



USER'S GUIDE



Disclaimer

Authors of this manual have incorporated their best efforts in preparing the information and ensuring accuracy of content at the time of publication. Advanced Racing Computers and its affiliated parties accept no responsibility for technical inaccuracies and reserve the right to make periodic changes, enhancements, revisions and alterations to its programs and/or its manuals without obligation to notify any person, institution or organization of such change.

All rights reserved.

©2007 Advanced Racing Computers

Table of Contents

PRODUCT CERTIFICATION	1
SAFETY WARNINGS AND CAUTIONS	2
USING THE VLINK RACING COMPUTER	3
REMOTE BUTTONS & DISPLAY	3
GETTING STARTED	5
Adjust headset volume.....	5
Test connectivity.....	5
CONFIGURE YOUR RUN	6
Set Autostop	6
Set Level.....	6
Set Instant Feedback.....	7
Set Unit of Measure	7
GO: BEGIN YOUR RUN	8
RUN STATISTICS	9
TOTAL STATISTICS	10
MEMORY CLEAR	11
LINK REMOTE WITH NEW SHUTTLES	12
ERROR MESSAGES	13
VLINK RACING COMPUTER MENU DIAGRAM	14
BATTERY REPLACEMENT NOTES	15
SHUTTLE LED POWER INDICATOR	15
REMOTE RESET PROCEDURE.....	15
LITHIUM BATTERY USE	15
TECHNICAL SPECIFICATIONS	16
LIMITED ONE-YEAR WARRANTY	17
COVERAGE.....	17
EXCLUSIONS AND LIMITATIONS	17
CONSUMER PROTECTION LAWS	18
PRODUCT REGISTRATION	19

Product Certification

The vLink Racing Computer complies with Part 15 of the Federal Communications Commission (FCC) Rules and Regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into a different circuit from that to which it is currently connected.
- Consult Advanced Racing Computers technical support or an experienced radio/TV technician for help.

Safety Warnings and Cautions

Safe operation of the vLink racing computer requires strict observance of the warnings stated in this User Guide. This information is intended to reduce risk of personal injury and damage to the device.

Any use of this product that fails to observe the following warnings and cautions is considered outside the “normal use” parameters of the product.



WARNING: ALWAYS follow assembly and use instructions carefully. The vLink racing computer is a precision measurement instrument and must be assembled correctly to maximize system performance.



WARNING: ALWAYS remove batteries from remote and shuttles when transporting by airplane.



WARNING: NEVER submerge the remote or the shuttles in water.



WARNING: DO NOT tamper with batteries. Batteries can release hazardous chemicals if punctured, heated or burned.



CAUTION: ALWAYS install batteries with the polarity as indicated on the product diagram.



WARNING: NEVER attempt to change settings or view the screen while skiing.



CAUTION: ALWAYS wear ear-buds under a helmet when skiing.

Using the vLink™ Racing Computer

Before using the vLink racing computer, follow vLink Parts and Assembly Sheet instructions to complete assembly.

Remote Buttons & Display

The remote has three buttons (**On/Esc**, **Tab**, and **Select**) which function as follows:



On/Esc

- When OFF, press and hold for three (3) seconds to turn on Main menu.
- When OFF, press and release to start a run.
- While ON, press to return to Main/Go screen from any other menu option.



Tab

- Press to scroll through menu options.

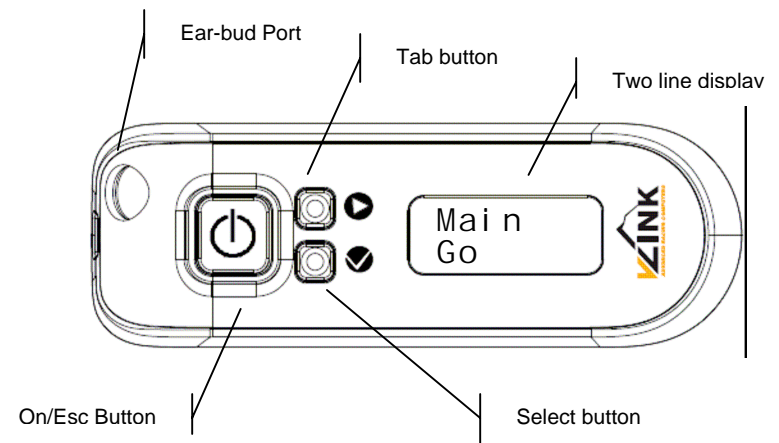


Select

- Press to select or choose a menu option.

