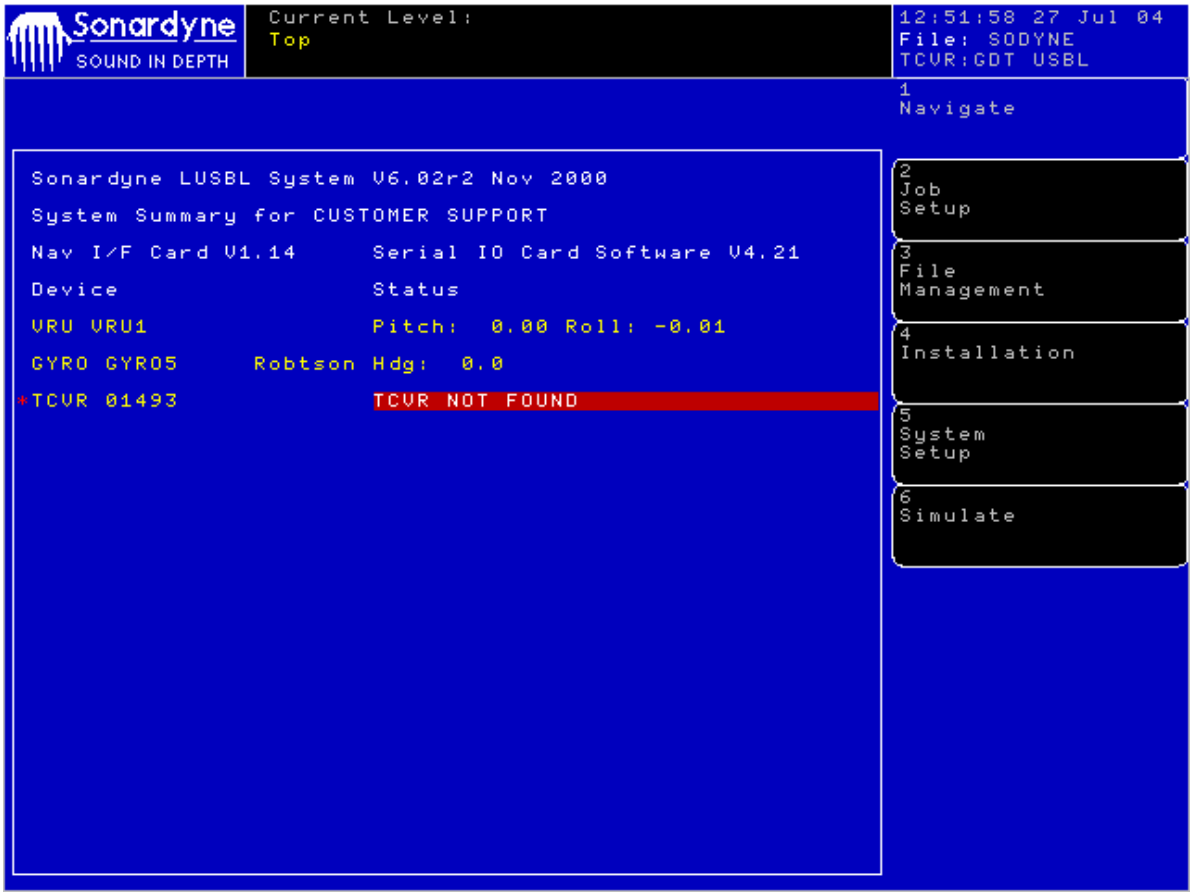
SONARDYNE INTERNATIONAL LTD.			
TECHNICAL BULLETIN			
No: 04-006	**Issue: A**	**Date: 27-09-04**	**Page 1 of 7**
Prepared By: JJP		**Sig:**	**Date:**
Checked By: BAK	**Title : Compatibility of new digital USBL transceiver with old V6 L/USBL software.**	**Sig:**	**Date:**

Background

Some older versions of Sonardyne's L/USBL software do not allow sufficient time to allow a connection to be established to the latest generation of Generic Digital Transceivers (GDT).

This problem manifests itself by the 'Polling Page' displaying 'TCVR NOT FOUND' as if shown below.



Explanation

The problem exhibits itself with L/USBL Type 7784 Navigation Processor installed with software versions prior to V6.03, when using new transceiver Types 8021 and 8023 (yellow housings) with firmware later than V6.07.

Due to the generic nature of the GDT hardware, it takes longer for the transceiver to be ready for the first command than with previous transceivers. Older versions of L/USBL software do not allow enough time after reset, and so the transceiver does not appear to respond to the command. The software therefore thinks the transceiver is not found, so displaying the message “TCVR NOT FOUND” as shown above.

