

Argonaut VI
Model 539
Programmers
Reference
Guide
Revision 1.000

www.tentec.com 

Introduction	3
Conventions Used in This Manual	3
Physical Interface.....	4
Interface Description	4
Software Interface.....	4
Generic Port Management.....	5
Determine the <i>ARGONAUT VI</i> Comm Port Number	5
Changing the <i>ARGONAUT VI</i> Comm Port Number	5
Comm Port Setup	6
Command Restrictions.....	6
<i>ARGONAUT VI</i> Command Set	7
Quick List of Commands/Queries	8
Frequency Tuning.....	10
Lock/UnLock VFO.....	10
VFO Assignment.....	11
AGC Mode Control / Rate	12
Preamp Control.....	12
DSP Bandwidth / Receive Filter	13
RF Gain (readonly)	14
Pass Band Tuning (readonly).....	14
Receiver Modes.....	15
Automatic Notch.....	15
Noise Reduction.....	16
Noise Blanker.....	16
CW Keyer ON/OFF	17
CW Speed	17
Sidetone Frequency.....	17
Sidetone Volume.....	18
CW Weighting	18
QSK Delay	19
Define Front Panel Buttons.....	20
Transmit Power.....	21
Key / Unkey Transmitter	22
Signal Strength / Transmit Forward/Reflected Power Query	22
Memory Write.....	23
Memory Recall.....	23
Version Query	24
Name	24
Document Revision History.....	25

Introduction

This document describes the physical interface and command protocol required to interface with the Model 539 **Argonaut VI**. The Ten-Tec **Argonaut VI** DSP HF transceiver is a product that is defined more by firmware than hardware. As such, it is subject to change based on customer needs. This means that the command protocol will change over time as new features are added, or existing features are modified. Every attempt, where possible, will be made to make changes to the interface compatible with the previous releases. It is advisable to check for a more recent update at the Ten-Tec firmware update site, www.tentec.com.

The command set described in this manual does not include the command set utilized by the **ARGONAUT VI** Boot/Loader program for programming/updating firmware in the **ARGONAUT VI**. The command set described in this manual only covers the command set that is utilized for radio command and control functions.

Conventions Used in This Manual

Information contained in this document applies to firmware version 1.xxx and later.

Numeric Types:

- 'A' ASCII character code.
Example: ASCII 'A' is hexadecimal 0x41 as seen in the protocol or on the USB bus.
- <CR> a byte containing the value of <0x0d> for a carriage return
- <LF> a byte containing the value of <0x0a> for a line feed

Interface Description

Physical Interface

The **ARGONAUT VI** provides a standard USB 2.0 compliant interface for two purposes:

- 1) Connection to a PC or other USB Hub device for control / logging purposes.
- 2) Connection to a PC for firmware updates using the TenTec Flash32 Flash Update Utility. The **ARGONAUT VI** requires the use of Flash32 Flash Update Utility version 4.12 or greater.

The physical interface used to connect with the **ARGONAUT VI** is a standard USB host to device cable. The standard USB cable will have a type A connector for the computer / Hub and a USB type B connector for the **ARGONAUT VI**.

The **ARGONAUT VI** utilizes a MicroChip PIC chip as the CPU. The PIC chip contains a built in USB device handler. This USB device is used similar to a UART port and serves as the command interface for computer control/logging programs. The **ARGONAUT VI** will enumerate itself as a USB to UART device on the PC. The interface has been tested using various Windows based computers running Windows XP, Windows Vista, and Windows 7, both 32-bit and 64-bit varieties. Support in other operating systems or different Windows versions have not been tested.

Software Interface

The software interface for the **ARGONAUT VI** utilizes standard Windows driver supplied with Windows versions XP through Windows 7. An installation program is available for download at the TenTec download webpage for the **ARGONAUT VI**. Start at www.tentec.com, and follow the links until you get to the **ARGONAUT VI**'s Download page. Look for the latest instructions entitled "USB to UART driver Installation....". Download and follow the instructions.

The **ARGONAUT VI** utilizes the same microprocessor used in the Model 599 **EAGLE** transceiver. This means that the same driver setup is used for both transceivers. If you have already setup the driver for the **EAGLE**, then you already have the proper driver setup for the **ARGONAUT VI** and do not need to install it specifically for the **ARGONAUT VI**.