The remote has a two-line display. The top line displays the menu title and the bottom displays the current menu option. Shown here the menu title is "Main" and the current menu option is "Go".

Remote Diagram



Getting Started

Adjust headset volume

To confirm volume is set at a comfortable level:

1. Press earbud cable connector firmly into remote audio port.
2. Turn volume dial on earbud cable to low-mid range.
3. Place ear-buds in ears.
4. Press and hold **On/Esc** for one or two seconds. Two beeps will sound in each ear. Display will show A.R.C. vLink and then Main Go.
5. Adjust volume as needed.

Note: For best fit, ear-buds come with several sizes of replaceable outer pieces. In addition, it helps to wear a hat or head band, under your helmet, to keep ear-buds in place.

Troubleshooting:

No sound is heard: Confirm that connector is pressed firmly into audio port. Wait for remote to automatically shutdown. Repeat Steps 3 - 5.

Remote does not turn on: Confirm that batteries have been installed according to the diagram. Replace batteries if needed. If problem persists contact Technical Support for further assistance.

Test connectivity

To confirm your remote is communicating with both shuttles:

1. From off, press **On/Esc** for one or two seconds. Release **On/Esc** as soon as you hear the beeps in the ear-buds.
2. Display will show "Linking" while remote attempts to communicate with shuttles. Once connected, run countdown tones begin.
3. Press **On/Esc** to cancel countdown and return to Main menu.

Troubleshooting:

Beeps do not sound: Check volume setting. Confirm shuttle batteries have been installed properly based on diagram. Replace batteries if needed. If problem persists contact Technical Support for further assistance.

Configure Your Run

To configure data collection and feedback parameters for a run:

1. Press and hold **On/Esc** to activate Main menu. Display opens to Main menu, option Go.
2. **Tab** to scroll to menu option Config.
3. Press **Select** to go to Config menu.

Main
Config

Config
Autostop

Set Autostop

Autostop is the interval of time to collect data before the system automatically stops.

From Config menu:

1. Press **Select** to choose Autostop.
2. **Tab** to desired interval (10 sec, 20 sec....180 sec).
3. Press **Select** to choose data collection interval and return to Main menu.

Config
Autostop

Autostop
10 sec

Set Level

Level is the threshold setting for instant feedback. Start with level one to become accustomed to the feedback. Adjust as desired. From Config menu:

1. **Tab** to Level menu option
2. Press **Select** to choose Level.
3. **Tab** to desired level number (1, 2, 3, 4, or 5)
4. Press **Select** to choose threshold level and return to Main menu.

Config
Level

Level
1

Five levels are provided. As you increase level you tighten the threshold (decrease) allowing less and less slip before receiving a warning. At level five (5), you receive feedback when you slip more than 0.5 mm (0.02"). Unless the snow is very hard, it is very difficult to make a clean arc and receive no warnings at level five (5). Direction of slip is indicated by which ear you hear the warning.

If the vLink racing computer detects that one ski is on edge, it only gives feedback from the shuttle which is on the snow (the outside ski). When skiing powder or when skis are not on edge, feedback comes from both shuttles. This alerts the skier that skis are not tracking in the axis of the ski.

Set Instant Feedback

Instant audible feedback can be 1) turned off, 2) set to provide feedback on lateral slip, or 3) set to provide feedback on acceleration/deceleration.

From Config menu:

1. **Tab** to Feedback menu option.
2. Press **Select** to choose Feedback.
3. **Tab** to desired option (Off, Slip, Speed).
4. Press **Select** to choose and return to Main menu.

Config
Feedback

Feedback
Off

Feedback
Slip

Feedback
Speed

Set Unit of Measure

Units can be displayed in Metric or English measurement.

From Config menu:

1. Tab to Units menu option.
2. Press Select to choose Units.
3. Tab to desired option (Metric, English)
4. Press Select to choose Unit option and return to Main menu.

Config
Units

Units
Metric

Units
English

Go: Begin your Run

Once configuration is complete it is time to ski, collect data and listen to the specified feedback.

