IP RECEIVER

Model GRx8-32

Instruction Manual





1963 rue Frank-Carrel, suite 203 Québec (QC), Canada, G1N 2E6 Tel.: +1 (418) 478-5469

E-Mail: info@gddinstruments.com Web site: www.gddinstruments.com

Visit our web site at:

www.gddinstruments.com

To:

- Discover GDD's new products.
- Download the latest version of the Instruction Manual.
- Comment on or ask questions about products.

TABLE OF CONTENTS

	duction5
	iver Accessories
3. Receiv	iver Components
4. Powe	er11
•	start Guide
6. RS232	2/Bluetooth Communication22
7. Cold wea	ather and harsh environments tips23
8. Tools	Menu24
8.1 Cor	nfig option26
8.1.1 9	Setup
8.1.2 F	Position
8.1.3 \	Windows
8.1.4 9	Synchronization
8.2 Spe	ecial option
8.2.1 F	Reinit
8.2.2 9	Simulation
8.2.3 9	Signal Processing Options43
8.2.4 E	Battery type
8.2.5 Op	pen Port
8.3 Sho	ow option47
8.3.1 H	Hotkeys
	Pseudosection
8.3.3 9	Signal
8.3.3.	
	3.3.1.1 Auto Correction52
8.3	3.3.1.2 Restore
8.3	3.3.1.3 PAUSE/GO
8.3.4 (8.3.5 \	8.3.1.3 PAUSE/GO
8.3.4 (8.3.5 \ 8.3.6 S	8.3.1.3 PAUSE/GO
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [8.3.8 S	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [8.3.8 S 8.3.9 S	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [8.3.8 S 8.3.9 S 8.3.9 S 8.4 Ray	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58w Data Option59
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [8.3.8 S 8.3.9 S 8.3.9 S 8.4 Ray	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58
8.3.4 8.3.5 8.3.6 8.3.7 8.3.8 8.3.9 8.3.9 8.4 8.4.1 8.4.1 8.4.2 8.4.2	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58w Data Option59Check GPS59Start Recording (raw data)62
8.3.4 (8.3.5 \ 8.3.6 S 8.3.7 [8.3.8 S 8.3.9 S 8.4 Ray 8.4.1 (8.4.2 S 8.5 Me	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58w Data Option59Check GPS59Start Recording (raw data)62emory Option65
8.3.4 (8.3.5) 8.3.6 (8.3.7 [8.3.8 (8.3.9 (8.3.9 (8.3.9 (8.4.1 (8.4.1 (8.4.2 (8.4.2 (8.5 (8.5 ())))))))))))))))))))))))))))))))))))	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58w Data Option59Check GPS59Start Recording (raw data)62emory Option65
8.3.4 8.3.5 8.3.6 8.3.7 8.3.8 8.3.9 8.4 8.4.1 8.4.1 8.4.2 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5 8.5	3.3.1.3PAUSE/GO53Contact and Noise53Vp and Cycle54Show M and errM55Decay Curve56Show Windows57Show Sp58w Data Option59Check GPS59Start Recording (raw data)62emory Option65

8.5.4 Cle	ear Mem	58
8.5.5 Sa	ve File	59
8.6 Abou	It Option	73
9. Transfe	erring data	74
9.1 Activ	eSync	74
9.1.1 Ins	stallation and settings	74
9.1.2 Es	tablishing connection with a desktop PC	75
9.1.3 Tra	ansferring file(s) from the Allegro Mx to a desktop PC	76
9.2 Wind	lows Mobile Device Center	79
9.2.1 Ins	stallation and settings	79
9.2.2 Es	tablishing connection with a desktop PC	30
9.2.3 Tra	ansferring file(s) from the Allegro Mx to a desktop PC	31
10. Bluetoc	oth configuration	34
11. GDD Rx	software update	<i>39</i>
12. Trouble	eshooting) 3
13. Specific	rations)2
13.1 Gene	eral specifications)2
13.2 Tech	nical specifications10)2
14. Technic	al help)4
Annex 1 – Ge	eometrical parameters)5
Annex 2 – 3D) Survey	l1
Annex 3 – Fie	eld survey setup	23
Annex 4 – Ex	ample Dump File14	1 5