Generic Port Management

Determine the *ARGONAUT VI* Comm Port Number

If at any time you need to see what “port” the *ARGONAUT VI* is connected to:

- 1) go back into Device Manager
- 2) expand the “Ports (COM & LPT)” selection, and you should see “USB to UART (COMx)”.

Note the x in the COMx that is reported by Device Manager. You will use this number when running cat programs, the update.exe program, etc.

Changing the *ARGONAUT VI* Comm Port Number

At any time, the actual port number being used can be changed to a different number. Even though the Flash32 Flash Update Utility version 4.12 supports comm ports numbered 10 and greater, sometimes some computers will require a port number lower than 10. To do so:

- 1) Follow the instructions shown in the section entitled “Determine the *ARGONAUT VI* Comm Port Number” to get to the “USB to UART (COMx)” for this device.
- 2) Double click the “USB to UART (COMx)” text
- 3) Go to port settings
- 4) Select advanced
- 5) Select a different COM Port Number from the pull down box. It may display a warning message, if it does, confirm/ok the change. Windows is trying to inform you that you already have another device using that specific new COM Port Number. You will need to ensure that you don’t run both pieces of hardware at the same time using the same COM Port Number. You will have unrepeatably errors on both devices.
- 6) Click OK/Confirm/etc. until all windows are closed.
- 7) Disconnect the *ARGONAUT VI*, wait a few seconds
- 8) Reconnect the *ARGONAUT VI*, and you should see the new port number in Device Manager.

NOTE: when you plug the USB cable into a different USB port on the PC, it will most likely get a new COMx port number defined. Be aware of this when reconnecting the USB cable to the computer so that you can set it properly in the computer program that you are using to communicate with the *ARGONAUT VI*.

Comm Port Setup

Even though the **ARGONAUT VI**'s physical interface is USB, it utilizes a USB to UART serial driver for applications. This means that computer applications will connect to a virtual "comm port". You will need to setup the "comm port" with specific settings. For the **ARGONAUT VI**, this is as follows:

- Baud Rate – 57600 Baud
 - Data Bits – 8
 - Parity – None
 - Stop Bits – 1
 - Flow Control – (xon/xoff or rts or none work on different computers)
- Since this is a virtual comm port, the driver takes care of the actual implementation of the hardware flow control. It is recommended that RTS flow control be utilized in order to maintain flow of commands/queries into the **ARGONAUT VI**. This will help prevent the loss of command/query bytes in case the virtual UART in the **ARGONAUT VI** gets filled up before it can be emptied. Otherwise, data may get lost when sending streams of commands to the **ARGONAUT VI**.

Command Restrictions

The **ARGONAUT VI** validates each command and the parameters in commands. This means that invalid commands are rejected, and invalid parameters to commands are rejected. To ensure that a given command was applied, it is recommended that for every command sent, a subsequent query for that same item should be sent to verify that the value was valid. E.g. a command to change main frequency to 4Hz would be ignored. This also serves as a pacing function, keeping the command controller in the PC program in synch with the true operating state of the **ARGONAUT VI**.

It is possible however to send multiple commands at once. For this type of command streaming though, in order to maintain proper transmit and receive transition timing, it is recommended to maintain a **200ms** time between such commands that do not have queries following each command individually.

ARGONAUT VI Command Set

Every effort has been made to keep the individual commands as simple as possible. The commands can be entered as standard text with a standard keyboard into a terminal emulator. The queries also return responses that can be viewed as text in a terminal emulator. This permits developers a way to view the exact interface when developing their programs. For the most part, the commands used in the **ARGONAUT VI** are the same as the Model 599 **EAGLE** which is a subset of the Orion/Orion II protocol.

In general the **ARGONAUT VI** instruction set is a series of ASCII characters which may be followed by data and then terminated by a carriage return <CR>. Command characters are case sensitive! In general, the query are identical to the set command except the command is prefixed with a '?' character.

The **ARGONAUT VI** interface requires that data be in a format compatible with each command. Programmers should ensure that the supplied data is correct. When possible, when a command is unrecognized or data is invalid the **ARGONAUT VI** will send back a response consisting of the letter 'Z' followed by a carriage return <CR>.

