

## Excess Inventory Sale

From time to time, excess inventory items are created as a result of order cancellations and discontinued products. Sale items include VP Oncore GPS Receivers, Antennas, Lightning Arrestors and Miscellaneous Items and they are in either new, refurbished or in used condition (as indicated). Most parts carry a 90 day replacement warranty and they are quoted FOB San Diego. All sales are final and all products are subject to prior sale. We will update this portion of our web site monthly to indicate the actual quantity of products remaining in our excess inventory. [M/C and Visa cards are accepted and minimum order amount is \\$50.](#)

### VP Oncore Sale Items

Model	P/N	Product Description	Approx Quantity	Condition	Price
6 channel VP Oncore with v8.4 firmware	B1121P1114	1PPS option, Straight Pwr/Data header and R/A OSX coax conn.	<b>Sold Out</b>	New	\$25
8 channel VP Oncore with v8.8 firmware	B4121P1115	1PPS option, Straight Pwr/Data header and R/A OSX coax conn. RF Filter	<b>Sold Out</b>	Used	\$36
8 channel VP Oncore with v8.8 firmware	B4121P1155	1PPS option, Straight Pwr/Data header and Straight OSX coax conn. RF Filter	294	Used	\$36
8 channel VP Oncore with v8.8 firmware	B4121P1155	1PPS option, Straight Pwr/Data header and Straight OSX coax conn. RF Filter	<b>Sold Out</b>	New	\$51

VP Oncore historical information – The 6 channel B1 series VP Oncore part numbers were originally specified as the precision timing receiver of choice for use in CDMA cell site Base Stations. The 6 channel receivers were superseded by the 8 channel B4 series VP Oncore part numbers which included an extra RF filter for added EMI immunity.

The VP Oncore products may be purchased for spare parts for older products or designed into educational or Ham Radio projects. The Carrier Phase firmware option can be added for \$15 per piece and will result in a "Z" in the middle of the part number. The VP Oncore User's Guide TRM0001 is available at \$50 each. Motorola did not publish an electronic copy of the Users Guide but we make available the [VP Oncore Command Reference](#) in PDF format that contains the entire command and reply message set for download.

### Hewlett Packard Lightning Arrestor

We have a number of Hewlett Packard Model 58538A lightning arrestors that were manufactured for HP by Huber-Suhner of Switzerland. Please see the data sheet for more details.

Hewlett Packard sold its Timing Products Division to Symmetricom and a data sheet, similar to the HP product, is available at: [http://www.symmetricom.com/products\\_and\\_services/product.php?prodID=56](http://www.symmetricom.com/products_and_services/product.php?prodID=56)

Model	P/N	Product Description	Approx Quantity	Condition	Price
58538A	20001011	(Synergy) (see above)	24	New	\$39

**For configuration assistance, order placement and technical support call:**

**SYNERGY SYSTEMS, LLC**  
*Time proven products and support*

P.O. Box 262250 • San Diego, CA 92196  
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Internet E-Mail: [Info@synergy-gps.com](mailto:Info@synergy-gps.com)

**GPS Antennas (various)**

The Motorola and MA/Com GPS antennas are automotive quality and work over a temperature range of –40 degrees C to +85 degrees C.

<b>Model</b>	<b>P/N</b>	<b>Product Description</b>	<b>Approx Quantity</b>	<b>Condition</b>	<b>Price</b>
Motorola Antenna97	10001249	5 volt, 3 meter coax, mag mount, TNC plug	<b>Sold Out</b>	New	\$14
Motorola Antenna97	10001254	5 volt, 20 cm coax, mag mount, SMA plug	<b>Sold Out</b>	New	\$14
MA/COM ANPC-135	10001347	5V, 5M coax, mag mnt, MCX plug (for GT+ only)	167	New	\$24

**Coax Cable Assemblies**

These coax cable parts can be used for GPS antenna extension cables, extension cables used internally to enclosures (usually with a customer supplied panel mount connector on one end) or as a replacement GPS antenna cable. All connectors are Nickel plated except where noted.