1. Introduction

The highly sensitive GDD IP Receiver models GRx8-32 is a compact unit designed for high productivity resistivity and time-domain induced polarization (IP) surveys in mineral exploration, groundwater exploration, geotechnical investigations and other related fields. It features high capabilities allowing it to work in any field conditions. It can be configured for multi-pole or multi-dipole reception. The receiver uses a PDA handheld PC to process data acquisition and the software can easily be updated via internet.

Characteristics:

- **Reception poles/dipoles:** 8 poles/dipoles, expandable to 32, for dipole-dipole, pole-dipole or pole-pole arrays.
- **Programmable windows:** The GRx8-32 offers twenty fully programmable windows for higher flexibility in defining the IP decay curve.
- User modes available: Arithmetic, logarithmic, semi-logarithmic, Cole-Cole and user defined.
- **IP display:** Chargeability values, Apparent Resistivity, IP decay curves and pseudosections can be displayed in real time thanks to the QVGA screen. Before data acquisition, the GRx8-32 can be used as a one channel graphic display for monitoring the noise level and checking the primary voltage waveform through a continuous display process.
- **Internal memory**: Capacity to store up to 64 000 readings for 8 poles/dipoles, memory expandable to 512 000 readings on the PDA model. Each reading includes the full set of parameters characterizing measurements. Data is stored on flash type memory that does not require any lithium battery for safeguard purposes.
- Full wave data with IP Post-Processing software: The GRx8-32 records and saves the full wave data (*.mem file). This raw data can be imported, visualized and processed using GDD's IP Post-Processing software.

2. Receiver Accessories

А	1x	IP receiver, model GRx8-32
В	1x	GDD Instruction manual
С	1x	IP receiver power supply (or charger)
D		Blue cables with black banana connectors or red banana connectors
Е	1x	UART programming adapter (Boot Loader)
F	1x	Allegro Mx field computer
G	1x	Allegro Mx wall charger
Н	1x	Standard serial communication cable
I	2x	Rugged serial communication cable (Amphenol connector)
J	1x	Allegro Mx pen-style stylus (black and white)
К	1x	Allegro Mx shoulder strap
L	1x	Allegro Mx hand strap
Μ	2x	Allegro Mx NI-MH battery pack 3.6V 4000mAh
Ν	1x	External NIMH battery pack charger with its adapter
Р	1x	Allegro Mx AA battery holder
Q	1x	Charger with four (4) rechargeable batteries
R	1x	Allegro Mx desktop synchronization cradle
S	1x	USB communication cable for cradle
Т	1x	USB communication cable
U	1x	External battery pack Li-Ion batteries
V	1x	Allegro Mx Holster case
W	1x	International adapters for the IP Receiver, Allegro MX and external Ni-MH battery
	_	pack
Х	1x	External GPS antenna (SMA connector)
Y	1x	Input signals connector (41 positions)
Z	2x	Allegro On-Board stylus (mini)
AA	1x	Power supply for external Ni-MH battery pack holder
BB	1x	Car adapter

Not shown on the illustration:

- 1x Allegro Documentation
- 1x Blue carrying case
- 1x IP Receiver documentation CD/USB Stick
- 1x GDD-RTE01 communication box with USB cable (optional accessory)

Optional accessories

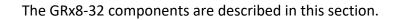
GDD-BP02 External battery pack (*for 8, 10 to 16 channels receivers*) 1x GDD-RTE01 communication box with USB cable

