTOR™



MADE IN THE U.S.A.

NEW TECHNOLOGY

- Follows & Locks on even when frequency changes.
- Intercepts ALL FM Two-Way Transmissions without gaps in coverage.
- Does Not have to tune through RF Spectrum to find signals.

FCC Classified as Communication Test Instrument for:

- Deviation, FM, FMN
- Signaling Tones (CTCSS)
- Great for testing VHF, UHF & Cellular transmitters
- Relative Signal Strength
- Modulation Monitor

**A New Dimension in Recreational
Monitoring – Intercept the Two-Way
Communication that Surrounds You.**

Increase Your RF Security.



Hand Held/Shirt Pocket Size

INTRODUCTORY OFFER

Interceptor™ R10 FM Communications
Interceptor (Includes NiCads, AC/Charger
Adapter, Antenna, Earphone)\$359.

OPTIONS

Headphones (Lightweight personal headphones)	\$ 15.
Antenna Pak 2 (Five assorted rubber duck antennas – save \$32.)	\$ 99.
TC200 Tone Counter (CTCSS signalling tones)	\$ 179.
APS-104 (Extends RF detection distance 10x)	\$ 995.
CF800 Cellular Band Pass Filter/Amplifier	\$ 299.

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July 1993, Electronics Now

50A15

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**INTERCEPT, DETECT & CAPTURE
Near Field Transmissions with
Optoelectronics' New
INTERCEPTOR™**

NEW TECHNOLOGY

- Follows & Locks on even when frequency changes.
- Intercepts **ALL** FM Two-Way Transmissions without gaps in coverage.
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A New Dimension in Recreational Monitoring – Intercept the Two-Way Communication that Surrounds You.

Increase Your RF Security.



Hand Held/Shirt Pocket Size

INTRODUCTORY OFFER

**Interceptor™ R10 FM Communications
Interceptor (Includes NiCads, AC/Charger
Adapter, Antenna, Earphone).....\$359.**

OPTIONS

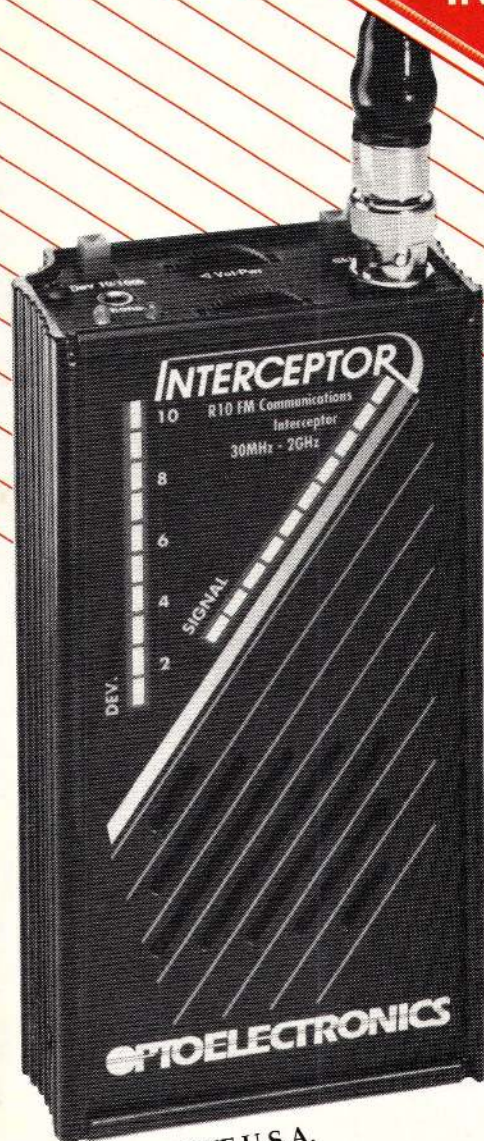
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CF800 Cellular Band Pass Filter/Amplifier.....	\$ 299.

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When **OPTOELECTRONICS** took frequency counters off the bench we created a whole new dimension - Frequency Finding.

Our Handi-Counters™ make Frequency Finding a reality by allowing you to pick-up radio transmitters at the maximum possible distance.

