

# WCB acoustic survey cruise report *JR 92*

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## **General:**

This acoustic survey was run in the opposite direction to normal. We started at the southeast end at W4.2 S and worked westwards. All transects were covered fully except transect W1.2 N-S where we had to leave the transect line to avoid icebergs. The CTD worked without any problems. After finishing the WCP the long transect ER635, was run from the N to the S. The XBT spacing was double the normal, this was necessary because we had not enough XBT's for the normal 15km spacing.

## **EK60/ER60 operations:**

- At the beginning of the cruise the new ER60 software was installed. This provides more possibilities in the displays, more flexibility and quick access buttons. The installation was successful and the program was running fine. On the EK60 workstation the new Ecolog and Echoview software was successfully installed. During the first couple of days, the new ER60 software was running fine together with the new Ecolog and Echo – Live-viewing. But a problem occurred at the beginning of the WCB that could not be solved in the time available. Therefore it was decided to run only the new ER60 software and save the **.raw** files. This was a bit of a drawback, because no Live-viewing was possible during the WCB survey. Further tests afterwards showed that it is the new ER60 software which is not capable of running together with the Ecolog / Live-viewing. The old EK60 software showed no problems at all!
- The sampling interval was 1 sec. and the water depth was set to 300 m
- Parallel to the EK60 raw data **NO** Ecolog ek6 data were saved
- The SSU was another major problem during the survey. It was **NOT** working at all and feedback from Simrad was very thin.
- SUMMARY. (1) The new Simrad ER60 software is an improvement in the way of possibilities within the settings, but it is not capable of working together with the Ecolog software at the moment. It appears to have problems with file sharing for live viewing and compression. (2) The SSU has not worked at all so further tests are necessary to solve that problem!!

## **XBT operations:**

- During the survey the XBT system worked very well and we had only 2 failures. There were not enough XBT's on board for the long ER635 transect and only T-5 XBT were provided, no T-7 for shallow water operations could be found.

## **CTD operations:**

- During the survey the CTD system worked without any problem. The Cable monitoring system (CLAM) worked fine, we had no problems at all. No water samples were taken because there were not enough water sampling bottles on the ship. In the future, availability of sample bottles must be checked beforehand.

## ER 60 settings on JR 92

### general:

*ping mode:* internal trigger  
*ping interval:* 1 sec

*salinity:* 34  
*sound velocity:* 1461m/s  
*water temperature:* 2 °C

### TS detection (for all 3 transceivers):

*min Ecolength:* 0.8  
*max Ecolength:* 2.5  
*max phase Dev:* 2.0  
*max gain comp:* 6.0

### 38 kHz Transceiver:

*mode:* active  
*transducer type:* ES38  
*pulse length:* 1.024 ms  
*max. power:* 2000 W

*range:* 0 – 300 m  
*TVG:* 20 log R

### 120 kHz Transceiver:

*mode:* active  
*transducer type:* ES120-7  
*pulse length:* 1.024 ms  
*max. power:* 500 W

*range:* 0 – 300 m  
*TVG:* 20 log R

### 200 kHz Transceiver:

*mode:* active  
*transducer type:* ES200-7  
*pulse length:* 1.024 ms  
*max. power:* 300 W

*range:* 0 – 300 m  
*TVG:* 20 log

**RRS James Clark Ross, Cruise JR92**

**Notes**

- 1) This version ends with xbt run away from the Island
- 2) Acoustic transects need to be completed between 0900 and 2000 hours (Z) - daylight hours (civil twilight)
- 3) Survey could be run in reverse direction, i.e. starting at W.1.1.N, but it should remain over west to east direction (counter-current)
- 4) CTDN stands for additional CTDs without water collection, CTDN MID is to be carried out at the midpoint of each transect, not at the station as shown
- 5) Alter date highlighted in yellow to su