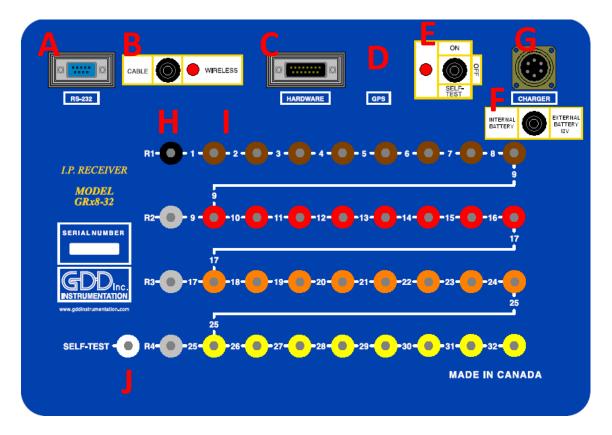




The items supplied with the device and available accessories may differ from the picture.

3. Receiver Components





A - RS-232 connector - 9 pin serial communication port

This connector is used to connect the RS-232 cable between the Allegro Mx and the GRx8-32.

B - CABLE/WIRELESS switch

This switch is used to select CABLE (RS-232) or WIRELESS (Bluetooth) communication with the PDA. The red light indicates that the switch is in the WIRELESS position.

C - HARDWARE connector - 15 pin programming port

This connector is used to update the CPU and PLD software.

D - GPS Connector

This connector is used to connect an external GPS antenna (SMA).

E - ON/OFF/SELF-TEST switch

This switch is used to turn the GRx8-32 ON or to perform a self-test. The red light indicates that the GRx8-32 is ON or in the SELF-TEST position.

F - INTERNAL/EXTERNAL BATTERY switch

This switch is used to select the internal batteries or the external battery pack, provided by GDD.

G - CHARGER connector

This connector is used to charge the receiver batteries. The *Internal Battery / External Battery (F)* switch must be on *Internal battery*.

H - R1 to R4 terminals

In pole configuration, the reference terminals (R1 to R4) are the infinite electrodes. In dipole configuration, the reference terminal is the first electrode in differential with the second electrode.

I - NUMBERED terminals

These terminals are referenced to the Ref terminal (Ref is infinity in pole configuration). In dipole configuration, the numbered terminals are differential terminals.

J - SELF-TEST terminal

This terminal is used to perform a self-test.

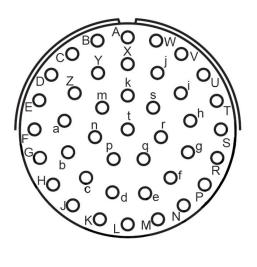


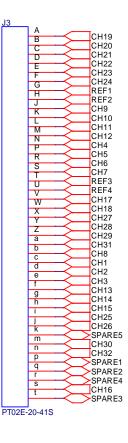
K - RS-232 external Connector

This connector is used to connect the rugged serial communication cable (Amphenol connector), which allows communication between the Allegro Mx and the GRx8-32 receiver.

L - Input signal connector

This connector is used to connect the wires coming from the electrodes to the receiver channels to keep the Pelican case closed while taking the readings. A cable mount connector (41 pos.) is included with the receiver accessories and can be used with the instrument.





M - External battery connector

This connector is used to connect the external battery pack. The Internal/External battery switch (F) must be on External battery position.

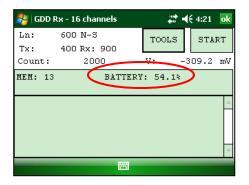
4. Power

GDD's IP Receiver, model GRx8-32, is powered by internal rechargeable Nickel Cadmium / Lithium-ion batteries or an external rechargeable Nickel Cadmium / Lithium-ion battery pack.

Refer to your receiver's charger to find out which type of batteries your receiver has.



The power level of the Rx internal batteries is indicated on the main screen of the Allegro of the GDD Rx software.