Monitoring Enthusiast, Security Specialists, Broadcast and Design Engineers, Two Way and Amateur Radio Operators and Service Technicians have all made the move. *Shouldn't you?*



3000
Top of the Line Universal
Handi-Counter™.
\$375.



2600
Super Sensitive RF
Frequency Finder.
\$325.



2210A
Full Range
Pocket
Size LED.
\$239.



8030
Bench Portable (Fits in an attache
case) with ALL the Handi-Counter™
Features plus More. **\$579.**



1300H/A
Low Cost Ultra
Sensitive (HF,
UHF, VHF).
\$179.

Model	Range Low High	Display 8 Digit LED	Display 10 Digit LCD	Signal Strength Bargraph	Universal Counter	TCXO Option
8030	10Hz 2.4GHz		•	•	•	± .1ppm add \$125.
3000	10Hz 2.4GHz		•	•	•	± .2ppm add \$ 80.
2600	1MHz 2.4GHz		•	•	•	± .2ppm add \$ 80.
2210A	10Hz 2.4GHz	•				± .5ppm add \$ 75.
1300H/A	1MHz 1.3GHz	•				± .5ppm add \$ 75.

Sensitivity: <1 to <10mV typical. NiCads & AC Charger/Adapter Included. Carry Case, Antennas and Probes extra. One year parts & labor warranty on all products.

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Check allow 3 weeks. 5% Shipping, Handling.
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Terminate your Search for a Handi-Counter™.
We're going to blow you away with this offer!
*\$100. off our full range Model 2810.
*Limited time only, no discounts and no trade ins. Made in the U.S.A.

\$159.

**Don't Wait,
This Offer Can't Last!
Reg. Price, \$259**

- Full range -10Hz to 3GHz.
- LCD display (daylight visibility).
- True state-of-the-art technology with the high speed ASIC.
- NiCads & Charger included.
- Ultra-high sensitivity.
- 4 gate times.
- Extruded metal case.
- Compatible with MFJ207.

Suggested options

TA100S:	Telescoping Whip Antenna.....	\$ 12.
CC30	Vinyl Carry Case.....	\$ 14.
BL10:	LED Backlight.....	\$ 15.
BL28:	El Backlight for use in roomlight and low light.....	\$ 45.
BG28:	Bargraph Signal Level Indicator.....	\$100.
TCXO 30:	Precision ±0.2ppm 20 to 40°C temp. compensated time base.....	\$100.

Universal
Handi-
Counter™
Model 3000,
\$375. and
Bench Model
8030, \$579.
Both offer
frequency,
period, ratio
and time
interval.



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Setting New Standards

IN THE WORLD OF

Communications, Test & Surveillance

Further • Better • Faster



Model 3000A

\$329.

World's most highly advanced hand held counter.

- Digital Filter: Reduces false counts - no loss of sensitivity
- Digital Auto Capture - auto hold & store; works even near strong RF Fields
- Stores and recalls frequencies
- 5-6 hour battery operation
- Fast - 250 million counts per second for high resolution - 250 MHz direct count
- 10 Hz to 3 GHz
- Ultra sensitive bargraph w/ 16 segment display
- Multi-Function Counter with Frequency, Period, Ratio and Time Interval
- Optional $\pm .2$ PPM TCXO - \$100.

Model M1

\$229.

Full Range Pocket Sized Counter

- Digital Filter
- Digital Auto Capture - Auto Hold
- Stores & Recalls Frequencies
- 4-5 hr. battery operation
- 10 Hz to 2.8 GHz
- 10 digit LCD with EL backlight

Model 8040

\$679.

Multi-Function Bench/Portable Counter Measures Frequency Period, Ratio, Time Interval and Average.

- Digital Filtering to eliminate false counts
- Auto Capture/Auto Hold
- 16 Segment Signal Strength Bargraph
- Dual 50 OHm and 1 Meg OHm input amplifiers with AC/DC Coupling, $\pm$ Polarity, Triggers Level Adj., Low Pass Filter and Attenuator
- .05PPM, 0-50°C Oversized Time Base Option
- Internal/External Clock Input
- RS-232 Serial Computer Interface

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Another bright idea from **OPTOELECTRONICS**

But don't just take our word for it...