To start from a power off state:

1. Press and release **On/Esc**.
2. Listen to 15 beep countdown. (Similar to a timing system countdown.)
3. Start skiing after the long beep cue.

Run data collection can also be started by pressing **SELECT** from Main menu, option Go.

Main
Go

Error Message:

vLink software checks the communication link during the countdown. If a communication error occurs the final long beep will be a low tone rather than a high tone and **Link Error** will display on the remote. When this happens, data will not be collected. Wait until system automatically stops and then retry.

Link
Error

Run Statistics

After skiing, to view run statistics, press and hold **On/Esc** to activate Main menu. Display opens to Main menu, option Go.

From Main menu:

1. **Tab** to Runs menu option.
2. Press **Select** to choose Runs.
3. Press **Select** again to view Last run statistics. Or, **Tab** to scroll to Run # you wish to view and then press **Select**.
4. **Tab** to scroll through the run statistics gathered during the data collection timeframe.
 - Max: maximum miles or kilometers per hour achieved.
 - Avg: average miles or kilometers per hour achieved.
 - Dis: total miles or kilometers traveled.
 - Slp: total yards or meters of lateral slip.

Main
Runs

Runs
Last

Example Run #10 Statistics

English

Run # 10
Max 35.6

Run # 10
Avg 22.8

Run # 10
Dis 0.4

Run # 10
Slp 0.9

Metric

Run # 10
Max 56.3

Run # 10
Avg 36.7

Run # 10
Dis 0.6

Run # 10
Slp 0.8

Total Statistics

The vLink racing computer stores summary statistics for all runs. To view totals:

From Main menu:

1. **Tab** to Totals menu option.
2. Press **Select** to choose Totals.
3. **Tab** to scroll through the statistics on total of all runs.
 - Max: maximum miles or kilometers per hour achieved.
 - Avg: average miles or kilometers per hour achieved.
 - Dis: total miles or kilometers traveled.
 - Slp: total yards or meters of lateral slip.

Main
Totals

Totals
Last

Memory Clear

The vLink racing computer remote stores data for up to 99 runs and all run data can be cleared from memory to start a new series of runs. To clear memory:

From Main menu:

1. **Tab** to Memory menu option.
2. Press **Select** to choose Memory.
3. Press **Select** again to choose Clear?
4. **Tab** then press **Select** again to choose Yes.

Display will show Clearing Memory...followed by Memory Cleared. Press **On/Esc** to return to Main menu or wait 30 seconds.

Main
Memory

Memory
Clear

Clear?
No

Clear?
Yes

To return to Main menu without clearing memory press **On/Esc** or **Tab** to option Clear? No and press **Select**.

Link Remote with New Shuttles

Each remote is preconfigured at the factory to communicate with the companion shuttles shipped in the kit. Each vLink racing computer set has a unique address that prevents one skier's vLink racing computer from communicating with another skier's computer. There are 16,000 unique addresses. It may be necessary to re-link the remote to the shuttles 1) if you just received a replacement shuttle or remote, or 2) in the unlikely event that your vLink racing computer has the same address as someone else that you ski with. Re-linking is *not* required when changing batteries.

To relink remote to shuttles:

Put the shuttles into a re-linking mode by removing and replacing the batteries. Shuttle stays in reLink mode for one (1) minute, so keep the battery compartment open until the re-Linking process is complete.

From the Config menu:

1. **Tab** to reLink menu option.
2. Press **Select** to choose reLink.
3. **Tab** to display Yes. (Since remote is preconfigured at the factory, default option is No.)
4. Press **Select** to initiate reLink process. When complete, "reLink COMPLETE" message will display.

Config
reLink

reLink?
No

reLink?
Yes

Troubleshooting:

"ReLink FAILED" displayed on screen:

- Shuttles may not have been in re-Link state. Remove and replace batteries and try again.
- Confirm batteries have been installed correctly. Replace with new batteries if needed and try re-Link process again. When a good battery is installed in a shuttle, the illumination LED blinks once.
- If problem persists contact Technical Support for further assistance.

Error Messages

Link Error: Remote failed to communicate with shuttles. Wait until system automatically stops and then retry.