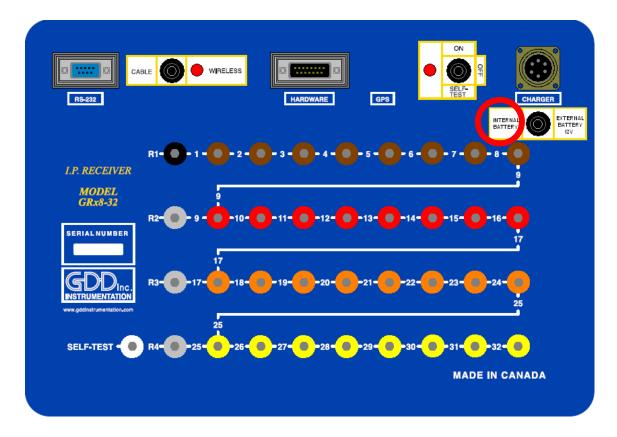


Here are a few tips for using and storing your **<u>lithium-ion</u>** powered receiver:

<u>Usage</u>

- Using a different battery power supply than the one supplied by GDD could damage the batteries and the receiver.
- The connector located on the back of the receiver is used to connect the External Battery Pack supplied by GDD. Connecting other external batteries using this connector could damage the batteries and the receiver.

- Do not replace the receiver's internal batteries without authorization and advice from GDD's technicians.
- The total operating time of the receiver depends on environmental conditions. Using the receiver in very cold weather (-20°C to -40°C) will lower the operating time.
- The receiver will turn itself off when the batteries reach a critical level.
- To extend battery life, avoid frequent full discharge and charge more often between each use.
- A LED under the *Internal battery* switch on the receiver is red when the batteries are charging. It turns off once the batteries are fully charged.



<u>Storage</u>

- To avoid permanent capacity loss, store the receiver and the external battery pack at 40% charge.
- Store the receiver and the external battery pack in a cool, dry place.
- Place the "Internal battery / External battery" switch on "External battery" position to minimize self-discharge of the batteries.
- If stored for several months, check the battery charge level every six months and recharge them to 50% if they are below 30% charge.
 Never store fully charged or completely discharged Lithium-Ion batteries for an extended period of time.

Here are a few tips for using and storing your **<u>Ni-CD</u>** powered receiver:

<u>Usage</u>

- Using a different battery power supply than the one supplied by GDD could damage the batteries and the receiver.
- The connector located on the back of the receiver is used to connect the External Battery Pack supplied by GDD. Connecting other external batteries using this connector could damage the batteries and the receiver. If the receiver does not have the external battery pack connector, use the Charger connector to connect the External battery pack.
- Do not replace the receiver internal batteries without the authorization and advice from GDD's technicians.
- The total operating time of the receiver will depend on the environmental conditions. Using the receiver in very cold weather $(-20^{\circ}C \text{ to } -40^{\circ}C)$ will lower the operating time.
- The receiver will turn itself off when the batteries reach a critical level.
- To extend battery life, avoid frequent full discharge and charge more often between uses.

<u>Storage</u>

- To avoid permanent capacity loss, store the receiver and the external battery pack at 40% charge.
- Store the receiver and the external battery pack in a cool and dry place.
- Place the "Internal battery / External battery" switch on "External battery" position to minimize self-discharge of the batteries.
- If stored for several months, check the batteries charge level every six months and recharge them up to 50% if they are below 30% charge.

5. Quick Start Guide

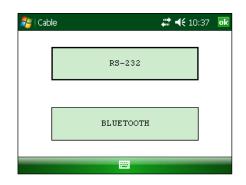
- 1. Connect electrodes into terminals.
- 2. Turn ON the IP receiver using the ON/OFF switch on the GRx8-32 panel.
- 3. Select the communication mode using the CABLE/WIRELESS switch on the GRx8-32 panel. In CABLE mode, the red light will turn ON only when the GRx8-32 software is active.
- 4. Connect the rugged serial communication cable (Amphenol connector) between the Allegro Mx (COM1) and the GRx8-32 RS-232 external connector (CABLE communication only).
- 5. Turn ON the Allegro Mx with the ON/OFF button.