"I purchased the Scout... WHAT A UNIT! VERY IMPRESSED!!!"
Allen Wilde - Littleton, MA

"I take my Scout with me everywhere - it's very effective in mobile use, either in the car or on foot. I recommend a Scout over another scanner when adding to your collection... the most effective device so far from Opto for the Scannist."
Steve Dawkins - Pensacola, FL

"This is a breakthrough product in every way... KUDOS!"
Robert Caron - Des Moines, IA

"The Scout is AWESOME-the folks at OPTO keep coming up with winners, and this is their best yet!"
Gordon West
Gordon West Radio School

"Fantastic!"
Brad Schroeder - Omaha, NE

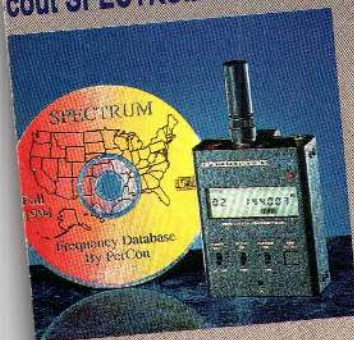


- 400 Frequency Memory with 250 Hit Counter
- Sleep Mode to prevent data loss when battery dies
- Reaction Tune - will tune a receiver with CI-V port in .01 seconds
- Beeper and Vibrator Signal Indicator
- Digital Filter and Auto Capture
- CI-V Serial Data Port
- Software for uploading Frequencies to a PC included
- 16 Segment Signal Level Bargraph
- 10MHz to 2.8GHz Frequency Range
- 7 Hour Battery Operation
- Maximized Sensitivity for maximum antenna pick-up

SCOUT.....\$449.00

OPTIONS: Option 1: Mini DB32 Ant...\$29.00 Option 2: AC100 Rapid Charger....\$39.00 Option 3: Spectrum-CD ROM....\$39.00

Scout SPECTRUM-CD ROM



The SCOUT

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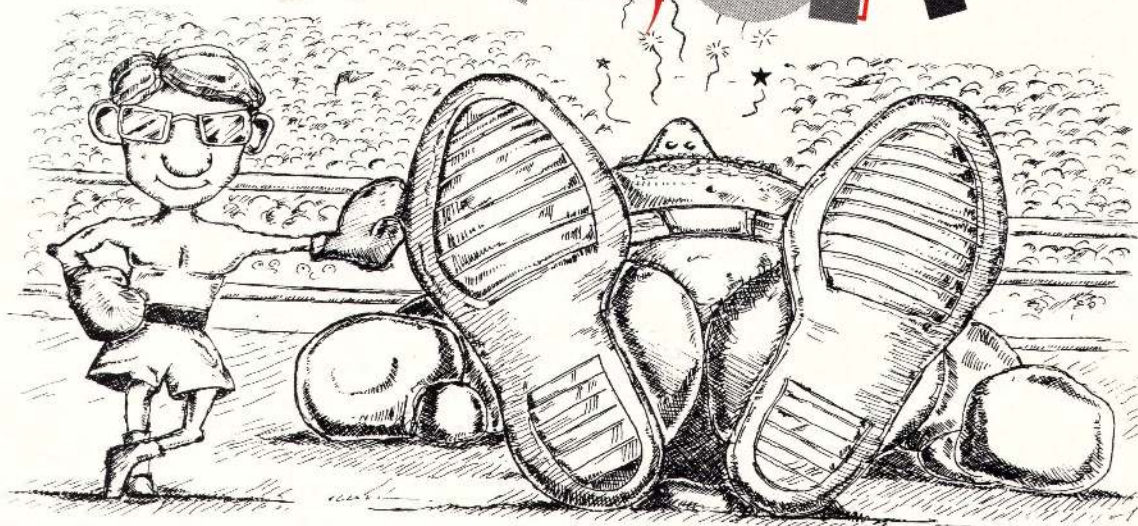
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Scout Reaction-Tune



It's kinda s m a l l, but it sure packs a

WALLOP!