V6 LUSBL System

GDT Transceiver

Solution

Upgrade

Installing the latest version of L/USBL software resolves this problem. Please contact Sonardyne to discuss the provision of the latest L/USBL software, as this is linked to the status of the CPU in the Navigation Processor. Versions of L/USBL software later than V6.02r2 require a CPU PCB in the Navigation Processor with at least 8Mb of RAM. Older systems were delivered with CPUs with only 4Mb of RAM, which means an upgrade to a new CPU board may also be necessary.

The CPU version can be identified by the ident on the lefthand handle of the PCB.

CPU Type	IDENT ON HANDLE
25 MHz 4MB	167 –01B or 167-001BE
33MHz 8MB	167- 32 B
25MHz 8MB	167P – 24SE
25MHz 8MB	167P – 34SE

Upgrading to the latest version of software also enables many new features of the GDT transceiver, including :

- Sonardyne SSM / PGT beacon types
- Simrad HPR-400 series channels (RPT & MPT tracking)
- AODC beacon tracking

In addition:

When using GDT transceivers Sonardyne's new ping stacking algorithm becomes available which allows true acoustic updates or cycle time to be achieved more quickly by interleaving ranging cycles. This has the benefit of supplying faster, more stable positioning.

The latest version of L/USBL software also supports :

- Serial VRU's
- Magnetic compasses
- Synchronisation of system clock and acoustic cycles to UTC time

Work around

There is a workaround available for immediate use offshore to get the new transceiver to work with the older software.

This works by introducing a ‘dummy transceiver’ into the system before the actual transceiver. This is a transceiver that does not really exist but the system spends a small amount of time attempting to find the dummy transceiver before looking for the new one.

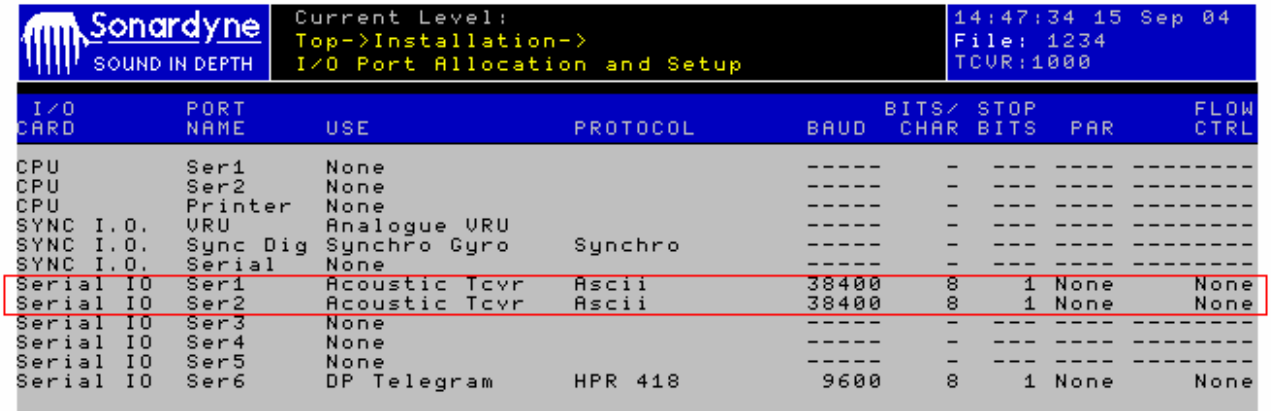
The procedure below can be used as an aid for adding a new transceiver to a V6 system, and verifying correct operation.

INSTALLING OF GDT HEAD WITH PROCESSOR SOFTWARE V6.02

1) WITH THE PROCESSOR POWER OFF, CONNECT THE HEAD TO THE PROCESSOR ON PORT 1 OR PORT 2 BEHIND THE PROCESSOR. DOES NOT MATTER WHICH PORT IS CONNECTED TO THE HEAD.

2) POWER UP THE PROCESSOR, YOU WILL SEE THE MAIN POLLING PAGE. THEN ON THE RIGHT HAND MENU, SELECT '4 INSTALLATION' BY PRESSING THE NUMBER '4' ON THE KEYBOARD.