Cruise Waypoints and Stations													
Station Name	Activity	Lat	Lon	Lat	Lon	Lon	Dist,	Speed	Transect	Activity	Completed	Local Time	Information
Mobilization		Decimal	Decimal	Degrees	Degrees	Degrees	n.m.	km	time, h	time, h	Z	13-Nov-03	
<b>Core Box</b>													
Waypoint_W.4.2.S	Acoustics	-53.8532	-37.5957	-53	51.19	-37	35.62					13/11/2003 10:00	
Waypoint_W.4.2.N	Acoustics	-53.1484	-37.9322	-53	8.90	-37	49.93	43.1	79.8	8.9	4.84	0.00	13/11/2003 14:50
Waypoint_W.4.1.N	Acoustics	-53.1642	-37.9643	-53	9.85	-37	57.86	4.8	9.0	5.5	0.88	0.00	13/11/2003 15:43
Waypoint_W.4.1.S	Acoustics	-53.8692	-37.7279	-53	52.15	-37	43.67	43.1	79.9	9.6	4.49	0.00	13/11/2003 20:13
Waypoint_W.3.2.S	CTD	-53.8904	-37.9067	-53	53.42	-37	54.40						
Waypoint_W.3.2.S	CTDN	-53.8904	-37.9067	-53	53.42	-37	54.40	0.0	0.0	1	0.50	0.50	13/11/2003 21:13
Waypoint_W.3.2.S	Acoustics	-53.8904	-37.9067	-53	53.42	-37	54.40	10.8	20.0	7	1.08	0.00	13/11/2003 22:17
Station_W.3.2.S	CTDN	-53.7141	-37.9658	-53	42.85	-37	57.95	0.0	0.0	1	0.00	0.50	13/11/2003 22:47
Station_W.3.2.S	Acoustics	-53.7141	-37.9658	-53	42.85	-37	57.95	10.8	20.0	7	1.00	0.00	13/11/2003 23:47
Station_W.3.2.M	CTDN	-53.5378	-38.0243	-53	32.27	-38	1.46	0.0	0.0	1	0.00	0.50	14/11/2003 00:17
Station_W.3.2.M	Acoustics	-53.5378	-38.0243	-53	32.27	-38	1.46	10.8	20.0	7	1.00	0.00	14/11/2003 01:17
Station_W.3.2.N	CTDN	-53.3614	-38.0825	-53	21.68	-38	4.95	0.0	0.0	1	0.00	1.20	14/11/2003 02:29
Station_W.3.2.N	Acoustics	-53.3614	-38.0825	-53	21.68	-38	4.95	10.8	20.0	7	1.00	0.00	14/11/2003 03:29
Waypoint_W.3.2.N	CTDN	-53.1852	-38.1403	-53	11.11	-38	8.42	0.0	0.0	1	0.00	1.00	14/11/2003 04:29
Waypoint_W.3.2.N	Acoustics	-53.1852	-38.1403	-53	11.11	-38	8.42	0.0	0.0	1	0.00	3.40	14/11/2003 07:53
Waypoint_W.3.2.N	Acoustics	-53.1852	-38.1403	-53	11.11	-38	8.42	11.3	20.9	10	1.13	0.00	14/11/2003 09:01
Waypoint_W.3.2.S	Acoustics	-53.8904	-37.9067	-53	53.42	-37	54.40	43.1	79.8	10	4.20	0.00	14/11/2003 13:13
Waypoint_W.3.1.S	Acoustics	-53.9269	-38.2203	-53	55.61	-38	13.22	11.3	20.9	10	1.10	0.00	14/11/2003 14:19
Waypoint_W.3.1.N	Acoustics	-53.2209	-38.4449	-53	13.25	-38	26.94	43.1	20.9	10	4.60	0.00	14/11/2003 18:55
Waypoint_W.3.1.N	CTD	-53.2209	-38.4449										
Waypoint_W.2.2.N	CTDN	-53.2551	-38.7508	-53	15.31	-38	45.05	0.0	0.0	1	0.00	1.50	14/11/2003 20:25
Waypoint_W.2.2.N	Acoustics	-53.2551	-38.7508	-53	15.31	-38	45.05	10.8	20.0	8	1.35	0.00	14/11/2003 21:46
Station_W.2.2.N	CTDN	-53.4318	-38.6953	-53	25.91	-38	41.72	0.0	0.0	1	0.00	0.80	14/11/2003 22:34
Station_W.2.2.N	Acoustics	-53.4318	-38.6953	-53	25.91	-38	41.72	10.7	19.9	10	1.07	0.00	14/11/2003 23:38
Station_W.2.2.M	CTDN	-53.6075	-38.6403	-53	37.45	-38	39.42	0.0	0.0	1	0.00	1.00	15/11/2003 00:38
Station_W.2.2.M	Acoustics	-53.6075	-38.6403	-53	37.45	-38	39.42	10.8	20.1	10	1.08	0.00	15/11/2003 01:43
Station_W.2.2.S	CTDN	-53.7851	-38.5835	-53	47.11	-38	35.01	0.0	0.0	1	0.00	1.23	15/11/2003 02:57
