



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

DNR211018

1

ADDRESS CORRESPONDENCE TO ATTENTION OF:

FRANK WHITTAKER
 304-558-2316

VENDOR

Vectronic Aerospace GmbH
Attn: Carl-Scheele-Str.12
D-12489 Berlin
Germany

SHIP TO

DIVISION OF NATURAL RESOURCES
 2006 ROBERT C. BYRD DRIVE
 BECKLEY, WV
 25801 304-558-3397

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS
08/05/2010				

BID OPENING DATE: 08/24/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		725-90	\$2,595.05	\$38,925.75
GPS ENABLED RADIO COLLARS FOR BLACK BEARS						
REQUEST FOR QUOTATION (RFQ)						
THE WEST VIRGINIA STATE PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF NATURAL RESOURCES, IS SOLICITING BIDS TO PROVIDE THE AGENCY WITH (15) GPS ENABLED RADIO-COLLARS TO BE USED ON BLACK BEARS PER THE ATTACHED SPECIFICATIONS.						
TECHNICAL QUESTIONS CONCERNING THIS SOLICITATION MUST BE SUBMITTED IN WRITING TO FRANK WHITTAKER IN THE WEST VIRGINIA STATE PURCHASING DIVISION VIA MAIL AT THE ADDRESS SHOWN IN THE BODY OF THIS RFQ, VIA FAX AT 304-558-4115, OR VIA EMAIL AT FRANK.M.WHITTAKER@WV.GOV. DEADLINE FOR TECHNICAL QUESTIONS IS 08/13/2010 AT THE CLOSE OF BUSINESS. ANY TECHNICAL QUESTIONS RECEIVED WILL BE ANSWERED BY FORMAL ADDENDUM TO BE ISSUED BY THE PURCHASING DIVISION AFTER THE DEADLINE HAS LAPSED.						
EXHIBIT 10						
REQUISITION NO.:						
ADDENDUM ACKNOWLEDGEMENT						
I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.						

RECEIVED

2010 AUG 19 A 9:58

PURCHASING DIVISION
STATE OF WV

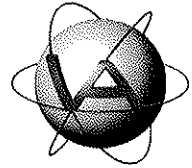
SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE +49 30 67894990	DATE 08/17/2010
TITLE CEO	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

VECTRONIC Aerospace GmbH

Kommunikation • Navigation • Raumfahrttechnik



VECTRONIC Aerospace GmbH • Carl-Scheele-Str. 12 • D-12489 Berlin

State of West Virginia
Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130
USA

Carl-Scheele-Str. 12
D-12489 Berlin

Telefon +49 (0)30 / 6789 4990
Telefax +49 (0)30 / 6789 5230
E-Mail: mail@vectronic-aerospace.com
<http://www.vectronic-aerospace.com>
WGS 84: 52°25.83' N 13°31.52' O
Ust. Ident. Nr. / VAT reg. no.
DE813227798

Ihr Zeichen

Unser Zeichen

Datum

Berlin, August 17th, 2010

RFQ Number: DNR211018

Opening Date: August 24, 2010 01:30 pm.

Dear Sir or Madam,

please find attached our quotation for the above mentioned request.
The offered GPS PRO Light-2 collar fulfils all required specifications.

Best regards,

.....
Robert Schulte

- CEO VECTRONIC Aerospace GmbH -



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

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RFQ NUMBER
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ADDRESS CORRESPONDENCE TO ATTENTION OF
 FRANK WHITTAKER
 304-558-2316

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE

VECTRONIC Aerospace GmbH
 Carl-Scheele-Str. 12
 12489 Berlin
 Germany

SHIP TO

DIVISION OF NATURAL RESOURCES
 2006 ROBERT C. BYRD DRIVE
 BECKLEY, WV
 25801 304-558-3397

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/05/2010				

BID OPENING DATE: 08/24/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 'S:						
NO. 1						
NO. 2						
NO. 3						
NO. 4						
NO. 5						
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						
VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.						
<p style="text-align: center;">..... SIGNATURE VECTRONIC Aerospace GmbH COMPANY 08/17/2010 DATE</p>						
NOTE: THIS ADDENDUM ACKNOWLEDGEMENT SHOULD BE SUBMITTED WITH THE BID						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
	+49 30 6789 4990	08/17/2010	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
CEO			

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia
 Department of Administration
 Purchasing Division
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 Charleston, WV 25305-0130

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VENDOR
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 VECTRONIC Aerospace GmbH
 Carl-Scheele-Str. 12
 12489 Berlin
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 BECKLEY, WV
 25801 304-558-3397