3) SELECT 4 AGAIN (I/O PORT ALLOCATION). YOU WILL SEE A PAGE OF ITEMS. LOOK FOR THE HEADING 'SERIAL I/O 1 AND 2' IN THE LEFT COLUMN. SELECT THESE PORTS ATTRIBUTES TO SHOW THE FOLLOWING :



I/O CARD	PORT NAME	USE	PROTOCOL	BAUD	BITS/ CHAR	STOP BITS	PAR	FLOW CTRL
CPU	Ser1	None		-----	-	---	----	--------
CPU	Ser2	None		-----	-	---	----	--------
CPU	Printer	None		-----	-	---	----	--------
SYNC I.O.	VRU	Analogue VRU		-----	-	---	----	--------
SYNC I.O.	Sync Dig	Synchro Gyro	Synchro	-----	-	---	----	--------
SYNC I.O.	Serial	None		-----	-	---	----	--------
Serial IO	Ser1	Acoustic Tcvr	Ascii	38400	8	1	None	None
Serial IO	Ser2	Acoustic Tcvr	Ascii	38400	8	1	None	None
Serial IO	Ser3	None		-----	-	---	----	--------
Serial IO	Ser4	None		-----	-	---	----	--------
Serial IO	Ser5	None		-----	-	---	----	--------
Serial IO	Ser6	DP Telegram	HPR 418	9600	8	1	None	None

note:only change the settings shown in the rectangle, setting outside this area may be different, and may not necessarily match the settings shown.

4) THE SETTINGS ARE CHANGED BY HIGHLIGHTING THE RELAVENT ATTRIBUTE (BAUD, STOP BITS etc.), PRESSING 'ENTER', USING THE UP AND DOWN ARROW KEYS TO SET THE CORRECT ATTRIBUTE AND THEN PRESSING 'ENTER' AGAIN TO FINALY SELECT.

5) HIT THE 'ESCAPE' KEY **ONCE** TO SAVE THE INFORMATION.

6) SELECT MENU OPTION 1 'ACOUSTIC TRANSCEIVERS'

7) CREATE A DUMMY HEAD (ANY NUMBER BETWEEN 1000 TO 1200) .

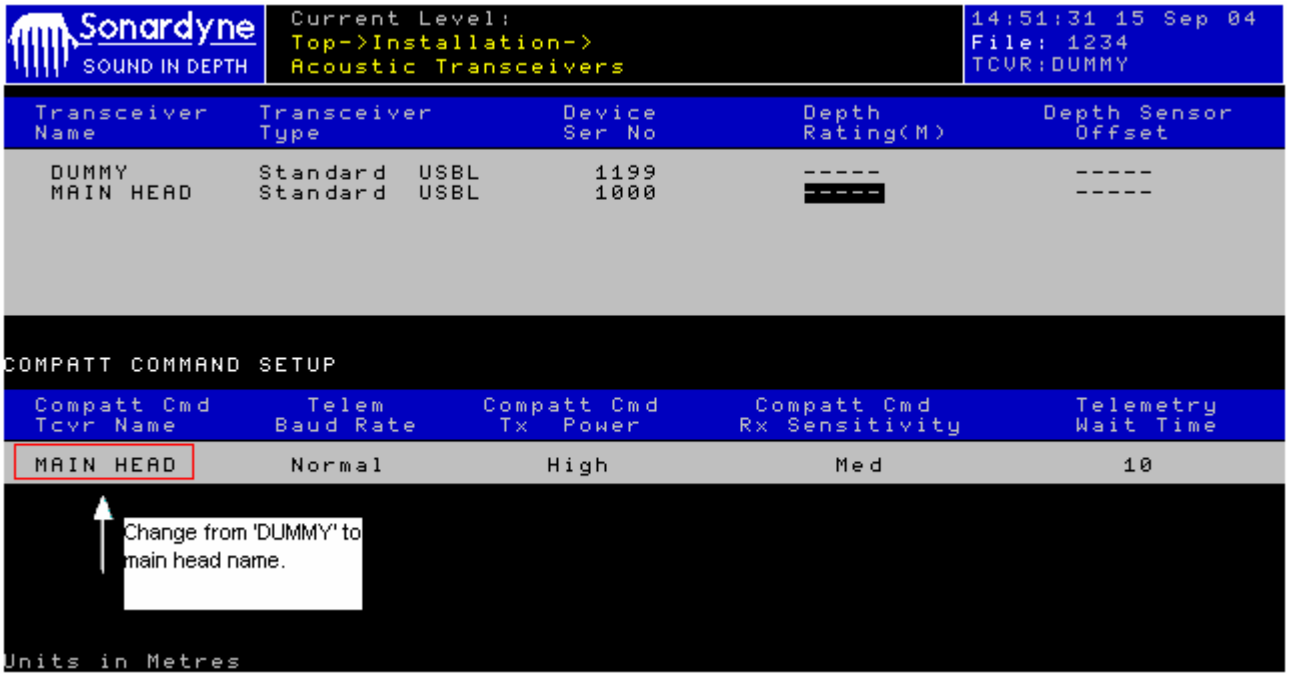
8) CREATE A DEVICE FOR THE ACTUAL HEAD , USE THE DEVICE NUMBER ON THE HOUSING.