Because the **ARGONAUT VI** is designed so that it could be reprogrammed in-system the command set presented here is subject to change or enhancement. TenTec will make every effort to make the system backward compatible with existing documented commands whenever possible. However, the **ARGONAUT VI** is a HF TRASNCEIVER PLATFORM that could host a variety of radio services. Persons or companies developing control software for the **ARGONAUT VI** should not assume that the radio is operating original factory firmware but rather should always query the radio firmware revision to ensure compatibility.

There are instances where the **ARGONAUT VI** circumvents the Orion protocol slightly. For example, since the ?KV<CR> is the only ?K query, the **ARGONAUT VI** will respond to a ?K and a ?KV with the same @KV response. Do not assume that the **ARGONAUT VI** will always respond to the "shortcut" commands or queries in this way. If further Orion queries are added that start with ?K, then a single ?K<CR> query will result in an invalid Z returned from the **ARGONAUT VI**.

Quick List of Commands/Queries

Items in this list that are new or different from the Eagle noted with (A) in Item

Item	Query	Returns (meaning)	Command (meaning)
Main Frequency	?AF<CR>	@AFnnnnnnnn<CR> (8 characters)	*AF14.1<CR> 14.1MHz *AF14100000<CR> 14.1MHz
Lock/Unlock VFO (A)	Query not supported	Not Applicable	*AL<CR> Locks VFO *AU<CR> UnLocks VFO
Sub Frequency	?BF<CR>	@BFnnnnnnnn<CR> 8 characters	*BF14.9<CR> 14.9MHz *BF01403000<CR> 1.403Mhz
VFO Assignment	?KV<CR>	@KVAAB<CR> in SPLIT Mode @KVAAB<CR> not SPLIT Mode First two characters after KV are AA, meaning RX is always VFO A. Third Character indicates Transmitter selection. A=VFOA, B=VFOB	*KVAAB<CR> RX/TX onVFOA,not SPLIT Mode *KVAAB<CR> RX on VFOA, TX on VFOB, in SPLIT Mode. AAA and AAB;Split / not split The only valid states.
AGC Rate	?RMA<CR>	@RMAF<CR> Fast @RMAM<CR> Med @RMAS<CR> Slow	*RMAF<CR> AGC Fast *RMAM<CR> AGC Med *RMAS<CR> AGC Slow
PreAmp	?RME<CR>	@RME0<CR> Off @RME1<CR> On	*RME0<CR> PreAmp Off *RME1<CR> PreAmp On
DSP Bandwidth (A) Limited 6kHz	?RMF<CR>	@RMFn<CR> n is the DSP BW value in hz	*RMFn<CR> n= 100 to 6000 Hz *RMF3000 = 3khz
RF Gain	?RMG<CR>	@RMGn<CR> 0..100 RF Gain % in text	Command not supported, always pot driven.
Pass Band Tuning (PBT)	?RMP<CR>	@RMPn<CR> n= offset in Hz, 0, or n or -n)	Command not supported, always pot driven.
RX Mode (A) FM is not supported in the 539	?RMM<CR>	@RMM0<CR> USB @RMM1<CR> LSB @RMM3<CR> CWL* @RMM4<CR> AM *Supports CWL not CWU	*RMM0<CR> USB *RMM1<CR> LSB *RMM2<CR> defaults to CWL *RMM3<CR> CWL *RMM4<CR> AM
RIT Setting (A)	?RMR<CR>	@RMRn<CR> n=+/-0..8192	Set not supported.
Auto Notch	?RMNA<CR>	@RMNA0<CR> Off @RMNA1<CR> On	*RMNA0<CR> Turn Off AN *RMNA1<CR> Turn On AN
Noise Reduction	?RMNN<CR>	@RMNNn<CR> n=0..9 0=off, 1..9 = On/level	*RMNNn<CR> n=0..9 0=off, 1..9 = On/level
Noise Blanker (A) 539=DSP NB	?RMNB<CR>	@RMNBn<CR> n=0..9 0=off, 1..9 = On/level	*RMNBn<CR> n=0..9 0=off, 1..9 = On/level
Transmit Power (A) 0..10 for 539	?TP<CR>	@TPn<CR> 0..10 watts 0 means no power output	*TPn<CR> 0..10 watts 0 means no power output
CW Keyer ON/Off (A) New for 539	?CK<CR>	@CKn<CR> n=0, 1 0 = internal keyer disabled 1 = internal keyer enabled	Not Applicable
CW Keyer Speed (A) New for 539	?CS<CR>	@CSn<CR> n=5..50 In words per minute	*CSn<CR> n=5..50 In words per minute
CW Keyer Weight (A) New for 539	?CW<CR>	@CWn<CR> n=0..25 In % of dit/dah. Default = 20	*CWn<CR> n=0..25 In % of dit/dah. Default = 20
Siditone Freq (A) New for 539	?CT<CR>	@CTn<CR> 400 .. 1000 In Hz	*CTn<CR> 400 .. 1000 In Hz
Siditone Volume (A) New for 539	?CV<CR>	@CVn<CR> 0 .. 100 In %	*CVn<CR> 0 .. 100 In %
QSK Delay (A) New for 539	?CQ<CR>	@CQn<CR> 0..100 In delay steps 0=QSK, 100= a few seconds	*CQn<CR> 0..100 In delay steps 0=QSK, 100= a few seconds
Define Buttons (A) New for 539	?Yxyz<CR>	@Yxyz<CR> x = mode (C=CW or V=Voice) y = button number 1 .. 3 z = definition index 1 .. 15	*Yxyz<CR> x = mode (C=CW or V=Voice) y = button number 1 .. 3 z = definition index 1 .. 15