<b>Part Number</b>	<b>Description</b>	<b>Length</b>	<b>Qty</b>	<b>Condition</b>	<b>Price Ea.</b>
BNCSTRPLUG5M	Cable whip, straight BNC one end	5M	40	New	\$3
BNCSTRPLUG3M	Cable whip, straight BNC one end	3M	25	New	\$3
MCXSTRPLUG5MG	Cable whip, straight MCX one end	5M	44	New (Gold)	\$3
SMASTRPLUG5M	Cable whip, straight SMA one end	5M	<b>Sold Out</b>	New	\$3
SMBSTRPLUG5M	Cable whip, straight SMB one end	5M	104	New	\$3
TNCSTRPLUG5M	Cable whip, straight TNC one end	5M	21	New	\$3
MCXRAPLUG3M	Cable whip, R/A MCX one end	3M	<b>Sold Out</b>	New	\$3
MCXSTRJACK5M	Cable whip, straight MCX one end	5M	13	New	\$3
MCXSTRPLUG5M	Cable whip, straight MCX one end	5M	43	New	\$3
MCXSTRPLUG20CM	Cable whip, straight MCX one end	20 cm	<b>Sold Out</b>	New	\$2
MCXRAPLUG20CM	Cable whip, straight MCX one end	20 cm	102	New	\$2

Many of these parts are constructed using a premium class of RG-174 coax cable either identical to, or very similar to, that described on pages 4.12 and 4.13 in Chapter 4 of the GT+/UT+ Users Guide that is available at: [http://www.synergy-gps.com/Mot\\_Manuals.html](http://www.synergy-gps.com/Mot_Manuals.html). Since the coax cable is slightly larger in diameter than standard RG-174, we recommend using H.F. Johnson coax connectors which have a slightly larger ferrule I.D's. If connectors from other manufacturers are used, the outer jacketed diameter may have to be reduced slightly to allow the ferrules to fit.

No connector changes or additions. All sales final.

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## For Credit Card Orders Only

**SYNERGY SYSTEMS, LLC STANDARD TERMS & CONDITIONS APPLY TO ALL ORDERS.**

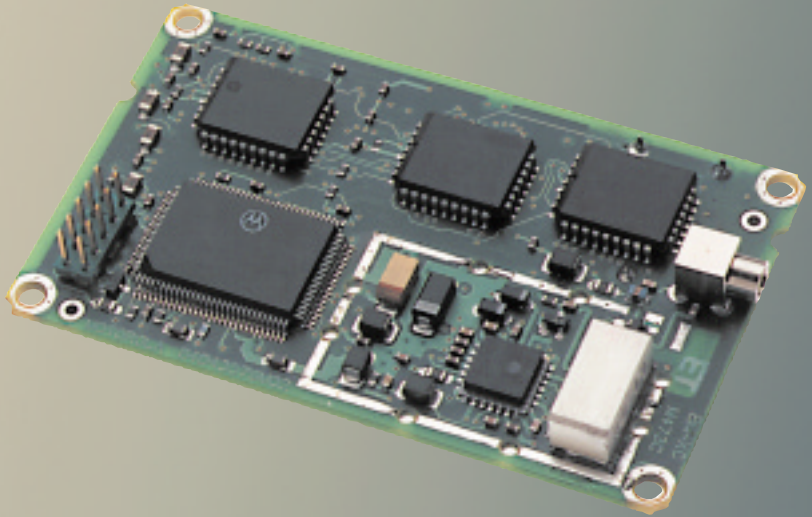
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# VP Oncore™ GPS Receiver



Actual size

There's only one name for quality and performance in GPS technology: Oncore. The Oncore family is a full line of GPS receivers developed and built by Motorola for the OEM and Systems Integrator marketplace.

The VP Oncore is Motorola's original credit card-sized 8-channel GPS receiver. It measures just 2" x 3 1/4" x 1/2", has very low power requirements, and is well suited for embedded applications.

The VP Oncore has the capability of acting as a DGPS reference station. Using GT Plus Oncore receivers as mobile units in conjunction with the VP Oncore base station is a cost effective solution for differential applications. The VP Oncore also has the ability to output raw satellite measurement data for use in real-time kinematic and differential post-processing applications.

The Oncore family of GPS receivers incorporate Motorola GPS custom ICs (integrated circuits), Motorola MPUs (microprocessor units), and Motorola GPS receiver software. Add QS 9000 certification, reliability, responsive support and the long-term commitment you've come to expect from Motorola, and you understand why Oncore is the quality choice.