Includes: Internal Nicad Battery
Pack & A/C Charger.
TA100S Telescoping Whip Antenna - \$12

Sometimes size isn't everything. Take for example the new Model 3300 Mini-Counter. A small, yet powerful device that not only outperforms any model in its class, but has features that are unprecedented. Like the implementation of the LCD display, which, unlike energy-sapping LED's, uses lower power and is easier to read, even in bright sunlight! Best of all, with its smaller package, you'll have more time enjoying its features and less time worrying about fitting it in your pocket.

\$129

5% Ship/Handling (Min \$5 & Max \$10)
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- 1 MHz-2.8GHz Frequency Range
- Direct Count Range From 1MHz to 250MHz with 1Hz/Sec high resolution display
- Prescaled to 2.8GHz
- Select up to 6 Gate/Measurement Periods
- 10 MHz industry Standard Time Base
- Ultra Compact true pocket size; 3.4" x 2.6" x 1.2"
- Maximized sensitivity for picking up radio transmissions from the greatest distance
- Display Hold Switch Locks current Measurement

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Handi-Counter® 3000

The world's finest hand held multifunction counter – incorporates many unique functions usually found only in very expensive bench models.

Designed for virtually every measurement application from near DC through Micro-wave including measuring RF transmission frequencies at the maximum possible distance. The 3000 is also the world's first HandiCounter® with Period, Time Interval and Ratio measurement capability.

\$259.



Bench/Portable Multifunction Counter Model 8030

10Hz - 3GHz extremely High Sensitivity, High Resolution and Accuracy, includes a Bargraph, ± 1 PPM TCXO, Two Inputs, Adjustable Trigger Level, Trigger Variable and Hold Button
Optional ± 1 TXCO: \$135.

\$579.



HandiCounter® Model 2810

Our full range counter with bargraph 10Hz to 3GHz. Ultra-high sensitivity, 4 fast gate times, outstanding quality-low, low price.

\$199.



Handi Counter® Model 2300

The Original Pocket Sized Counter. 1MHz to 2.4GHz – 8 digit LED. Maximized Sensitivity, ± 1 ppm TCXO. Includes Hold Switch, NiCads and Charger/Adapter!

\$99.



R10 FM Communications Interceptor™

ALL NEW TECHNOLOGY!!
The Interceptor follows & locks on even when frequency changes and intercepts ALL FM Two-Way Transmissions without gaps in coverage. It does not have to tune through RF Spectrum to capture signals.
FCC Classified as

Communication Test Instrument – Increase your RF Security!!

\$359.



APS104

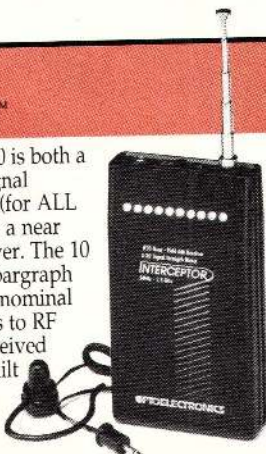
Our Active Preselector allows you to pick-up transmissions or frequencies at 10 times the distance. Use with our HandiCounter® or R-10 Interceptor™ 10MHz - 1GHz Tunable over 5 octaves

\$995.

R20 AM Interceptor™

NEW! The R20 is both a sensitive RF signal strength meter (for ALL RF signals) and a near field AM receiver. The 10 segment LED bargraph responds with nominal 3dB increments to RF signal level received through the built in antenna.

\$119.



Tone Counter Model TC200

NEW! Ideal companion for use with the R10 FM Communications Interceptor™ to measure sub audible signalling tones off the air. The TC200 can also be used with scanners and

communications receiver to monitor sub audible tones.

\$179.

ACCESSORIES

Vinyl Carry Case

CC12 - Padded Black Vinyl carrying case for 2300 size LED Counters \$ 12
CC30 - Padded Black Vinyl carrying case for 3000 size LCD counters. \$ 15

Antennas

TA100S Telescoping Whip Antenna \$ 12

Antenna Packs:

Ant-Pak 1 (includes RD27, RD800, TA100S – Save \$11) \$ 65
Ant-Pak 2 (includes five assorted rubber ducks, 27-1000MHz – Save \$32.) \$ 99

Probes

P30 - Counter/Oscilloscope probe - for direct coupling to signal sources or circuit test points. 1x/10x, switchable \$ 35