Item	Query	Returns (meaning)	Command (meaning)
Key Transmitter	<i>Query not supported</i>	<i>Not Applicable</i>	*TK<CR> Turn on Transmitter (until *TU or power reset)
Unkey Transmitter	<i>Query not supported</i>	<i>Not Applicable</i>	*TU<CR> Turn off Transmitter
Version	?V<CR>	539 Ver xx.yyy<LF><CR>	<i>Not Applicable</i>
Signal Strength / Transmit Power	?S<CR>	For Receive Mode: Signal Strength in dBm @SRMn<CR> For Transmit Mode: Transmit Power in watts and Reflected Power in watts *10. @STFnRm<CR> n is transmit power 0..10, m is reflected power.	<i>Not Applicable</i>
Memory Write	<i>Not Applicable</i>	<i>Not Applicable</i>	*KWAn<CR> write current settings to memory n, n=1..100
Memory Recall	<i>Not Applicable</i>	<i>Not Applicable</i>	*KRAn<CR> recall memory n to current settings, n=1..100
Name / ID	X<CR>	ARGONAUT VI START<CR> Note, there are two blanks 0x20 before ARGONAUT VI....	<i>Not Applicable</i>

Frequency Tuning

The **ARGONAUT VI** supports the ABSOLUTE tuning method of the Orion. The “OFFSET”, “BINARY”, and “INCREMENTAL” commands are not supported. The absolute tuning mode provides a means to tune the VFO directly to the desired frequency.

The command prefix is *AF for VFOA or *BF for VFOB. The target frequency may be specified in Hz or MHz.

COMMAND: *AFnnn<CR> sets VFOA frequency.
*BFnnn<CR> sets VFOB frequency.

Examples: *AF14.250<CR> tunes VFOA to 14.250
*BF14000000<CR> tunes VFOB to 14.000

QUERY: ?AF<CR> for ASCII frequency of VFOA.
?BF<CR> for ASCII frequency of VFOB.

Examples:	PC Query	Argonaut VI Response	Meaning
	?AF<CR>	@AF14200000<CR>	VFOA set to 14.2 MHz.
	?BF<CR>	@BF01799000<CR>	VFOB set to 1.799 MHz.

Note: The returned frequency value is always 8 digits zero padded in the front. Unlike the Eagle, the Frequency range is limited to the bands supported by the **ARGONAUT VI**. Unlike the Eagle, it is not a general coverage receiver. Therefore it cannot operate transmit outside of the ham bands, and it cannot receive all frequencies outside of the ham bands. It will support a few WWV frequencies though. Therefore it is advised that when a Frequency Set command is used, it should be followed up with a Frequency Query to ensure the proper frequency for VFO A and VFO B.

Lock/UnLock VFO

The **ARGONAUT VI** provides a way to “Lock” the VFO Encoder so that rotations of the VFO Encoder will not result in changes to the VFO A Frequency. The state of the Lock/Unlock is noted on the front panel display in the digit location preceding the VFO A Frequency. If an L is shown, then the VFO Encoder is Locked. If there is nothing shown, then the VFO Encoder is UnLocked.

COMMAND: *AL<CR> Locks VFO A.
*AU<CR> UnLocks VFO A.