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/05/2010				

BID OPENING DATE: 08/24/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>REV. 09/21/2009</p> <p>THE MODEL/BRAND/SPECIFICATIONS NAMED HEREIN ESTABLISH THE ACCEPTABLE LEVEL OF QUALITY ONLY AND ARE NOT INTENDED TO REFLECT A PREFERENCE OR FAVOR ANY PARTICULAR BRAND OR VENDOR. VENDORS WHO ARE BIDDING ALTERNATES SHOULD SO STATE AND INCLUDE PERTINENT LITERATURE AND SPECIFICATIONS. FAILURE TO PROVIDE INFORMATION FOR ANY ALTERNATES MAY BE GROUNDS FOR REJECTION OF THE BID. THE STATE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN BIDS OR SPECIFICATION IN ACCORDANCE WITH SECTION 148-1-4(F) OF THE WEST VIRGINIA LEGISLATIVE RULES AND REGULATIONS.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE +49 30 6789 4990	DATE 08/17/2010
TITLE CEO	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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 Department of Administration
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 Charleston, WV 25305-0130

Request for Quotation

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FRANK WHITTAKER 304-558-2316

VENDOR
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 TYPE NAME/ADDRESS HERE

VECTRONIC Aerospace GmbH
 Carl-Scheele-Str. 12
 12489 Berlin
 Germany

SHIP TO
 DIVISION OF NATURAL RESOURCES

2006 ROBERT C. BYRD DRIVE
 BECKLEY, WV
 25801 304-558-3397

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
08/05/2010				

BID OPENING DATE: 08/24/2010 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
SEALED BID						
BUYER:		FRANK WHITTAKER-FILE 44				
RFQ. NO.:		DNR211018				
BID OPENING DATE:		08/24/2010				
BID OPENING TIME:		1:30 PM				
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
+49 30 6789 5230						

CONTACT PERSON (PLEASE PRINT CLEARLY):						
Robert Schulte						

***** THIS IS THE END OF RFQ DNR211018 ***** TOTAL:						\$38,925.75

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
	+49 30 6789 4990	08/17/2010
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
CEO		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

WV DIVISION OF NATURAL RESOURCES
WILDLIFE RESOURCES
GAME MANAGEMENT SERVICES

GPS-ENABLED BLACK BEAR RADIO-COLLARS

The West Virginia Division of Natural Resources is requesting bids for an open end contract to purchase GPS-Enabled black bear radio-collars. This item is to be F.O.B. Destination. Freight or delivery charges must be included in the unit price of the collars. Delivery must be made within 60 days of purchase order award.

GENERAL SPECIFICATIONS:

The collars must be manufactured for field use. All items must be new.

INFORMATION FOR BIDDERS:

Bidder must submit a unit price for each item. Partial and /or conditional bids will not be considered. Prices must include shipping.

DAMAGED ITEMS:

Damaged or defective items must be replaced at no additional expense to Wildlife Resources.

OTHER GOVERNMENT BODIES:

NA

WARRANTY:

The collars must be guaranteed to be free of defects in workmanship and material for a minimum of one (1) year from date of acceptance. However, if manufacturer warranty periods are longer than the required minimum one year warranty, those warranties shall apply.

WV DIVISION OF NATURAL RESOURCES
WILDLIFE RESOURCES
GAME MANAGEMENT SERVICES

GPS-ENABLED BLACK BEAR RADIO-COLLARS

GPS ENABLED RADIO-COLLARS TO BE USED ON BLACK BEARS

Collars must meet the following specifications:

- Must include all necessary hardware and software used to retrieve and process location data collected by the collar, including any cables, power supply cords, ground stations, software or firmware.
- Must weigh less than 850 grams.
- Must have a maximum belting width of 1.5 inches (10mm) for the entire circumference.
- Must have a naturally round shape when fitted on the neck of an adult black bear.
- Must have all antennae securely attached or integrated within the collar belting and no flexible whip-style antennae.
- Must collect a minimum of 12 GPS locations per day with two-hours between each location for 25 months.
- Must transmit GPS locations at least once daily via a wireless connection to a satellite or other communications network that forwards the location data to a PC within 24 hours.
- Must have the capacity to store a minimum of 9,000 GPS locations independent of daily wireless transmissions and be retrievable by cable connection to a PC at the end of the collar life.
- Must have GPS accuracy, time and date transmitted and stored with each location.
- Must contain a vhf beacon in the 150-151 frequency range with a pulse rate between 45 and 55 beats per minute that is on for a minimum of 12 continuous hours daily for the life of the collar.
- Must have at least a 25 month battery warranty that allows for up to 12 months of storage before being turned on.
- Must have time delayed drop off mechanism attached to the collar. Time drop off must be set for 104 weeks from removal of magnet from drop off mechanism.
- Must be delivered to: West Virginia Division of Natural Resources, 2006 Robert C. Byrd Drive, Beckley, WV 25801.
- This item is to be F.O.B. destination.