P101- Low-Pass probe attenuates RF noise from Audio frequencies. Has two stage low pass filter. \$ 20

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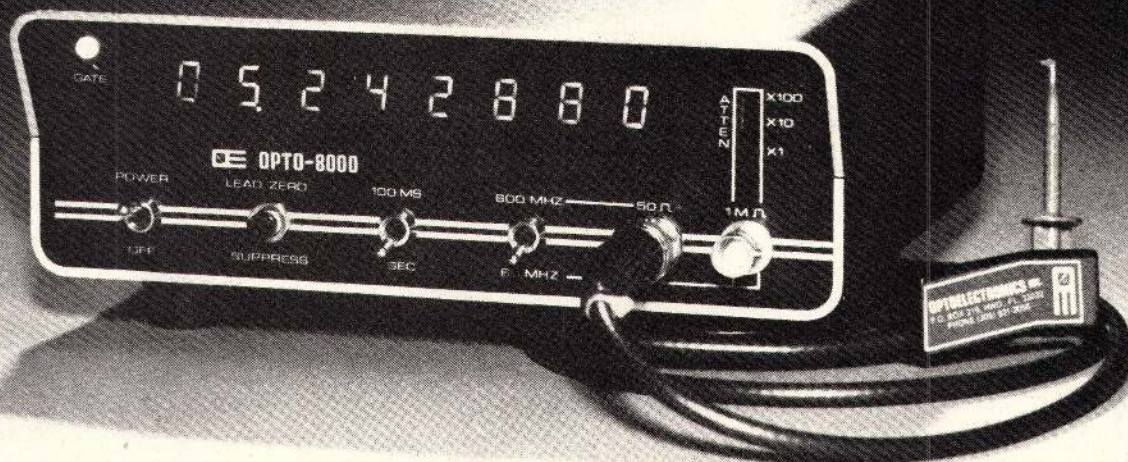
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600 MHZ. FREQUENCY COUNTER ±0.1 PPM TCXO

OPTO-8000.1



This new instrument has taken a giant step in front of the multitude of counters now available. The Opto-8000.1 boasts a combination of features and specifications not found in units costing several times its price. Accuracy of ± 0.1 PPM or better — *Guaranteed* — with a factory-adjusted, sealed TCXO (Temperature Compensated Xtal Oscillator). **Even kits require no adjustment for guaranteed accuracy!** Built-in, selectable-step attenuator, rugged and attractive, black anodized aluminum case (.090" thick aluminum) with tilt bail. 50 Ohm and 1 Megohm inputs, both with amplifier circuits for super sensitivity and both diode/overload protected. Front panel includes "Lead Zero Blanking Control" and a gate period indicator LED. AC and DC power cords with plugs included.



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Phones: (305) 771-2050 771-2051
Phone orders accepted 6 days, until 7 p.m.



03

SPECIFICATIONS:

Time Base—TCXO ± 0.1 PPM GUARANTEED!
Frequency Range—10 Hz to 600 MHz
Resolution—1 Hz to 60 MHz; 10 Hz to 600 MHz
Decimal Point—Automatic
All IC's socketed (kits and factory-wired)
Display—8 digit LED
Gate Times—1 second and 1/10 second
Selectable Input Attenuation—X1, X10, X100
Input Connectors Type—BNC
Approximate Size—3" h x 7 1/2" w x 6 1/2" d
Approximate Weight—2 1/2 pounds
Cabinet—black anodized aluminum (.090" thickness)
Input Power—9-15 VDC, 115 VAC 50/60 Hz
or internal batteries
OPTO-8000.1 Factory Wired **\$299.95**
OPTO-8000.1K Kit **\$249.95**

ACCESSORIES:

Battery-Pack Option—Internal Ni-Cad Batteries and charging unit **\$19.95**
Probes: P-100—DC Probe, may also be used with scope **\$13.95**
P-101—LO-Pass Probe, very useful at audio frequencies **\$16.95**
P-102—High Impedance Probe, ideal general purpose usage **\$16.95**
VHF RF Pick-Up Antenna-Rubber Duck w/BNC #Duck-4H **\$12.50**
Right Angle BNC adapter #RA-BNC **\$ 2.95**

FC-50 — Opto-8000 Conversion Kits:

Owners of FC-50 counters with #PSL-650 Prescaler can use this kit to convert their units to the Opto-8000 style case, including most of the features.