VFO Assignment

The **ARGONAUT VI** provides two placeholders for VFO Frequency Values. These placeholders are referred to as VFO A and VFO B.

Normally, all Receive and Transmit is performed using the frequency in VFO A. However, when it is desired to transmit on a different frequency than receiving (SPLIT), then VFO B can be set up and used as the transmit frequency. VFO A is always the receive frequency. The **ARGONAUT VI** does not support cross-band transmit, meaning it cannot receive on one band in the VFO A frequency, and transmit on a different band in the VFO B frequency. The front panel controls lock out such instances, but it is possible to change the frequencies through the serial interface, so care must be taken to avoid these situations.

The protocol is based on the Orion, requiring the same number of parameters, but their use and requirement is different.

The command prefix is *KV and the VFO associations are similar to the Orion protocol, meaning three digits containing either A or B.

COMMAND: *KV[mrx][srx][mtx] <CR>

[mrx] = VFO associated with the main receiver.

'A' for VFOA. (only valid option for the Argonaut VI)

[srx] = VFO associated with the sub receiver.

'A' for VFOA. (only valid option for the Argonaut VI)

[mtx] = VFO associated with the transmitter.

'A' for VFOA.

'B' for VFOB.

'N' is valid for Orion, not for Argonaut VI

Examples: *KVAAA<CR> Set RX and TX to main VFOA
 *KVAAB<CR> Set RX to VFOA, TX to VFOB, SPLIT mode
 The [mrx] is ALWAYS A, otherwise command is ignored.
 It doesn't matter what [srx] is, it is ignored, but required.
 The [mtx] is either A or B

QUERY: ?KV<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?KV<CR>	@KVAAA<CR>	RX/TX = VFO A
	?KV<CR>	@KVAAB<CR>	RX = VFOA, TX = VFO B

Note: The current Argonaut VI firmware will respond to all ?K queries with the ?KV response. This may change in future releases though. So, it is recommended that interface programmers utilize the full ?KV query.

AGC Mode Control / Rate

The **ARGONAUT VI** provides a selectable AGC rate.

The command prefix is *RMA.

NOTE: Since there is no sub-receiver in the **ARGONAUT VI**, the sub receiver AGC rates command of the Orion is not supported by the **ARGONAUT VI**.

COMMAND: *RMA<agc_mode><CR>
 <agc_mode> = Receiver AGC mode
 F = fast
 M = medium
 S = slow

Examples: *RMAF<CR> sets AGC operation to FAST.
 *RMAS<CR> sets AGC operation to SLOW.

QUERY: ?RMA<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMA<CR>	@RMAF<CR>	FAST AGC mode
	?RMA<CR>	@RMAS<CR>	SLOW AGC mode

Preamp Control

The **ARGONAUT VI** provides Preamp which can be turned on or off.

The command prefix is *RME.

COMMAND: *RME<pre_amp_on_off><CR>
 <pre_amp_on_off > = ON/OFF Selection
 0 = Preamp Off
 1 = Preamp On

Examples: *RME1<CR> Turns on the Preamp
 *RME0<CR> Turns off the Preamp

QUERY: ?RME<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RME<CR>	@RME1<CR>	Preamp on
	?RME<CR>	@RME0<CR>	Preamp off

DSP Bandwidth / Receive Filter

The **ARGONAUT VI** does not contain a predefined DSP filter set. When a filter is selected the DSP creates the requested filter on-the-fly. Filters can be programmed between 100 and 15000 Hz to a resolution of 1 Hz.

When this command is received, the **ARGONAUT VI** will no longer respond to changes using the BW DSP POT on the front panel of the **ARGONAUT VI**. Upon power cycle the **ARGONAUT VI** will default to using the BW DSP POT for the selected DSP Bandwidth.

The command prefix is *RMF.

COMMAND: *RMF<bw><CR>
 <bm>=receiver bandwidth 100hz to 6000 hz.
 If <bm> = 0, then Argonaut VI will use the BW DSP POT for control of the DSP Bandwidth.