6. Click on Start and select GDD RX.



7. Select the communication mode: RS-232 (CABLE) or BLUETOOTH (WIRELESS).



8. The following screen appears.

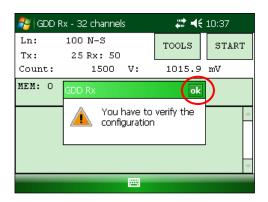
START TOOLS button: Rx Number of channels	/STOP &	a button: Exit GD button: Start or menu	
Line number and direction Transmitter and receiver position Trigger channel count and voltage Memory number and Rx battery level	Ln: Tx: Count: MEM: 0	Rx - 32 channels 100 N–S 25 Rx: 50 6300 V: BATTERY	Image: Start Image: Start Tools START 515.8 mV 7: 99.9%
			4

9. Click START or press Enter keystroke to begin the acquisition procedure.

Note: If you want to start the process by using the same settings than those of the previous acquisition procedure, press F5 button. You have to start the first acquisition normally before being able to use F5 for the next acquisitions. Using F5 will skip all configuration and contact resistance windows. If F1 to F5 keystrokes do not work on your Allegro Mx, see Section 12 – Troubleshooting.



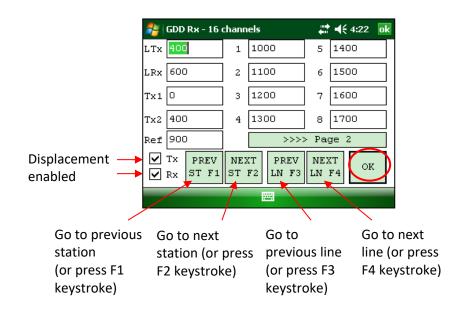
10. The following screen appears. Click OK to continue.



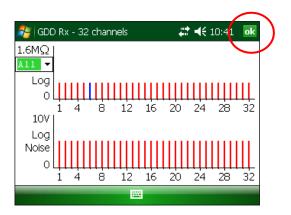
11. Enter the project, line, station, move displacement, etc. for Tx and Rx. Click OK or press Enter keystroke to continue.

🐉 GDD Rx - 32 cha	÷.	€ 10:40	ok			
Project:)ect					
Ln. Tx: 100	Rx: 100)	N-S ·	•		
Move LINE: Tx:	0	Rx:	0			
Station: Tx1:	0	Tx2:	25			
Station Rx:	50	Sep:	25			
Move ST.: Tx:	25	Rx:	25			
Setup Position Windows						

12. Verify if the positions are correct and click OK or press Enter keystroke to continue. If F1 to F4 keystroke do not work on your Allegro Mx, see *Section 12 – Troubleshooting*.



13. The Contact and Noise graph appears. If the values displayed are normal, click OK or press ESC keystroke to close the window.



14. Click NEXT or press Enter keystroke to continue.

*Note: If all stations show an INFINITE contact, the reference electrode might be disconnected.

卷 GDD Rx - 32 channels				##		ok	
Ln:	100	N-S		TOOL	S NEX	хт	
Tx:	251	Rx: 50					
Count:	2	9700 1	7:	4783	0.8 mV		
MEM: O BATTERY: 99.9%							
Statio	n (m):	Contac	t (k	Ohm)		-	
>	50:	9.9		75:	10.1	≡	
	100:	10.1		125:	10.2		
	150:	9.9		175:	9.9		
	200:	10.0		225:	10.1	•	

15. Enter the transmitter current and click CONFIRM or press Enter keystroke to start the readings.

💦 GDD Rx - 32 channels	🗱 📢 10:42 🛛 ok	卷 GDD Rx - 32 channels	🗱 📢 10:42 🛛 💀
Current:		Current:	
٥	mA	1000	mA
CONFIRM		CONFIRM	>
CANCEL		CANCEL	

