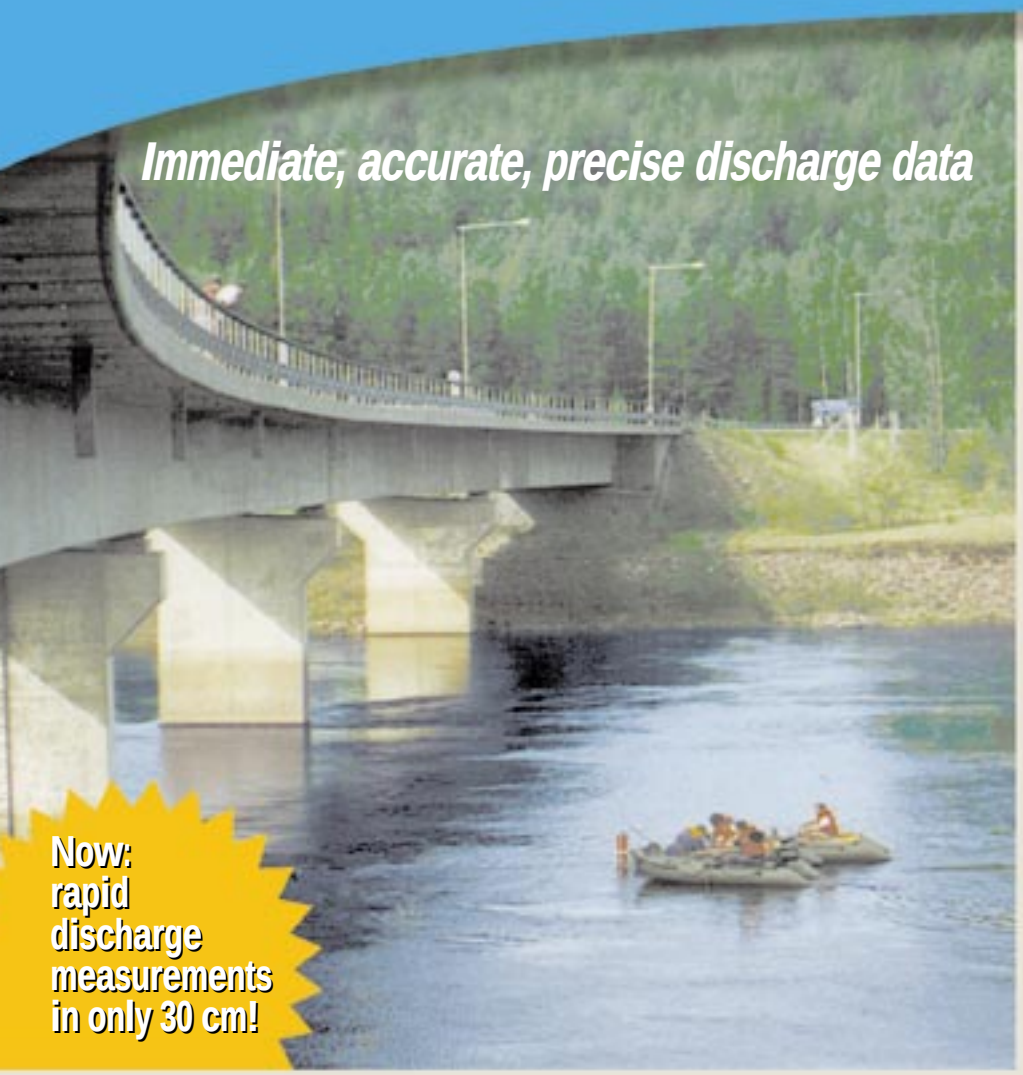
Workhorse *Rio Grande ADCP*



A space-age solution to an age-old challenge

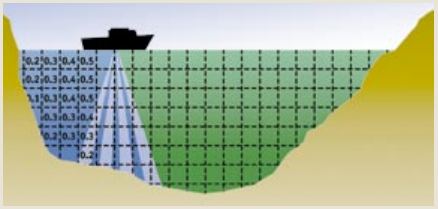
The Workhorse Rio Grande ADCP is an accurate, rapid-sampling current profiling device operated from a moving boat. The advantage for users is a faster, safer and more flexible method for measuring discharge.

It is a complete system. No additional equipment or data are required, which simplifies operational logistics. The same instrument can be used for a wide range of river conditions, from shallow 30cm deep streams to rushing rivers and tidal estuaries where no prior discharge data exists.

The advantages for organizations and agencies are numerous: more productive, diverse and cost-effective river surveys; reduced lifetime costs for equipment; and the highest quality data sets which are able to pass stringent QA/QC requirements.