Examples: *RMF1040<CR> Sets the DSP Bandwidth to 1040Hz
 *RMF0<CR> Sets the DSP Bandwidth to the DSP BW POT

QUERY: ?RMF<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMF<CR>	@RMF1032<CR>	DSP BW = 1038Hz
	?RMF<CR>	@RMF6000<CR>	DSP BW = 6kHz

Note1: The PC Query ?RMF always works, regardless of whether
a- the DSP BW POT is controlling the DSP Bandwidth setting
or
b- the DSP Bandwidth command *RMF has been used this power cycle

Note2: Whereas the Eagle supports DSP bandwidth changes to 15kHz, the **ARGONAUT VI** only supports DSP bandwidths up to 6kHz.

RF Gain (readonly)

The relative RF gain can be controlled via a POT on the front panel of the **ARGONAUT VI**. The current setting can be read via the serial interface. It cannot be changed via the serial interface.

A setting of 0 represents full RF gain whereas a setting of 100 represents the maximum RF gain level.

QUERY: ?RMG<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMG<CR>	@RMG100<CR>	RF Gain at maximum value
	?RMG<CR>	@RMG0<CR>	RF Gain at minimum value

Pass Band Tuning (readonly)

The relative location of the Pass Band can be controlled via a POT on the front panel of the **ARGONAUT VI**. The current setting can be read via the serial interface. It cannot be changed via the serial interface.

The valid range is -2160 to 2140Hz

QUERY: ?RMP<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMP<CR>	@RMP100<CR>	Pass Band shift 100 Hz
	?RMP<CR>	@RMP0<CR>	Pass Band at 0 Hz
	?RMP<CR>	@RMP-200<CR>	Pass Band shift negative 200 Hz

Receiver Modes

The **ARGONAUT VI** supports AM, LSB, USB and CW modes. At the time of this document, the CW mode supported is UCW. If the **ARGONAUT VI** receives a command to go to LCW mode, it will interpret it and force UCW mode.

The command prefix is *RMM.

COMMAND: *RMM<mode_code><CR>
 <mode_code>=receiver mode
 0 for USB mode
 1 for LSB mode
 2 for CW mode (UCW)
 3 for CW mode (normally LCW, translated to UCW)
 4 for AM mode

Examples: *RMM0<CR> Sets the receiver to USB mode
 *RMM2<CR> Sets the receiver to CW mode (UCW)
 *RMM3<CR> Sets the receiver to CW mode (defaults to UCW)

QUERY: ?RMM<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMM<CR>	@RMM4<CR>	Currently in AM mode
	?RMM<CR>	@RMM2<CR>	Currently in CW mode (UCW)

Automatic Notch

The **ARGONAUT VI** provides an Automatic Notch (an) which can be turned on or off.

The command prefix is *RMNA.

COMMAND: *RMNA<auto_notch_on_off><CR>
 < auto_notch_on_off > = ON/OFF Selection
 0 = Auto Notch Off
 1 = Auto Notch On

Examples: *RMNA1<CR> Turns on the Auto Notch
 *RMNA0<CR> Turns off the Auto Notch

QUERY: ?RMNA<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMNA<CR>	@RMNA1<CR>	Auto Notch on
	?RMNA<CR>	@RMNA0<CR>	Auto Notch off

Noise Reduction

The **ARGONAUT VI** provides a Noise Reduction (nr) feature which can be turned on or off, and is also level selectable

The command prefix is *RMNN.

COMMAND: *RMNN<noise_reduction_value><CR>
< noise_reduction_value > = ON/OFF Selection / level
0 = Noise Reduction Off
1..9 = Noise Reduction ON and at the specified level

Examples: *RMNN1<CR> Turns on the Noise Reduction at level 1
*RMNN0<CR> Turns off the Noise Reduction

QUERY: ?RMNN<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMNN<CR>	@RMNB7<CR>	Noise Reduction on level 7
	?RMNN<CR>	@RMNB0<CR>	Noise Reduction off

Noise Blanker

The **ARGONAUT VI** provides a DSP based Noise Blanker (nb) feature which can be turned on or off, and is also level selectable

The command prefix is *RMNB.

COMMAND: *RMNB<noise_blanker_value><CR>
< noise_blanker_value > = ON/OFF Selection / level
0 = Noise Blanker Off
1..9 = Noise Blanker ON and at the specified level

Examples: *RMNB1<CR> Turns on the Noise Blanker at level 1
*RMNB0<CR> Turns off the Noise Blanker

QUERY: ?RMNB<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?RMNB<CR>	@RMNB7<CR>	Noise Blanker on level 7
	?RMNB<CR>	@RMNB0<CR>	Noise Blanker off

CW Keyer ON/OFF

The Current State of the Internal Keyer enable of the **ARGONAUT VI** can be read via the serial port. It cannot be changed though. This is always determined by the **ARGONAUT VI** when the mode changes to CW or when powered on in CW mode. Refer to the user manual.