16. The following screens appear.

🏂 GDD I	Rx - 32 channels	₽	10:50 ok	考 G	DD Rx - 32 ch	annels	# 4	€ 10:51	ok
Ln: Tx:	100 N-S 25 Rx: 50	TOOLS	STOP	Ln: Tx:	100 N- 25 Rx	: 50	TOOLS	STOP	2
Count:	30300 V:	15.0	mV	Coun	t: 324	100 V:	4.9	9 mV	
MEM: O	BATTERY	: 99.9∜		MEM: CH	0 B: 99.5 Rho	% Stack: Vp		DO.O ErrM	
			4	01 02 03 04 05	78.58 4.54 3.00 0.64 1.02	1.016	0.023 143.63 -97.795 875.46 -278.08	99.99 67.24 99.99	

If using the optional GDD-RTE01 communication box (refer to section 8.2.5) to collect live information broadcasted by the GDD Tx4 IP transmitter, the Tx current "I" and power "P" can be displayed alternatively in the Rx main screen under the TOOLS and STOP/START buttons. To switch from one information to the other, use the following shortcut Key: "V" or click on the text label directly on the screen.

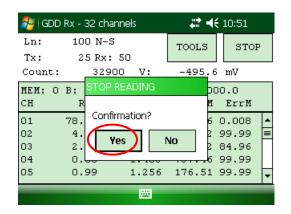
GDD Rx - 8 Ln: Tx: Count:	3 channels 1 N-S 500 Rx: 0 200	TOOLS I:	€ 000 12:26 START 9820 mA	GDD Rx - 8 Ln: Tx: Count:	3 channels 1 N−S 500 Rx: 0 1000	B:	4€ 000 12:27 START 4850 W
MEM: 0	BATTEI	RY: 99.0%	^	MEM: 0	BAT	TERY: 99.0	*
Æ		_	ОК				ОК

If no transmitter information can be received at the GRx8-32, the following symbol will be displayed instead of I and P: N/A.

17. Click STOP or wait until the end of the acquisition to stop the readings and save the data.

鸄 GDD	Rx - 32 cha	#‡ +€	10:51	ok							
Ln:	100 N-S		TOOLS	STOP							
Tx:	25 Rx:	50									
Count:	3240	00 V:	4.9	mV							
MEM: O	B: 99.5%	Stack:	3 I: 100	10.0							
CH	Rho	Vp	M	ErrM							
01	78.58	500.276	0.023	0.011	-						
02	4.54	14.449	143.63	99.99	≡						
03	3.00	6.376	-97.795	67.24							
04	0.64	1.016	875.46	99.99							
05	1.02	1.297	-278.08	99.99	•						

18. Click YES to confirm the operation.



19. Click YES to save readings into the memory.

鸄 GDD	Rx -	32 channels	#* •	K	10:51	
Ln:	10	00 N-S	TOOLS		STAR	т
Tx:	2	25 Rx: 50				
Count:		33500 V:	1015.	6	mV	
MEM: O	в:	SAVE		100).0	
СН	1	Do you want to s	ave the	[ErrM	
01	78	reading?		C	.007	-
02	4			17	78.89	≡
03	1	Yes	No	8	30.49	
04	o			ļ 9	9.99	
05	Ο.	.81 1.028	-73.386	5 9	9.99	-

20. Re-enter the transmitter's output current value if it has changed and click CONFIRM to save the current value.

If using the optional GDD-RTE01 communication box (refer to section 8.2.5) to collect live information broadcasted by the GDD Tx4 IP transmitter, this menu will show additional Tx current options to choose as the final "I" value. These are the first "I" transmitted, the average "AI" (with information regarding Standard Deviation "SI" and average time between each Tx values broadcasted "AT") and the last "I" transmitted. Click on one of the corresponding button.