FC-50 — Opto-8000	Kit \$59.95
*FC-50 — Opto-8000F	Factory Update \$99.95
FC-50 — Opto-8000.1 (w/TCXO)	Kit \$109.95
*FC-50 — Opto-8000.1F	Factory Update \$149.95
*Units returned for factory update must be completely assembled and operational	

TERMS: Orders to U.S. and Canada, add 5% to maximum of \$10.00 per order for shipping, handling and insurance. To all other countries, add 10% of total order. Florida residents add 4% state tax. C.O.D. fee: \$1.00. Personal checks must clear before merchandise is shipped.

DON'T GAMBLE when you want the best

21 Reasons To Buy OPTOELECTRONICS' MODEL 3000

1. RANGE- 10Hz to 3GHz.
2. Hi-Speed ASIC (Application Specific Integrated Circuit) State-Of-The-Art.
3. 256 Times Faster than other hand held counters.
4. 10 Digit LCD. Readability even in Bright Sunlight.
5. 6 Functions - Frequency, Period, Ratio, Time Interval, Average and Prescale.
6. RF Signal Strength Bargraph - 16 Segment, Zero & Full Scale Adjust. Excellent for locating Hidden Transmitters.
7. Four extremely Fast Gate Times .01, .1, 1, 10 sec.
8. Dual High Impedance Amplifiers.
9. Maximized Sensitivity
10. Hold Switch - Locks in measurements FAST.
11. ± 1 PPM Accuracy
12. Direct Count - 1Hz resolution to 220MHz.
13. Sensitivity <1mv 10MHz - 200MHz, <5mv - 2GHz.
14. Single Shot Time Interval 100ns, 1ns averaged.
15. Push-button Input, Gate & Function selection.
16. Extruded Aluminum Enclosure.
17. NiCad & Charger Included
18. Low Battery Indicator.
19. 1 Year Parts & Labor Warranty
20. 30 day Money Back Guarantee.
21. OPTOELECTRONICS backs this with our 18 Years of Dependability & Service.

All this and more for the Low Price - \$375.

Also Available at Special Package Price:

For A Limited Time Only
Model 3000, Backlight/Beeper, Carry
Case & TA-100s Whip Antenna

All this for only \$449.

OPTIONS:

TCXO 30	$\pm .2$ ppm TCXO	\$100.
BLB30		
Back light & two step audible signal level indicator ..		\$ 75.
CC30	Carry Case	\$ 15.
TA100S	Telescoping Whip Antenna	\$ 12.