QUERY: ?CK<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CK<CR>	@CK0<CR>	Internal Keyer Disabled

CW Speed

The CW Speed for the Internal Keyer of the **ARGONAUT VI** can be changed and also verified via the serial port.

The command prefix is *CS.

COMMAND: *CS<keyer_speed_value><CR>
< keyer_speed_value > = 5 .. 50 words per minute

Examples:	*CS20<CR>	Sets the Internal Keyer Speed to 20 words per minute
	*CS8<CR>	Sets the Internal Keyer Speed to 8 words per minute

QUERY: ?CS<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CS<CR>	@CS7<CR>	Set to 7 words per minute

Sidetone Frequency

The Sidetone Frequency for CW Mode of the **ARGONAUT VI** can be changed and also verified via the serial port.

The command prefix is *CT.

COMMAND: *CT<sidetone_frequency_value><CR>
< sidetone_frequency_value > = 400 .. 1000 in Hz

Examples:	*CT450<CR>	Sets the Sidetone Frequency to 450 Hz
	*CT700<CR>	Sets the Sidetone Frequency to 700 Hz

QUERY: ?CT<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CT<CR>	@CT700<CR>	Set to 700 Hz (default value)

Sidetone Volume

The Sidetone Volume for CW Mode of the **ARGONAUT VI** can be changed and also verified via the serial port.

The command prefix is *CV.

COMMAND: *CV<sidetone_volume_value><CR>
< sidetone_volume_value > = 0 .. 100 in %

Examples: *CV75<CR> Sets the Sidetone Volume to 75%
*CV7<CR> Sets the Sidetone Volume to 7 %

QUERY: ?CV<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CV<CR>	@CV100<CR>	Set to 100%

CW Weighting

The CW Weighting for the Internal Keyer of the **ARGONAUT VI** can be changed and also verified via the serial port.

The command prefix is *CW.

COMMAND: *CW<keyer_weighting_value><CR>
< keyer_weighting_value > = 0 .. 25 dit / dah weighting

Examples: *CW20<CR> Sets the Internal Keyer Weighting to 20
*CW8<CR> Sets the Internal Keyer Weighting to 8

QUERY: ?CW<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CW<CR>	@CW7<CR>	Set to 7

QSK Delay

The amount of QSK Delay of the **ARGONAUT VI** can be changed and also verified via the serial port. This is the time to transition from Transmit back to Receive. 0 = full QSK break-in mode. 100 = a few seconds.

The command prefix is *CQ.

COMMAND: *CQ<qsk_delay_value><CR>
< qsk_delay_value > = 0 .. 100 in %

Examples: *CQ75<CR> Sets the QSK delay to 75%
*CQ0<CR> Sets the QSK delay to 0, full QSK break-in

QUERY: ?CQ<CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?CQ<CR>	@CQ100<CR>	Set to 100%

Define Front Panel Buttons

There are three buttons on the front panel of the *ARGONAUT VI* that can be redefined. These buttons are accessed when the "TMB" switch is in the Bottom setting. The buttons that can be redefined are the MW, MR, and the USR button. They can be modified per CW or Voice Mode.

The command prefix is *Y.

COMMAND: *Y<defining_mode><button_index><definition_index><CR>
< defining_mode > = C = CW Mode, V = Voice Mode
< button_index > = 1 for MW, 2 for MR, 3 for USR
< definition_index > 1 .. 15, ID of selected function
1 = Transmit Power
2 = Split
3 = Mic Gain/Line Gain/Mic<>Line toggle
4 = AGC Mode
5 = QSK Delay
6 = Memory Write
7 = Memory Recall
8 = Copy A>B
9 = Pre Amp ON/OFF
10 = Noise Reduction / Noise Blanker On/Off
11 = Sidetone VOlume
12 = RIT
13 = CW Speed
14 = CW Weighting
15 = Sidetone Frequency

Examples: *YC15<CR> Sets the use of MW button in CW Mode to QSK Delay
*YC215<CR> Sets the use of MR button in CW Mode to CW Speed

QUERY: ?Yxy<CR>

Examples: PC Query Argonaut VI Response Meaning
?YV3<CR> @YV312<CR> USR button= RIT in Voice Modes

Transmit Power

The transmit power of the **ARGONAUT VI** can be adjusted from 1 to 10 watts via the serial interface. It can also be set to a power level of 0, which permits CW mode to be used as a practice tool without generating RF output.