EQUIPMENT SHEET

GPS-ENABLED BLACK BEAR RADIO-COLLARS

Please complete the below information concerning the brand(s) of equipment being bid in relation to this project. If bidding "or equal" brands, please attach manufacturer's literature documenting that it meets the mandatory requirements stated in the specifications. Vendors should note the areas of the provided manufacturer's literature that adheres to the mandatory requirements outlined in the Request for Quotation.

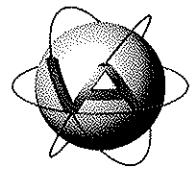
ITEM No.	EQUIPMENT	MANUFACTURER	MODEL
1.	GPS Enabled Radio Collars to be used on black bear To be delivered to WV Division of Natural Resources 2006 Robert C. Byrd Drive Beckley, WV 25801	VECTRONIC Aerospace GmbH	GPS PRO Light-2

PRICING SHEET**GPS-ENABLED BLACK BEAR RADIO-COLLARS**

ITEM No.	QUANTITY	EQUIPMENT	UNIT PRICE	AMOUNT
1.	15	GPS Enabled Radio Collars to be used on black bear	\$2,595.05	\$38,925.75
TOTALS				\$38,925.75

VECTRONIC Aerospace GmbH

Communication · Navigation · Space Applications



Carl-Scheele-Str. 12
D-12489 Berlin

VECTRONIC Aerospace GmbH · Carl-Scheele-Str. 12 · D-12489 Berlin

West Virginia Division of Natural
Resources
2006 Robert C. Byrd Drive
Beckley, WV 25801
USA

Phone: +49 (0)30 / 6789 4990
Fax: +49 (0)30 / 6789 5230
E-Mail: mail@vectronic-aerospace.com
http://www.vectronic-aerospace.com
WGS 84: 52°25.83' N 13°31.52' C
VAT Reg.No.: DE 813227798
Tax No.: 37/272/20580

OFFER

Offer No.: 0903-20100816	Customer No.: 10	Your VAT No.:	Date: 16.08.2010
Your Ref.: DNR211018	from / Date: 08/05/2010	Comments:	

Item	Description	Qty.	Unit Price US\$	Amount US\$
001	GPS PRO Light-2 Collar TARIC 8526 91 20 20 No dangerous goods according to IATA Kein Gefahrgut laut IATA	15	2031,75	30476,25
002	VHF Beacon Transmitter	15	116,10	1741,50
003	VECTRONIC Timer controlled Drop Off	15	348,30	5224,50
004	GSM Ground Station TARIC 8517 12 00 90	1	1548,00	1548,00
005	Special Customer Discount	-1	1161,00	-1161,00
006	LM2 Link Manager - USB Only TARIC 8542 9000	1	451,50	451,50

This offer is valid until December 31, 2010

Net Amount US\$	Freight & Packing US\$	VAT %	VAT	Total Amount US\$
38280,75	645,00	0,00	0,00	38925,75

Total Amount Euro: 30.175,00
Payment: 30 days net
Delivery Date: 4-6 Weeks ARO

VECTRONIC Aerospace GmbH
Geschäftsführer: Pius Butz, Robert Schulte
Sitz der Gesellschaft: Berlin
Amtsgericht Charlottenburg HRB 76691

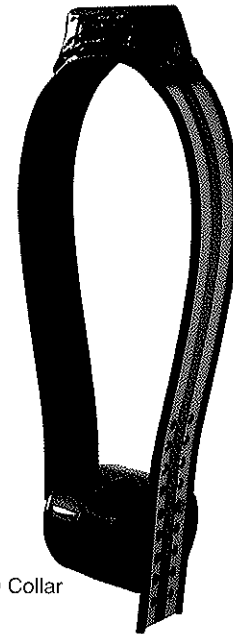
Commerzbank AG, Berlin
Account-No.: 341 100 600
Bank Code: 100 400 00
S.W.I.F.T. COBA DE BB
IBAN: DE92 1004 0000 0341 1006 00

VECTRONIC AEROSPACE INTRODUCES TWO NEW GPS COLLAR FAMILIES

Based on the well known and field proven design of the GPS PLUS collars, VECTRONIC Aerospace GmbH has developed two new GPS PLUS collars for cost sensitive applications. Without any compromises in quality the "GPS PLUS Store On Board" and "GPS PRO Light" collars are rigorously designed to reduce the price for customers and projects that are focussed on the analysis of GPS navigation data .



