



Technical Bulletin

TELEDYNE RESON Remote IO protocol for IO Module raw data distribution

Version 1.1

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Amendment Record Sheet

Rev.	Date	Reason for Modifications
1.0	05/07/2013	First version of this Technical Bulletin.
1.1	17/07/2013	Updated data packet specification.

Introduction

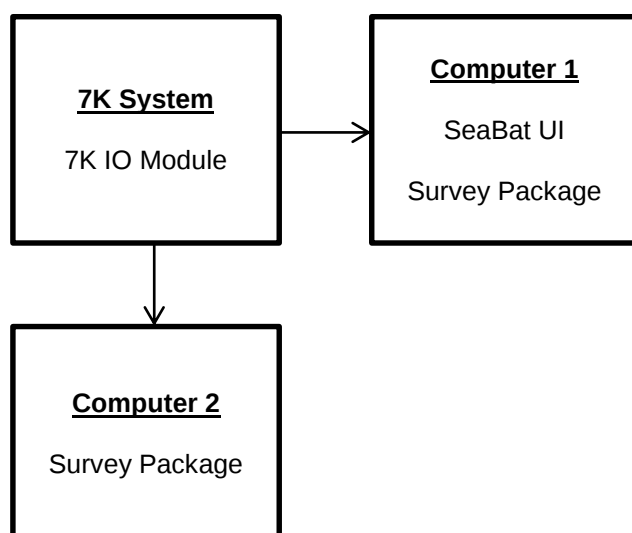
From the 7K IO Module 4.1.x.x onwards raw data message strings, coming in from devices on the input ports of the 7K system, can be distributed to other computers in the network.

This document will describe the RESON Remote IO (RRIO) protocol, which is used for distribution of the raw data messages.

RESON Remote IO (RRIO)

Raw data messages received by the 7K IO Module will always be send to the SeaBat UI by UDP, but can be send to additional network addresses defined on the 7K IO Module panel ('Raw Data Distribution' node) of the SeaBat UI. The address is specified by an IP address (or computer name) of a computer in the network and a port number.

Figure 1: Raw data message distribution by 7K IO Module



The specified port number is the base port. The raw data messages will be send to the base port and offsets of the base port, depending of the source device of the messages. See Table 1.

Table 1: Device port assignment

Device ID	Port number	Example
VRU	Base port number	2020
Positioning System	Base port number + 2	2022
Compass	Base port number + 4	2024
Sound Velocity	Base port number + 6	2026
External Clock	Base port number + 8	2028
Pan and Tilt	Base port number + 10	2030

The raw data messages will be send in data packets, containing time stamp, device type and raw data string. Table 2 shows the format of the packets.

Table 2: Data packet description

Field name	Type	Byte number	Validity	Size (bytes)
Header	ASCII	0-3	"RRIO"	4
Version	ASCII	4-5	nn	2
Device ID	ASCII	6-7	PDS2000 device ID: 1 = Positioning system 3 = Compass 5 = VRU 16 = External clock 40 = Sound Velocity 67 = Pan and Tilt	2
UTC Day	ASCII	8-9	DD	2
UTC Month	ASCII	10-11	MM	2
UTC Year	ASCII	12-15	YYYY	4
UTC Hour	ASCII	16-17	HH	2
UTC Minutes	ASCII	18-19	MM	2
UTC Seconds	ASCII	20-21	SS	2
UTC Milliseconds	ASCII	22-24	mmm	3
Raw data byte count	u16	25-26		2
Raw data string	ASCII	27 – (27 + byte count)		Raw data string byte count