The command prefix is *TP.

COMMAND: *TP<transmit_power_value><CR>
< transmit_power_value > = 0..10
0 = do not generate RF output upon key
1..10 = selected wattage.

Examples: *TP0<CR> Turns off output RF generation on key
*TP5<CR> Sets Transmit Power Level to 5 watts

QUERY: ?TP<CR>

Examples: PC Query Argonaut VI Response Meaning
?TP<CR> @TP3<CR> Transmit Power set to 3 watts

Key / Unkey Transmitter

The *ARGONAUT VI* can be placed into a solid transmit, and also unkeyed via the serial port. Once the key command is sent, the will stay in transmit regardless of the state of the other methods that can invoke and/or release transmit. Note: the temperature monitor is always active and can remove transmit until safe to do so again.

The command prefix is *T.

COMMAND: *T<Key/Unkey><CR>

Examples: *TK<CR> Engage Transmit
*TU<CR> Disengage Transmit

QUERY: not applicable.

Signal Strength / Transmit Forward/Reflected Power Query

The *ARGONAUT VI* provides a way to query the signal strength of the receiver, and also the forward power and reflected power measurement when in transmit.

The command prefix is ?S.

COMMAND: not applicable

QUERY: ?S<CR>
@SRM<main S value><CR> if the radio is in receive
or
@STF<fwd watts>R<ref watts*10><CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?S<CR>	@SRM16<CR>	Indicates 16 dbm
	?S<CR>	@STF99R10<cr>	99 watts forward, 1.0 watt reflected

Memory Write

The *ARGONAUT VI* contains 100 memory locations. These memory locations can be written to serially. When a memory write command is received, the *ARGONAUT VI* will take the current contents of the following items, and write them to the specified memory location:

- VFOA Frequency
- VFOB Frequency
- Receiver Mode
- Split state
- Tuning rate
- CTCSS Tone

The command prefix is *KWA.

COMMAND: *KWA<memory_location> <CR>
 <memory_location> = 1..100

Examples: *KWA20<CR> Store into memory location 20 the current values
 *KWA5<CR> Store into memory location 5 the current values

QUERY: not applicable.

Memory Recall

Similar to the Memory Write function, the current contents of a given memory can be recalled as well.

The command prefix is *KRA.

COMMAND: *KRA<memory_location> <CR>
 <memory_location> = 1..100

Examples: *KRA20<CR> Recall from memory location 20 to the current values
 *KRA5<CR> Recall from memory location 5 to the current values

QUERY: not applicable.

Version Query

The firmware version of the **ARGONAUT VI** can be queried. This should be used when interfaces can change, and the PC program wants to maintain backwards compatibility, and limiting features to versions that support the added features of newer versions of firmware.

The command prefix is ?V.

COMMAND: not applicable

QUERY: ?V<CR>
Returns a text string delimited by a carriage return line feed.
539 Ver xx.yyy<LF><CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	?V<CR>	539 Ver 01.007<LF><CR>	Version 1 build 007

Name

For updating and other purposes, the **ARGONAUT VI** provides its model name upon request. This command is also provided so that a PC program can ensure it is communicating with an **ARGONAUT VI** before proceeding with commands that could end up causing issues with the wrong transceiver. Used in conjunction with the Version Query, the appropriate commands supported by this version of the **ARGONAUT VI** can be quickly determined.

The command prefix is X.

COMMAND: not applicable

QUERY: X<CR>
Returns a text string delimited by a carriage return line feed.
539 Ver xx.yyy<LF><CR>

Examples:	PC Query	Argonaut VI Response	Meaning
	X<CR>	ARGONAUT VI START<CR>	The Argonaut VI

Note: There are two blank spaces (0x20) before the ARGONAUT VI text.
e.g. “<0x20><0x20>ARGONAUT VI<0x20>START<CR>”

Document Revision History

Date:	Revision:	Modifications
Nov. 24, 2012	1.000	<ul style="list-style-type: none">• Initial Version.