GPS PLUS
Store On Board-1C Collar



GPS PRO Light-3D Collar

GPS PLUS Store On Board Collar, starting at Euro 1250,-

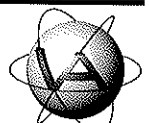
The GPS PLUS Store On Board system is designed as a data logger without remote communication option. This collar is capable of tracking the fine-scale movements of individual wildlife animals, but can be used for livestock applications as well. Rechargeable batteries for short term studies with a duration of less than 5 months are available to reduce the operating costs.

GPS PRO Light GSM Collar, starting at Euro 1700,-

The GPS PRO Light system is a GPS GSM collar with SMS up and download feature. The collar will automatically transmit the GPS positions to a GSM ground station in your office. In case of no or poor GSM communication conditions the data will be resend later when the collar is back in GSM coverage. New GPS and VHF schedules or advanced configurations might be uploaded to the collar via SMS too. The transmitted GPS positions will not be erased from the collar memory and can be downloaded at the end of the project via cable to the PC. The used GSM quad-band technology (850/900/1800/1900 Mhz) guarantees a world wide operation of the GPS PRO LIGHT Collar.

The GPS PLUS Store On Board and the GPS PRO Light Collar uses the same high sensitive GPS design like the new GPS PLUS 2006 Collar. All VECTRONIC collars will be configured with the powerful GPS PLUS software, incl.:

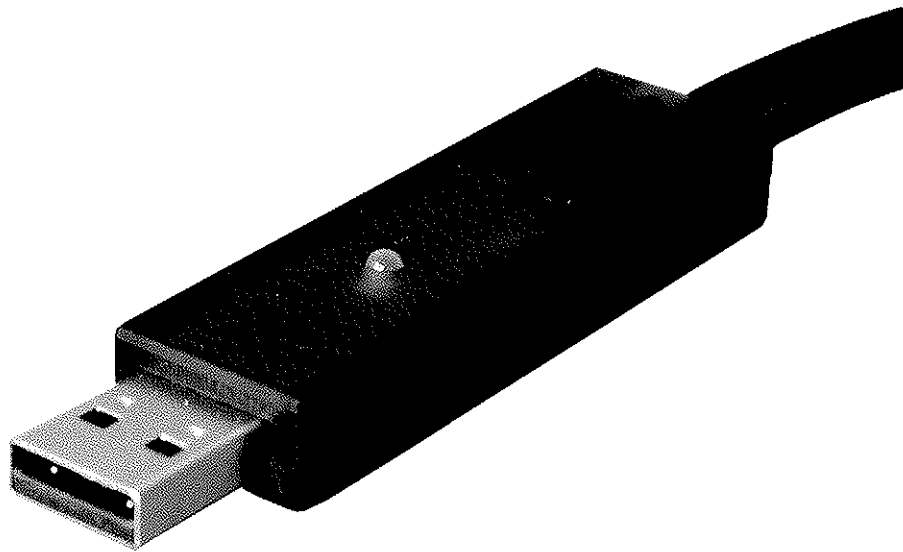
- Export data to ASCII, spreadsheet or DBASE format
- Graphical presentation of GPS and activity data
- Export GPS data into more than 100 different worldwide coordinate / grid systems (optional)
- Automatic email support for GPS and mortality data (GSM collars only, optional)
- SQL database for all collar data (optional)
- Direct interface to Google Earth



LINK MANAGER LM2

for GPS Collar

The Link Manager LM2 provides the interface between your PC or Laptop and the GPS-Plus collar. It is used to exchange data and to upgrade new firmware in your GPS-Plus collar. It can be used easily to access the collar by an external PC and to supply the collar with external power in case of an empty battery pack of the collar.



Easy Use

The access from the PC to the collar via the Link Manager is quit simple. Just plug & play the Link Manager connected to a GPS collar and a PC and mind the LED for operational control. All data transfer activities can be done by the PC software very comfortably.

Easy Control

During all operation modes the Link Manager can by supervised by the user via a single three colour LED which indicates data transfer and the state of the Link Manager .

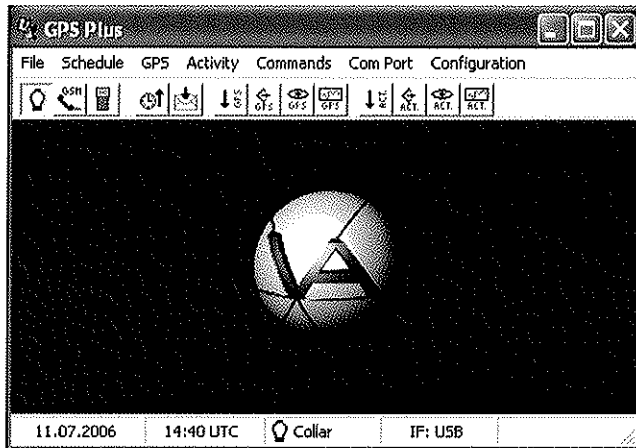
Easy Supply

The Link Manager is completely supplied by the PC's USB port, giving the operator a maximum of mobility and flexibility even during outdoor operation. An additional power interface is implemented to supply the collar in case of an empty battery pack.