Station_W.2.2.S	Acoustics	-53.7851	-38.5835	-53	47.11	-38	35.01	10.8	20.0	10	1.00	0.00	15/11/2003 03:57
Waypoint_W.2.2.S	CTDN	-53.9616	-38.5269	-53	57.70	-38	31.61	0.0	0.0	1	0.00	0.80	15/11/2003 04:45
Waypoint_W.2.2.S	Acoustics	-53.9616	-38.5269	-53	57.70	-38	31.61	0.0	0.0	10	3.20	0.00	15/11/2003 07:57
Waypoint_W.2.2.S	Acoustics	-53.9616	-38.5269	-53	57.70	-38	31.61	10.5	19.4	10	1.05	0.00	15/11/2003 09:00
Waypoint_W.2.2.N	Acoustics	-53.2551	-38.7508	-53	15.31	-38	45.05	43.1	79.8	10	4.31	0.00	15/11/2003 13:19
Waypoint_W.2.1.N	Acoustics	-53.287	-39.0382	-53	17.22	-39	2.29	11.3	20.9	8	1.41	0.00	15/11/2003 14:44
Waypoint_W.2.1.S	Acoustics	-53.994	-38.819	-53	59.64	-38	49.14	43.1	79.8	10	4.60	0.00	15/11/2003 19:20
Waypoint_W.2.1.S	CTD	-53.994	-38.819										
Waypoint_W.1.2.S	CTDN	-54.0233	-39.089	-54	1.40	-39	5.34	0.0	0.0	1	0.00	1.15	15/11/2003 20:29
Waypoint_W.1.2.S	Acoustics	-54.0233	-39.089	-54	1.40	-39	5.34	10.8	20.0	6	1.10	0.00	15/11/2003 21:35
Station_W.1.2.S	CTDN	-53.8464	-39.1435	-53	50.78	-39	8.61	0.0	0.0	1	0.00	0.50	15/11/2003 22:05
Station_W.1.2.S	Acoustics	-53.8464	-39.1435	-53	50.78	-39	8.61	10.8	20.0	5	1.10	0.00	15/11/2003 23:11
Station_W.1.2.M	CTDN	-53.6695	-39.1973	-53	40.17	-39	12.84	0.0	0.0	1	0.00	0.60	15/11/2003 23:47
Station_W.1.2.M	Acoustics	-53.6695	-39.1973	-53	40.17	-39	12.84	10.8	20.0	10	1.10	0.00	16/11/2003 00:53
Station_W.1.2.N	CTDN	-53.4926	-39.2511	-53	29.56	-39	15.07	0.0	0.0	1	0.00	1.50	16/11/2003 02:23
Station_W.1.2.N	Acoustics	-53.4926	-39.2511	-53	29.56	-39	15.07	10.8	20.0	10	1.08	0.00	16/11/2003 03:27
Waypoint_W.1.2.N	CTDN	-53.3157	-39.3042	-53	18.94	-39	18.25	0.0	0.0	1	0.00	1.10	16/11/2003 04:33
Waypoint_W.1.2.N	Acoustics	-53.3157	-39.3042	-53	18.94	-39	18.25	0.0	0.0	2	0.00	3.25	16/11/2003 07:48
Waypoint_W.1.2.N	Acoustics	-53.3157	-39.3042	-53	18.94	-39	18.25	10.8	20.0	9	1.20	0.00	16/11/2003 09:00
Waypoint_W.1.2.S	Acoustics	-54.0233	-39.089	-54	1.40	-39	5.34	43.1	79.8	9.2	4.68	0.00	16/11/2003 13:41
Waypoint_W.1.1.S	Acoustics	-54.053	-39.919	-54	3.32	-39	23.51	3.0	5.6	10	0.30	0.00	16/11/2003 13:59
Waypoint_W.1.1.N	Acoustics	-53.3472	-39.6023	-53	20.83	-39	36.14	43.1	79.8	9.3	4.63	0.00	16/11/2003 18:37
<b>ER635</b>													
ER635	XBT 1	-51.64167	-37.8039	-51	38.5	-37	48.24	16.2	30	10	0.81	0.17	17/10/2002 06:03
(30 km spacing)	XBT 2	-51.90111	-37.6823	-51	54.07	-37	40.94	16.2	30	12	0.68	0.17	17/10/2002 07:46
	XBT 3	-52.16044	-37.5594	-52	9.63	-37	33.57	16.2	30	12	0.68	0.17	17/10/2002 09:27
	XBT 4	-52.41966	-37.4354	-52	25.18	-37	26.12	16.2	30	9.5	0.85	0.17	17/10/2002 11:07
	XBT 5	-52.67878	-37.3101	-52	40.73	-37	18.6	16.2	30	10.5	0.77	0.17	17/10/2002 12:47
	XBT 6	-52.93778	-37.1835	-52	56.27	-37	11.01	16.2	30	10.5	0.77	0.17	17/10/2002 14:27
	XBT 7	-53.19666	-37.0557	-53	11.8	-37	3.34	16.2	30	10	0.81	0.17	17/10/2002 16:09
	XBT 8	-53.45544	-36.9265	-53	27.33	-36	55.59	16.2	30	12	0.68	0.17	17/10/2002 18:03
end of xbt transect	XBT 9	-53.7	-36.8	-53	42.8	-36	47.8	16.2	30	8.5	3.5	0.2	17/10/2002 19:47