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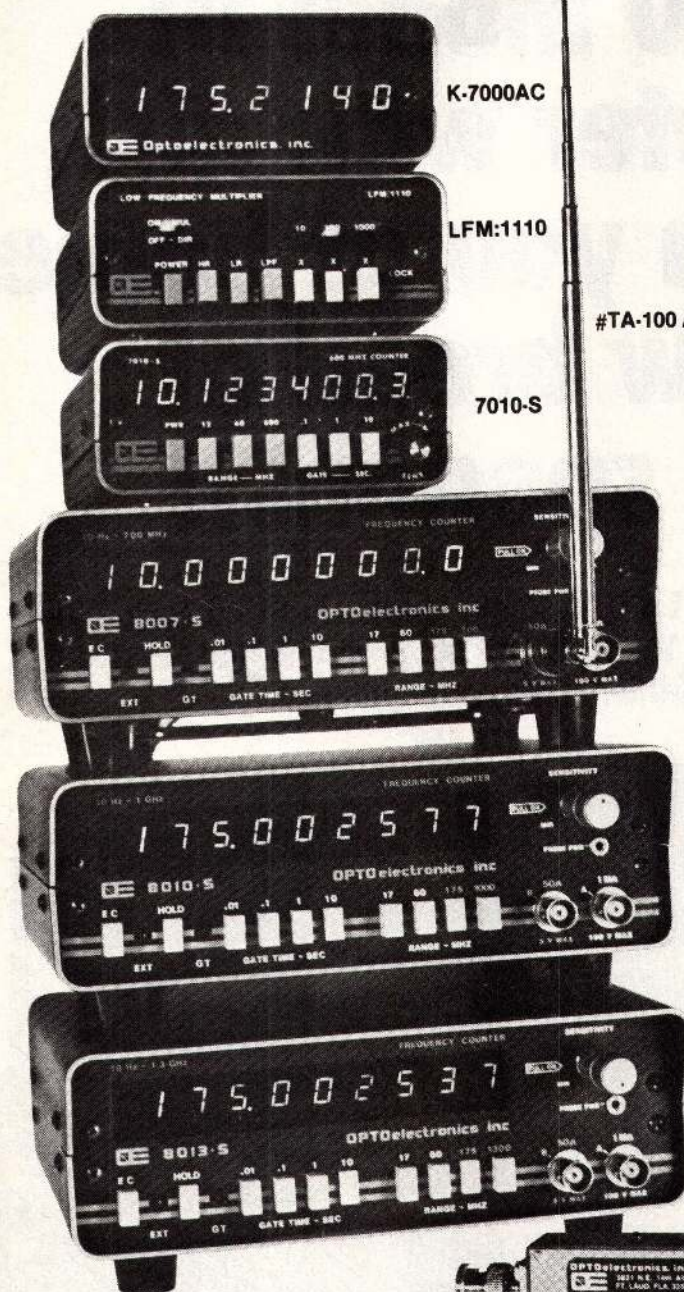
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FREQUENCY COUNTERS to 1.3 GHz

By **OPTOelectronics inc.** Ft. Lauderdale, Florida

EST. 1974



MADE IN USA

AP-8015-A



MODEL K-7000-AC 10 Hz to 550 MHz counter. 50 Ohm & 1 Megohm inputs via BNC type connectors on rear panel. This model is available in optional kit form.

#K-7000-AC counter assembled 115VAC/12VDC \$150.
#K-7000-ACK counter kit form 120.
#Ni-Cad-70S Internal Ni-Cad battery pack 25.

MODEL LFM:1110 Low frequency multiplier. A frequency counter accessory enabling tone frequencies to be counted faster and more accurately. Has low pass filter for off-the-air. Tone-squelch measurements. BNC input/output.

#LFM:1110 115VAC/12VDC \$150.

#TA-100 Ant.

MODEL 7010-S 10 Hz to 600 MHz counter. 50 Ohm & 1 megohm inputs via BNC type connectors on rear panel. ± 1 PPM TCXO standard ± 0.1 PPM TCXO time base optional for greater accuracy. 10 mV average sensitivity. Very compact 6 1/2 digit counter: Size 2" H x 4" W x 5" D, 1 lb.

#7010-S 600 MHz counter 115 V AC/12 V DC \$235.
#TCXO-80 ± 0.1 PPM TCXO time base 75.
#Ni-Cad-76 Internal Ni-Cad Battery Pack 25.

MODELS 8007-S, 8010-S, 8013-S Deluxe series with frequency ranges of 10 Hz to 700 MHz, 1 GHz and 1.3 GHz. Standard features include: external clock input/output, excellent sensitivity, sealed ± 1 PPM 10 MHz TCXO time base, 4 gate times, 9 digit resolution to 175 MHz, front panel power jack for optional Broadband Preamp accessory, 115 V AC or 12 V DC operation, high quality compact construction housed in rugged aluminum cabinet. Optional features: internal Ni-Cad rechargeable battery operation, precision ± 0.1 PPM TCXO or ± 0.05 PPM proportional oven (OCXO) time base. All time base oscillators, including the standard TCXO, have 10 turn calibration adjustment accessible from rear panel. Size 3" H x 7 1/2" W x 6 1/2" D. 2 3/4 lbs.

#8007-S 700 MHz counter \$350.
#8010-S 1 GHz counter 425.
#8013-S 1.3 GHz counter 495.

OPTIONS:

#TCXO-80 ± 0.1 PPM TCXO time base 75.
#OCXO-80 ± 0.05 PPM (prop. oven) OCXO time base 125.
#Ni-Cad-86 Internal Ni-Cad battery pack 60.