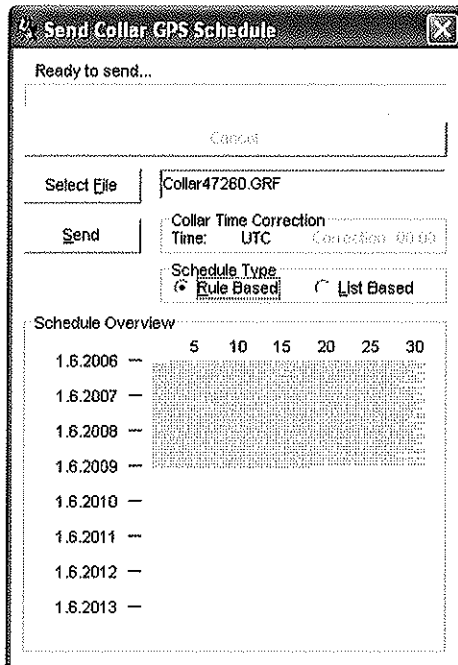


VECTRONIC AEROSPACE PRESENTS

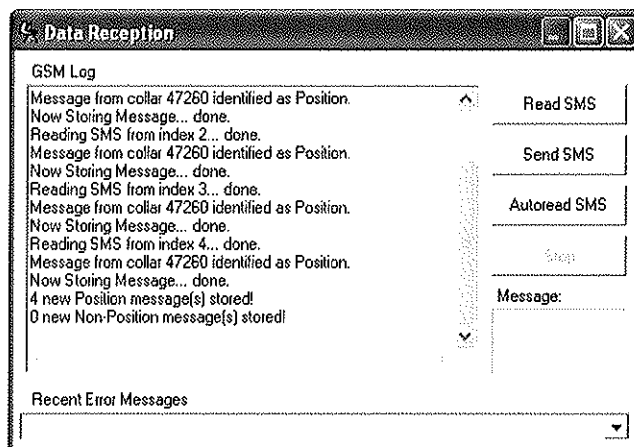
GPS Plus Collar PC-Software



GPS Plus Software startup screen



Loading a GPS schedule into a collar



Receiving collar SMS messages

GPS Plus

All you need in one!

Our All in One software solution for control, configuration, data transmission, and data analysis for all our collar systems. It provides proven functionality in practice for years when it comes to configuring your collar, retrieving data from your collar, handheld terminal, or GSM base station as well as simple to use methods for data export and analysis.

Collar Configuration

Control is everything!

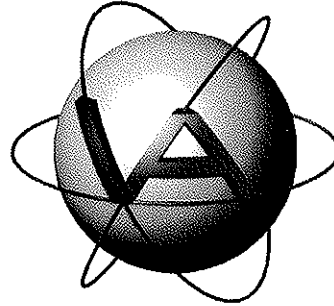
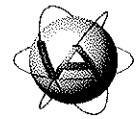
- Flexible and powerful schedule for GPS, UHF, VHF, and ARGOS
- Check your schedules in a schedule chart to prevent errors that could ruin your project
- Freely configurable mortality or hibernation delay time and wake-up activity level
- Configure UHF communication times to improve battery lifetime
- Get and archive an overview of your collars configuration by saving a collar information file
- See the state of your collar at an instance in the collar telemetry: Number of fixes, time, battery voltage, operating state etc.

Retrieving Data

You get what you want!

- Flexible interface: No matter what your computer has available: USB or serial interface (Rs232)
- Read out data directly from collar or handheld terminal: The result is always the same
- Receive collar SMS messages: Either with your own GSM Base Station or via email from VECTRONIC Aerospace's customer GSM Base Station
- Forward incoming collar SMS messages via email: No matter if position or mortality message: Your team and/or colleagues will always be up to date
- Send incoming position messages in NMEA format directly to a mapping software via a direct TCP/IP connection. Native support for TTQV (<http://www.TTQV.com/>).