Link
Error

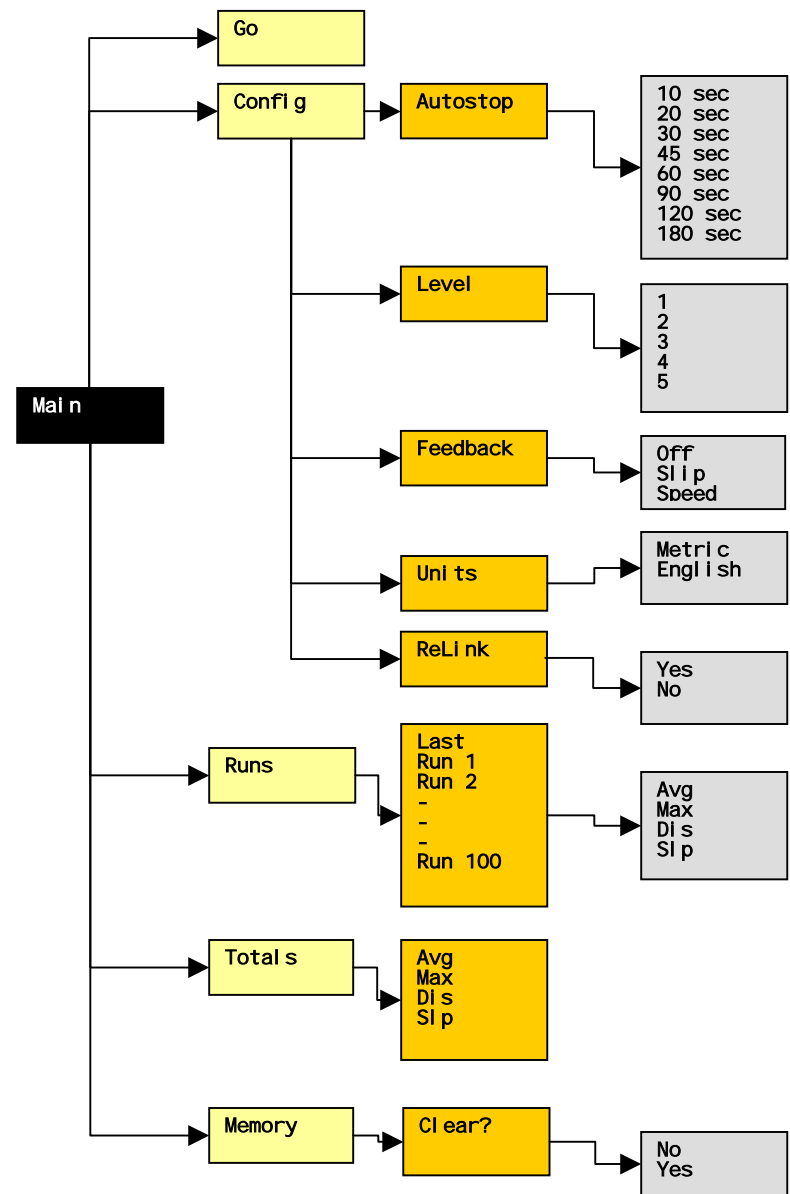
Low Battery: Remote batteries need to be replaced. For best results, replace shuttle and remote batteries at the same time.

Low
Battery

Memory Full: Indicates 99 runs have been stored. Clear memory to begin storing new runs.

Memory
Full

vLink Racing Computer Menu Diagram



Battery Replacement Notes

See Parts and Assembly sheet for battery replacement instructions.

Shuttle LED Power Indicator

Each shuttle has an LED. When a good battery is installed the shuttle LED will blink once. If the battery being installed is low the LED will blink once, followed by two blinks a second later.

Remote Reset Procedure

Residual power can remain in the remote even when batteries are removed. For proper reset residual power must be discharged. To do so, follow this procedure:

1. Remove old batteries.
2. Press and hold **On/Esc** for a few seconds (This discharges any residual power.)
3. Replace batteries.

Lithium Battery Use

Advanced Racing Computers ships and also recommends use of lithium battery technology rather than alkaline. Lithium batteries (not to be confused with lithium ion) function very well at low temperatures down to -15°C, and last about 15 times longer. In cold conditions, normal alkaline batteries have an extremely short life.

Important Reminders

For best performance replace all four vLink racing computer batteries at the same time.