9) ON THE LOWER HALF OF THE SCREEN UNDER HEADING 'COMPATT COMMAND SETUP':

NAME. CHANGE IT FROM ***DUMMY*** TO WHATEVER NAME OF THE ACTUAL

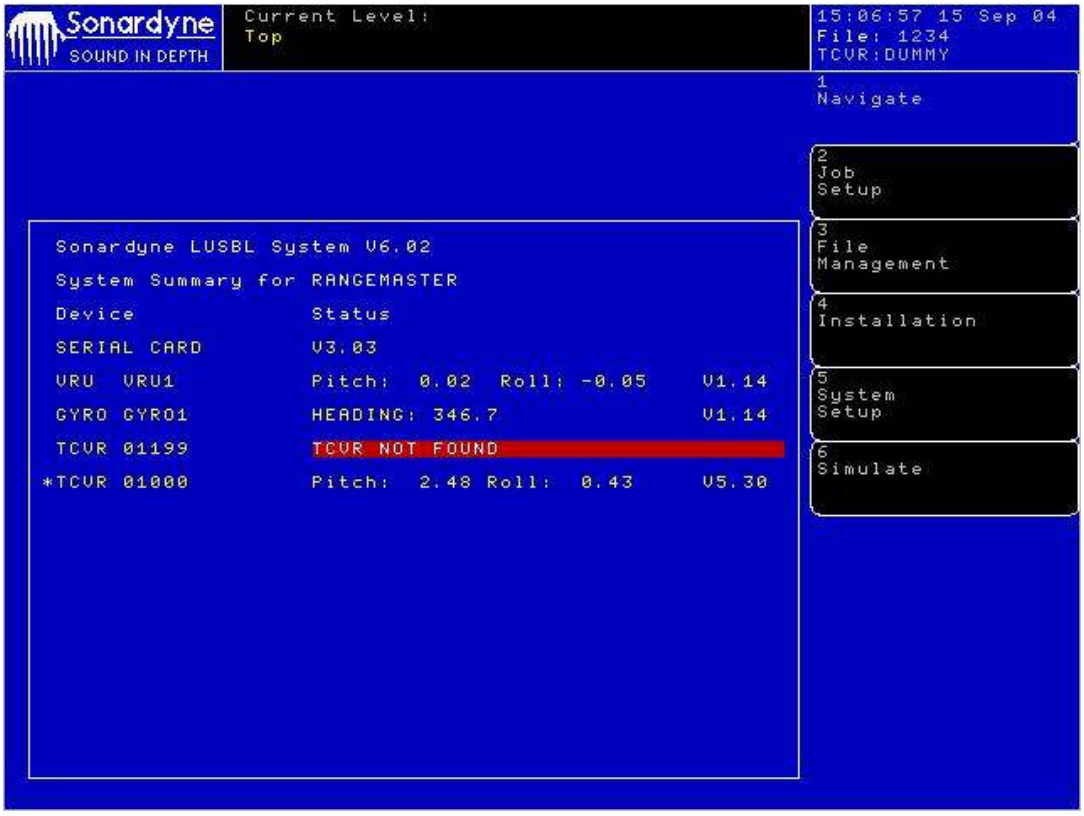
TRANSCEIVER.

PRESS 'ENTER' AND PRESS 'ESCAPE' KEY 2 TIMES TO SAVE AND GO TO MAIN POLLING PAGE.