Project:

**GPS-GSM Collars for black bears,
RFQ # DNR211018**

Title:

VECTRONIC Bid # DNR211018

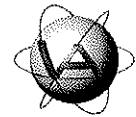
Document No.: BID_No_211018

Version: 1.0

Last Change: 08/17/2010



	Name	Date	Signature
Prepared by	R. Schulte	08/17/2010	
Checked by			
Approved by			
Authorised by			



DOCUMENT CHANGE RECORD

Issue	Date	Item(s) Affected	Description
1	08/17/2010		Initial Issue



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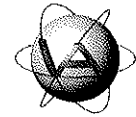
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2.6 Must collect a minimum of 12 GPS locations per day with a two hours between each location for 25 months	10
2.7 Must transmit GPS locations at least once daily via a wireless connection to a satellite or other communication network that forwards the location data to a PC within 24 hours	11
2.8 Must have the capacity to store a minimum of 9000 GPS Locations independent of daily wireless transmissions and be retrievable by cable connection to a PC at the end of the life of the collar	11
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2.10 Must contain a VHF beacon in the 150 - 151 MHz frequency range with a pulse rate between 45 and 55 beats per minute that is on for a minimum of 12 continuous hours daily for the life of the collar	12
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Introduction

This proposal describes an application with 15 GPS collars that communicate via GSM to send GPS locations by SMS. The GPS collars will be used to determine habitat use of black bears. Consequently, sampling (obtaining locations) can be very intensive (e.g., min. 20s) for short periods. Because surveys must be conducted during appropriate weather conditions, the exact date of surveys is unknown and the researcher must be able to communicate with the collars to change the sampling schedule.

Each collar will obtain in average 12 locations per day during the 25 month study period.



1 Executive Summary

1.1 Executive Summary

The GPS PRO Light system is a GPS GSM collar with SMS up and download feature. The collar will automatically transmit the GPS positions to a GSM ground station in your office. In case of no or poor GSM communication conditions the data will be resend later when the collar is back in GSM coverage. New GPS and VHF schedules or advanced configurations might be uploaded to the collar via SMS too. The transmitted GPS positions will not be erased from the collar memory and can be downloaded at the end of the project via cable to the PC. The used GSM quad-band technology (850/900/1800/1900 MHz) guarantees a world wide operation of the GPS PRO LIGHT Collar.

The GPS PRO Light Collar uses the same high sensitive GPS design like the new GPS PLUS Collar. All VECTRONIC collars will be configured with the powerful GPS PLUS software, incl.:

- Export data to ASCII, spreadsheet or DBASE format
- Graphical presentation of GPS and activity data
- Export GPS data into more than 100 different worldwide coordinate / grid systems (optional)
- Automatic email support for GPS and mortality data (GSM collars only, optional)
- SQL database for all collar data (optional)
- Direct interface to Google Earth

We recommended to use our GPS PRO Light-2 collar. Both collars will fit your demands for medium class GSM coverage.

1.2 Company Address and contact details

Company Name: VECTRONIC Aerospace GmbH
Address: Carl-Scheele-Str. 12
City: Berlin
Zip code: D-12489
Country: Germany
Tel.: +49 30 6789 4990
Fax: +49 30 6789 5230
Contact Person: Robert Schulte, CEO
Email: Schulte@vectronic-aerospace.com



1.3 Brief Company background

VECTRONIC Aerospace GmbH, founded in the year 2000 by Pius Butz and Robert Schulte in the city of Berlin, has become meanwhile one of the world wide leading companies in the area of wildlife monitoring. In the field of space technology, especially for small satellite applications, VECTRONIC Aerospace offers today a wide product range of superior-quality, custom tailored and standard subsystems.

VECTRONIC Aerospace is offering know how and innovative designs based on almost 20 years experience of the key personnel.

The wildlife department of VECTRONIC Aerospace consist of 15 peoples and develops solutions and products for more than 500 customers worldwide, like GPS Collars with GSM, UHF radio link and satellite communication.

VECTRONIC Aerospace GmbH was the first company worldwide which has released GPS GSM collars for wildlife application in the year 2000.

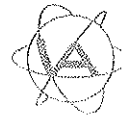
1.4 Company Transaction

VECTRONIC Aerospace is currently not involved in any transaction to become acquired by another business entity.

There are no circumstances impacting our firm that could affect our ability to perform under any award made through this Bid process.

There are no litigation or government agency action filed or claims against our firm that could affect our performance under a contract.

VECTRONIC Aerospace GmbH
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www.vectronic-aerospace.com
mail@vectronic-aerospace.com





2 Requirements and Specifications

2.1 Must include all necessary hardware and software used to retrieve and process location data collected by the collar, including any cables, power supply cords, ground stations, software and firmware

Our price includes

- 15 GPS collars with GSM communication with integrated VHF beacon transmitter and timer controlled Drop off.
- LM2 Link Manager, USB interface to your PC for programming and downloading data.
- GSM Ground Station with power supply and all cables
- Shipping costs

2.2 Must weight less than 850 grams

The weight is depending on size and options. A standard GPS PRO Light-2 collar without Drop Off for carnivores weights around 750g. The weight incl. timer controlled drop off is around 840g for a carnivore collar with a neck size of 66cm.

This collar can provide enough GPS locations, incl. GSM transmissions for the requested GPS schedule.