# VP Oncore™ GPS Receiver

## General Characteristics

Receiver Architecture	<ul style="list-style-type: none"><li>• 8 channel</li><li>• L1 1575.42 MHz</li><li>• C/A code (1.023 MHz chip rate)</li><li>• Code plus carrier tracking (carrier aided tracking)</li></ul>
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## Performance Characteristics

Tracking Capability	<ul style="list-style-type: none"><li>• 8 simultaneous satellite vehicles</li></ul>
Dynamics	<ul style="list-style-type: none"><li>• Velocity: 1000 knots (515 m/s); &gt; 1000 knots at altitudes &lt; 60,000 ft.</li><li>• Acceleration: 4 g</li><li>• Jerk: 5 m/s</li><li>• Vibration: 7.7G per Military Standard 810E</li></ul>
Acquisition Time (Time To First Fix, TTFF)	<ul style="list-style-type: none"><li>• 20 s typical TTFF (with current almanac, position, time and ephemeris)</li><li>• 45 s typical TTFF (with current almanac, position and time)</li><li>• 2.5 s typical reacquire</li></ul>
Positioning Accuracy	<ul style="list-style-type: none"><li>• Less than 25 m, SEP (without SA) [DoD may invoke Selective Availability (SA), potentially degrading accuracy to 100 m (2dRMS)]</li><li>• DGPS accuracy 1-5 m typical</li></ul>
Timing Accuracy (1 Pulse Per Second, 1 PPS)	<ul style="list-style-type: none"><li>• 130 ns observed (1s) with SA on</li><li>• In position hold mode, &lt; 50 ns observed (1s) with SA on</li></ul>
Antenna	<ul style="list-style-type: none"><li>• Active micro strip patch antenna module</li><li>• Powered by receiver module (25mA @ 5 Vdc)</li></ul>
Datums	<ul style="list-style-type: none"><li>• 49 std. datums, 2 user defined, default WGS-84</li></ul>

## Serial Communication

Output Messages	<ul style="list-style-type: none"><li>• Latitude, longitude, height, velocity, heading, time, satellite tracking status (Motorola binary protocol)</li><li>• NMEA-0183 Version 2.00 (selected formats) available</li><li>• Software selectable output rate (continuous or poll)</li><li>• Broad list of command/control messages</li><li>• TTL interface</li></ul>
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## Electrical Characteristics

Power Requirements	<ul style="list-style-type: none"><li>• 5 ± 0.25 Vdc; 50 mVp-p ripple (max)</li></ul>
"Keep-Alive" BATT Power	<ul style="list-style-type: none"><li>• External 2.5 V to 5.25 V; 15mA (typ.) 60mA (max)</li></ul>
Power Consumption	<ul style="list-style-type: none"><li>• 1.1 W @ 5 V</li></ul>

## Physical Characteristics

Dimensions	<ul style="list-style-type: none"><li>• 2.00 x 3.25 x 0.64 in. [50.8 x 82.6 x 16.3 mm]</li></ul>
Weight	<ul style="list-style-type: none"><li>• 1.8 oz. (51 g)</li></ul>
Connectors	<ul style="list-style-type: none"><li>• Data/power: 10 pin (2x5) unshrouded header on 0.100" centers</li><li>• RF: right angle OSX (subminiature snap-on)</li></ul>
Antenna to Receiver Interconnection	<ul style="list-style-type: none"><li>• Single coaxial cable</li></ul>

## Environmental Characteristics

Operating Temperature	<ul style="list-style-type: none"><li>• -30°C to +85°C</li></ul>
Humidity	<ul style="list-style-type: none"><li>• 95% noncondensing +30°C to +60°C</li></ul>
Altitude	<ul style="list-style-type: none"><li>• 60,000 ft. (18 km) (max)</li><li>• &gt; 60,000 ft. (18 km) for velocities &lt; 1000 knots</li></ul>

## Miscellaneous

Optional features	<ul style="list-style-type: none"><li>• 1 PPS timing output with Time RAIM</li><li>• Raw measurement data</li><li>• On board rechargeable lithium battery</li></ul>
DGPS	<ul style="list-style-type: none"><li>• Differential GPS is a standard software feature</li><li>• RTCM-104 format (remote input)</li><li>• Motorola custom format (master output and remote input)</li></ul>

For more information contact  
your local distributor:



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