10) NOW USE UP ARROW KEY (↑) TO THE MENU 1 (NAVIGATE) , DO NOT HIT THE 'ENTER' KEY.
11) THE TOP LEVEL POLLING PAGE CAN BE OBSERVED WHERE THE STATUS OF MANY POSSIBLE DEVICES CAN BE OBSERVED

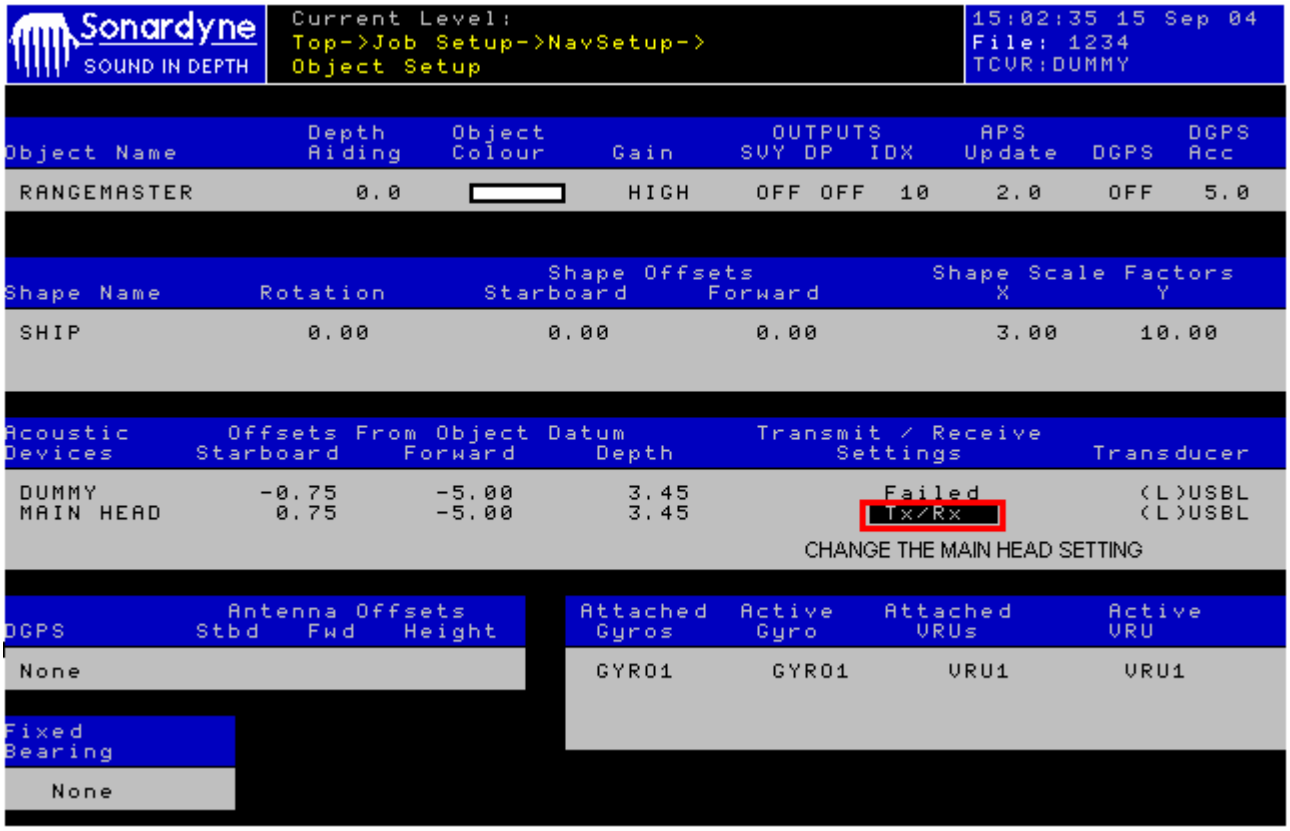
12) EXAMPLE :



13) SELECT MENU 2 (JOBSETUP) BY PRESSING '2'. FROM THE NEXT MENU SELECT 1 (NAVIGATION SETUP) BY PRESSING 1.

14) SCROLL THE CURSOR DOWN TO OBJECT POSITIONING BY REF BCNS AND DGPS SECTION. HIGHLIGHT THE (USUALLY VESSEL) NAME IN THIS RECTANGLE AND THEN PRESS 'ENTER' KEY.

15) NOW SCROLL THE CURSOR TO SECTION 'ACOUSTIC DEVICE', HIGHLIGHT THE TRANSMIT/RECEIVE SETTINGS FOR THE MAIN HEAD AND SELECT Tx/Rx USING THE ENTER KEY AND UP AND DOWN ARROWS.



16) PRESS ESCAPE 3 TIMES RETURN TO THE TOP LEVEL AND SAVE THE SETTINGS.

17) ENTER NAVIGATE MODE BY PRESSING 1, ENSURE THAT THE MESSAGE ‘TRANSCEIVER NOT FOUND’ MESSAGE DOES NOT APPEAR AT THE TOP OF THE SCREEN IN THE STATUS WINDOW.