2.3 Must have a maximum belting width of 1.5 inches for the entire circumference

All collars will be produced according your detailed and individual specifications (size, colour, VHF frequency, etc.). The size is adjustable +/-10%.

Belt material is available with the following width:

- 1" (25mm)
- 1 ¼" (32 mm)
- 1 ½" (38 mm)
- 2" (51 mm)
- 2 ½" (63 mm)
- 3" (76 mm)

If you require a belt width of 1.5 inch, we will produce it in this width.



2.4 Must have a naturally round shape when fitted on the neck of an adult black bear

Our carnivore collars will be produced in a perfect round shape. The following picture shows a black bear with a GPS PRO Light-2 collar.



2.5 Must have all antennae securely attached or integrated within the collar belting and no flexible whip-style antennae

The GPS and GSM antenna is integrated into the electronic housing, the VHF antenna is integrated in the belt. All of our collars have only internal antennas.



2.6 Must collect a minimum of 12 GPS locations per day with a two hours between each location for 25 months

The following pictures show the detailed lifetime calculation results for medium class GSM coverage of a The GPS PRO Light-2 collar. Please use the average scenario for the requested schedule. The VHF beacon is switched on for 8 hours per day in this scenario

Lifetime Calculation - (unsaved)

File GPS Schedule VHF Schedule

	Main Battery Lifetime		VHF Beacon Battery Lifetime	
	Days	End Date	Days	End Date
Best case (45s)	1705	18.04.2015	1136	26.09.2013
Average (90s)	1195	24.11.2013	1136	26.09.2013
Worst case (180s)	748	03.09.2012	877	10.01.2013

Calculation Date: []

Collar GPS Schedule VHF Schedule

Type	Rule
<input checked="" type="checkbox"/> Cyclic	01.01.2000 - 31.12.2020 & 00:00:00 - 23:59:58 # 02:00:00

2 minutes.grf (unsaved) 1 Rules (14 Bytes)



2.7 Must transmit GPS locations at least once daily via a wireless connection to a satellite or other communication network that forwards the location data to a PC within 24 hours

The GPS PRO Light collar uses the GSM mobile phone network to send and to receive data remotely. The SMS service in this network is used to download GPS data and to upload new VHF and GPS schedules. The link margin for this service is much better than for the packet data service GPRS. Our GSM collars work with all SIM cards, as well with AT&T or T-Mobile USA networks in Virginia.

Depending on your provider your GSM ground station will receive a SMS after each 5th to 8th GPS position. The number of GPS locations per SMS can be reduced down to 1 GPS locations per SMS, but as higher the number of GPS locations per SMS as longer the lifetime. When the collar is temporary out of GSM coverage, it will automatically resend the data later.

Please keep in mind that you need to provide us with the SIM cards for collar and GSM ground station. You need to set accounts with your local GSM provider and they will charge you for this service. The minimum requirement is to send SMS only. During manufacturing process the international roaming feature on these SIM cards must be enabled to be able to test the collars before shipment.

2.8 Must have the capacity to store a minimum of 9000 GPS Locations independent of daily wireless transmissions and be retrievable by cable connection to a PC at the end of the life of the collar

With the LM2 link manager you can download via cable all collected data. Independent if the GSM ground station has received the data, all data will be stored inside the collar in a non volatile memory, up to 131000 GPS locations.

2.9 Must have GPS accuracy, time and date transmitted and stored with each location

The following data will be stored:

- Time and date of the GPS locations
- ECEF (earth center earth fixed) coordinates
- Latitude, Longitude, Height
- DOP value (Dilution of Precision), a value for the accuracy
- Navigation status: 2D, 3D, 3D valid (high accurate fix)
- Number of used Satellites
- Satellite ID and carrier to noise ratio (only stored, not transmitted via GSM)
- Main battery voltage
- VHF Beacon battery voltage
- Ambient Temperature



2.10 Must contain a VHF beacon in the 150 - 151 MHz frequency range with a pulse rate between 45 and 55 beats per minute that is on for a minimum of 12 continuous hours daily for the life of the collar

The internal VHF beacon can be adjusted for this frequency band. It uses its own and independent battery, the lifetime is around 8000 transmitting hours with a 2D battery pack. The overall frequency drift between a temperature of -40°C and +60°C and after 3 years is less than 100 Hz.

Like the GPS schedule, the VHF schedule can be changed remotely via GSM network. If the main battery is empty, the VHF beacon is transmitting the emergency signal (double pulse) 24/7.

2.11 Must have at least 25 months battery warranty that allow for up to 12 months of storage before being turned on

The self discharge rate of the battery is less than 3% per year. The accumulated standby current of the collar per year of a connected battery is less than 5% of the overall battery capacity and within the lifetime limits.