MODEL AP-8015-A Broadband Preamp with 25 dB nominal gain from 1 MHz to 1 GHz, 10 dB gain at 1.3 GHz. Noise Figure less than 5.5 dB. supplied with AC adaptor or may be powered from power jack on 80XX-S series counters.

#AP-8015-A \$195.
#TA-100 Antenna, RF pick-up telescope style with right angle elbow and BNC connector. \$12.

- FULL YEAR GUARANTEE — ALL PRODUCTS.
- CERTIFIED NBS TRACEABLE CALIBRATION.
- ALL ALUMINUM CABINETS.

MOST ITEMS SHIPPED FROM STOCK
Prices/Specifications subject to change without notice or obligation.

MODEL	RANGE (FROM 10 Hz)	TIME BASE		AVERAGE SENSITIVITY		GATE TIMES	MAX RESOLUTION					SENSITIVITY CONTROL	EXT CLOCK INPUT/OUTPUT	METAL CASE	PROBE POWER JACK
		FREQ	STAB-DESIGN	BELOW 500 MHz	ABOVE 500 MHz		12 MHz	17 MHz	60 MHz	175 MHz	MAX FREQ				
K-7000-AC	550 MHz	5.24288	± 1 PPM-RTXO	15 mV -24 DBM	N/A	(2) .1, 1 SEC	10 Hz		100 Hz			No	No	Yes	No
7010-S	600 MHz	10.0 MHz	± 1 PPM-TCXO ± 0.1 PPM-TCXO	10 mV -27 DBM	20 mV -24 DBM	(3) .1, .1, 10 SEC	.1 Hz			1 Hz	10 Hz	Yes	No	Yes	No
8007-S	700 MHz		± 1 PPM-TCXO			(4)									
8010-S	1 GHz	10.0 MHz	± 0.1 PPM-TCXO ± 0.05 PPM-OCXO	10 mV -27 DBM	20 mV -24 DBM	.01, .1, 1, 10 SEC	.1 Hz			1 Hz	10 Hz	Yes	Yes	Yes	Yes
8013-S	1.3 GHz														

OPTOelectronics inc.

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Actual Size
Made in the USA

OPTOELECTRONICS brings you the latest in a long line of quality LED Handi-Counters™ - the **NEW 2300**. The 2300 has inherited the outstanding features of the 1200H, 1300H, 2400H & 1300HA. No other counter can match this family history. Additional new features include:

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- **Display Hold Switch.**
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- **Continuous Range.** No cumbersome range switch.
- **Hi-Tech Painted Finish.** More rugged than anodized cases.
- **600 mA Hr. Batteries.** Not the cheapest but the best!
- **17 years of quality and dependability to back our products.**

Model	8030	3000	2600H	2600HA	2210A	2300
Function	Freq, Period Ratio, Interval	Freq, Period Ratio, Interval	Frequency	Frequency	Frequency	Frequency
Range	10Hz-2.6GHz	10Hz-2.6GHz	1MHz-2.6GHz	1MHz-2.6GHz	10Hz-2.4GHz	1MHz-2.4GHz
Display	10 Digit LCD w/Function Annunciators	10 Digit LCD w/Function Annunciators	10 Digit LCD	10 Digit LCD	8 Digit LED	8 Digit LED
RF Signal Strength Indicator	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	16 Segment Adjustable Bargraph	.	.	.
Price	\$579.	\$375.	\$325.	\$225.	\$199.	*\$99.

Sensitivity: <1 to <10mV typical. Time Base: ±1 ppm.; ±5 ppm. add \$75 - LED Models; ±2 ppm add \$80. LCD Models. Nicad & AC charger/adaptor included except for 2300. *For 2300, NiCad installed, \$20. & AC charger/adaptor, \$9. Carry case and a full line of probes and antennas are available. One year parts & labor warranty on all products.

Full Range
Model.



Model 2300 1MHz - 2.4GHz
Frequency Counter. **\$ 99.**
NiCad 23 Custom internal NiCad Pack
(installed)..... **\$ 20.**
AC90 110VAC - 9VDC
Charger/Adapter..... **\$ 9.**
Complete Package Model 2300,
Internal NiCads & A/C Adapter..... **\$128.**

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