Measuring river discharge from moving boats

Since 1992, RD Instruments' ADCPs have revitalized river discharge measurements worldwide. There are more than 500 RDI River ADCPs in operation, with uses that range from monitoring water extraction rates



and supporting civil engineering works to planning and designing dredging and flood warning programs.

Workhorse Rio Grande ADCP measures unrivalled low-noise profiles of water speed and direction, water depth, and boat velocity—each ready for immediate display. No averaging is required. This high-resolution data stream allows for multiple uses of the same data, not only for discharge but for environmental studies and computer modelling. The Workhorse Rio Grande ADCP reveals detailed flow structure through the water column, along the boat path, and over time.

Why settle for average results? Call RDI today for more details.

RD Instruments

Acoustic Doppler Solutions

www.rdinstruments.com telephone: 858-693-1178 sales@rdinstruments.com

Workhorse *Rio Grande ADCP* *1200 or 600 kHz*

Standard Mode Water Profiling

1200 kHz Rio Grande ZedHed

Bin Size (m)	Std. Dev. (mm/s)	Min. Range (m)	Typical Range (m)
0.25	181	1.2	14
0.5	66	1.7	17
1.0	30	2.7	20
2.0	18	4.8	21

600 kHz Rio Grande

Bin Size (m)	Std. Dev. (mm/s)	Min. Range (m)	Typical Range (m)
0.5	181	1.8	50
1.0	66	2.9	56
2.0	30	5	66
4.0	18	9.2	75

New Options Available

- Shallow water bottom tracking from 30cm depth
- Fast sampling mode: selectable 10Hz, 20Hz, 40Hz

Special Features

High Resolution Modes

Workhorse Rio Grande comes complete with high resolution modes used in special river conditions.

1200 kHz: Shallow Water, Slow Flow Mode II

Bin Size (m)	Std. Dev. (mm/s)	Min. Range (m)	Max. Range (m)
0.05	10	0.3	4
0.1	7	0.5	4
0.25	4	1	4

600 kHz: Shallow Water, Slow Flow Mode II

Bin Size (m)	Std. Dev. (mm/s)	Min. Range (m)	Max. Range (m)
0.1	8	0.7	8
0.25	5	1	8
0.5	4	1.6	8

Bottom Tracking: included.

System Frequency	1200kHz	600kHz
Maximum Altitude (m)	30	100
Minimum Altitude (m)	0.75	0.75

Transducer and Hardware

Beam angle: 20°
Configuration: 4-beam, convex
Communications: Serial port selectable by switch for RS-232 or RS-422. ASCII or binary output at 1200-115,400 baud.
Internal memory: Optional flash EPROM.

Velocity accuracy:
±0.25% of the (water + boat) velocity ±2.5mm/s
Velocity resolution: 1mm/s
Velocity range: ±3m/s (default): ±20m/s (maximum)
Number of depth cells: 1-128
Ping rate: 2 Hz (typical)

Standard Sensors

Temperature (mounted on transducer)
- Range: -5° to 45°C
- Uncertainty: ±0.4°C
- Resolution: 0.01°

Tilt
- Range: ±15°
- Accuracy: ±0.5°
- Resolution: 0.01°

Compass[e] (fluxgate type, with easy calibration feature)
- Resolution: 0.01°
- Maximum tilt: ±15°
- Accuracy: ±2°

Note e: @ 60 degrees magnetic dip angle, 0.5G total field

Power

DC Input: 10.5-18V DC
Transmit: 35W at 13V—600kHz
25W at 13V—1200kHz

Environmental

Weight in air: 7.0 kg
Weight in water: 3.0 kg
Operating temperature: -5° to 45°C
Storage temperature: -30° to 75°C

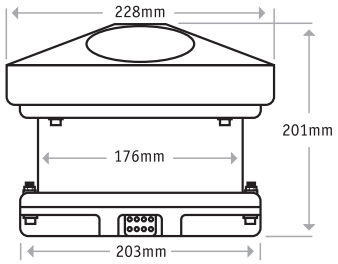
Standard Software

Use RDI's Windows™-based WinRiver software for the best results

Upgrades Available

- Memory - 32-440MBytes PCMCIA cards

Dimensions



For More Information

Call, e-mail or visit our web page.
Ask for our Primer about ADCPs.

Internet: www.rdinstruments.com

RD Instruments
9855 Businesspark Avenue
San Diego, CA 92131 USA
Tel: (858) 693-1178 Fax: (858) 695-1459
E-mail: sales@rdinstruments.com

Specifications subject to change
Rev 02.1