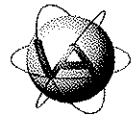
The lifetime of the VECTRONIC timer controlled Drop off is 4 years after production, so no problem with a drained battery after 37 months.

2.12 Must have time delayed drop off mechanism attached to the collar. Time drop off must be set for 104 weeks from removal of magnet from drop off mechanism

The VECTRONIC time controlled drop off has a lifetime of max. 4 years after production. It can be set to work in relative mode with a time resolution of 1 hour. In absolute mode, a specific release date and time is programmed, with a resolution of 1 second.

The drop off can be reprogrammed with UHF Handheld Terminal V5 or higher or with our Drop off transmitter remotely at any time.

So, Drop off release time of 104 weeks can be factory set and you can still store the drop off for more than one additional year.



3 Additional information

3.1 Can the batteries be replaced by the user?

Yes, it takes less than 2 minutes in the field to exchange a battery. Only four screws need to be removed before exchanging the hermetically sealed battery. The battery pack must be purchased from our company as a complete pack. No single battery cells can be exchanged inside the battery pack.

3.2 Interface of the GSM ground station

The GSM ground station can be connected by USB or serial com port to a laptop / desktop PC running Windows XP or Vista.

3.3 What special features of the PC are required (e.g., COM ports, USB ports, etc.)?

No special features, only Windows 2000+ OS (Windows 2000, Windows 2003, Windows XP or Windows Vista) and a free USB or serial com port for the GSM ground station and the LM2 link manager.

3.4 Other optional features

The GPS PRO Light collars can be equipped with additional sensors.

Temperature Logger: The ambient temperature of the upper plastic housing of the collar will be recorded in intervals between 1 and 15 minutes (user selectable).

Activity and Mortality Logger:

The acceleration of the collar is measured 4 times per second and the preprocessed data will be stored in intervals between 1 and 15 minutes (user selectable).

In case of a mortality detection, the VHF beacon repetition rate will be doubled and the collar will send a mortality SMS to the GSM ground station.

Coloured Belt: The belt of the collar can be produced in several different colours.



4 Service and Warranty

4.1 What support is available for training in use of this equipment, including manuals, website information, and direct person-to-person assistance?

The collars will be shipped pre-programmed. You only need to remove the magnet and install our GPS PLUS software. No further programming is necessary. Configuration or schedules can be changed by cable or remotely via GSM network.

The collars will be shipped together with our GPS PLUS manual and the related manuals in PDF format.

For additional questions, you can contact VECTRONIC by phone or email without additional costs.

On-site training is possible but will be charged.

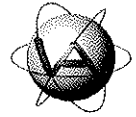
4.2 Describe your warranty

We give two years warranty on electronic failures.

4.3 Describe procedures for replacement/repair under warranty and after warranty

Collars will be repaired (if possible) or replaced during the warranty period. In any case the customer and VECTRONIC will try to find the best possible way to solve possible problems.

The Collar needs to be sent back to VECTRONIC (Germany) for repair.



5 References

Please provide at least three references who are former or current customers using (or used) a system comparable to what is being proposed in your response.

Note: By providing this information, the respondent certifies that they are empowered to use the names of references provided and agrees that the University may contact these references.

Swedish University of Agricultural Sciences (SLU), Umea, Sweden

Mr. Holger Dettki: holger.dettki@vfm.slu.se

NINA - Norsk institut for naturforskning, Trondheim, Norway

Mr. Morten Heim Morten.Heim@nina.no

Scandinavian Brown Bear Project, Orsa, Sweden

Mr. Sven Brunberg sven.brunberg@orsajordagare.se



6 Financials

Details can be read online on our tax department at (unfortunately only in german):

https://www.ebundesanzeiger.de/ebanzwww/wexsservlet?session.sessionid=1da30b01483767b63e7e2f04d336f621&page.navid=quicksearchlisttoquicksearchdetail&globalsearch_searchlist.selected=c6c1b761217afdee&globalsearch_searchlist.destHistoryId=1

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the West Virginia Code. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,

- 2. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,

- 3. Application is made for 2.5% resident vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,

- 4. Application is made for 5% resident vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,

- 5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,

- 6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: VECTRONIC Aerospace GmbH

Signed: [Signature]

Date: 08/17/2010

Title: CEO

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

EXCEPTION: The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

WITNESS THE FOLLOWING SIGNATURE

Vendor's Name: VECTRONIC Aerospace GmbH

Authorized Signature:  _____ Date: 08/17/2010

State of _____

Not applicable, german company!

County of _____, to-wit:

Taken, subscribed, and sworn to before me this ____ day of _____, 20____.

My Commission expires _____, 20____.

AFFIX SEAL HERE

NOTARY PUBLIC _____