When storing the system for an extended period of time, remove batteries from shuttles and remote. This will avoid damage (from battery leakage) that is not covered under warranty.

Technical Specifications

Operating Temperature: -15°C to +40°C (5°F to 104°F)

Storage Temperature: -40°C to 65°C (-40°F to 149°F)

Speed: 0 to 100 kph in 0.1 kph increments (0 to 62 mph in 0.1 mph increments)

Distance: 0 to 99 miles or kilometers in 0.1 kilometer or mile increments.

Slip: 0 to 99 meters or yards in 0.1 meter or yard increments.

Limited One-Year Warranty

Coverage

Advanced Racing Computers' (ARC) warranty obligations are limited to the terms set forth as follows:

The vLink Racing Computer is warranted against defects in materials and workmanship under normal use for a period of ONE (1) YEAR from the date of retail purchase by the original end-user purchaser ("Warranty Period"). If a defect arises and a valid claim is received within the Warranty Period, at its option, ARC will either (1) repair the defect at no charge using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (3) refund the purchase price upon receipt of the original product. Replacement product or parts assume the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage. To be warranted, parts provided by ARC in fulfillment of its warranty obligation must be used in the product for which warranty service is claimed. When a product or part is exchanged, replaced items become property of ARC.

Exclusions and Limitations

This Limited Warranty applies only to the vLink Racing Computer manufactured by or for ARC that can be identified by the "vLink" trademark, trade name, or logo affixed to them. ARC does not warrant that the operation of the product will be uninterrupted or error-free. Nor, is ARC responsible for damage arising from failure to follow instructions relating to the product's use.

This warranty does not apply: (a) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (b) to damage caused by operating the product outside the permitted or intended uses documented by ARC; (c) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of ARC or an ARC Authorized Service Provider; or (d) to a product or part that has been modified by anyone to significantly alter functionality or capability; or (f) to consumable parts, such as batteries, unless damage has occurred due to a defect in materials or workmanship of the ARC product itself.

To the extent permitted by law, this warranty and remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, statutory, express or implied. As permitted by applicable law, advanced racing computers specifically disclaims any and all statutory or implied warranties, including, without limitation, warranties of merchantability, fitness for a particular purpose and warranties against hidden or latent defects. If ARC cannot lawfully disclaim statutory or implied warranties then to the extent permitted by law, all such warranties shall be limited in duration to the duration of this express warranty and to repair or replacement service as determined by ARC in its sole discretion. No reseller or outside agent is authorized to make any modification, extension, or addition to this warranty.

Except as provided in this warranty and to the extent permitted by law, ARC is not responsible for direct, special, incidental or consequential damages resulting from any breach of warranty or condition, or under any other legal theory, including but not limited to loss of use; loss of revenue; loss of actual or anticipated profits (including loss of profits on contracts); loss of the use of money; loss of anticipated savings; loss of business; loss of opportunity; loss of goodwill; loss of reputation; loss of, damage to or corruption of data; or any indirect or consequential loss or damage howsoever caused including the replacement of equipment and property, any costs of recovering, programming, or reproducing any program or data stored or used with ARC products and any failure to maintain the confidentiality of data stored on the product. The foregoing limitation shall not apply to death or personal injury claims. ARC disclaims any representation that it will be able to repair any product under this warranty or make a product exchange without risk to or loss of the programs or data.

Consumer Protection Laws

Some countries, states and provinces do not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitations on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by country, state or province. This Limited Warranty is governed by and construed under the laws of the state of Oregon. More information about Advanced Racing Computers, the warrantor under this Limited Warranty, can be found at www.advancedracingcomputers.com.

Product Registration

Please register your product. This will help avoid delays in the event of a warranty claim.

Register on-line at www.advancedracingcomputers.com/registration.
Or, complete this form, copy and mail to: Advanced Racing Computers, 2300 SW 2nd Street, Suite A, McMinnville, OR, 97128-9188, USA

First Name:	
Last Name:	
Address:	
City:	
State/Province:	
Zip/Post Code:	
Country:	
Phone:	
E-mail:	
VL Model #(s):	
Date of Purchase:	
Place of Purchase:	
Would you like to receive occasional special offers and e-mail updates from Advanced Racing Computers about product information, tips, updates, and special offers?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	