GDD Rx - 8 channels	🕅 🕵 🏹 📢 🎹 12:47	GDD Rx - 8 chann	nels 🖹 🎗	→ Y _x +< (Ⅲ 12:43)
		First I: 9400 mA	AI: 7700 mA SI: 3851 mA AT: 2.0 sec	Last I: 0 mA
Current: 9400	mA	Current	9400	mA
CONFIRM	CANCEL	CONFI	RM	CANCEL
🗌 Redo po	ositions	[Redo positior	15
	в) ОК)			ОК

Check the REDO POSITIONS option to change the transmitter or receiver position.

Note: This option alters the reading that was just completed in order to correct or revise the coordinates before saving the reading to the file. It should not be used to pre-set the next reading.



If the REDO POSITIONS option is checked, enter the transmitter and receiver position and click OK or press Enter keystroke.

*Each position can be changed individually or moved by clicking Next or Prev (or by using F1 to F4 keystrokes).



If F1 to F5 keystrokes do not work, see Section 12 - Troubleshooting).

NOTE: Once your acquisition is completed, use Left and Right arrow buttons on the keypad of the Allegro to compare your current data with that of your previous acquisitions. Use the Up and Down arrows to see all the channels. By clicking on Start, the program will automatically come back to the last acquisition and will start a new acquisition procedure.

	롿 GDD	Rx - 32 ch	annels		€ 1:39	ok	2	5	GDD Rx - 3	2 channels	÷.		€ 1:39 ok	¢
	Ln:	600 N-	ន	TOOLS	STAR	т	L	.n:	: 600	N-S	TOOLS		START	1
	Tx:	400 Rx	: 900	10020		``	Т	ſx:	: 400)Rx: 900	TOOL		, DIMIN	
	Count:	1093	300	V:	471.2	mV	с	ou	int:	110000	V:		32.8 mV	7
	МЕМ: 1. СН	B: 41.	1% Stack: Vp		000.0 ErrM					40.9% Stack: no Vp			DO.O ErrM	
trum	01 ·	425.17	125.651	8.214	0.036	-	3-07-17	1 4	425735.	54 125.817	8.12	0 0	0.028 🔺	•
strum		999.43	251.486	8.156		=		-	86251.0		30.04			
		723.58 602.36	376.776 502.223	8.171 8.162			03		147013.(240009.(20.97			
	05 3	642.66	628.767	8.155	0.003	•	03	53	357762.7	61.754	89.67	6 1	1.057 🚽	•

21. Repeat steps 9 through 20 to take another set of readings.

6. RS232/Bluetooth Communication

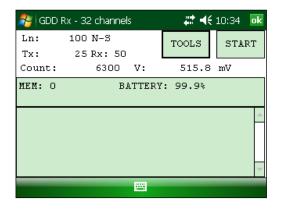
1. Select the "RS-232" communication mode to use the GRx8-32 with a serial communication cable.



2. Select the "BLUETOOTH" communication mode to use the GRx8-32 with a wireless connection.



3. The following screen appears and you are ready to begin.



In Bluetooth mode, if a "COM Error" message appears, see Section 12 – Troubleshooting.

7. Cold weather and harsh environments tips

The GRx8-32 receiver is designed to be used in cold weather (up to -40°C) but it is very important to consider these few tips to prevent damages or malfunctions:

- 1. Never charge the internal batteries of the GRx8-32 in sub-zero;
- 2. As much as possible, turn on the GRx8-32 receiver in a warm place before using it in cold weather;
- 3. Never turn off the GRx8-32 receiver when using it in cold weather to keep the batteries warm;
- 4. If possible, use the serial communication (RS-232 cable) between the Allegro PDA and the GRx8-32 to prevent malfunction of the Bluetooth communication, and to maximize the battery charge.

When using the GRx8-32 receiver during rainy days, please consider the following tips to ensure a long term instrumental reliability:

- The receiver's control panel, including each connector and input channel, is water resistant. Nevertheless, it is important to bring the receiver back at the base of operation after each day, to leave the pelican case lid open and to remove the connectors' cap so that humidity is freed from the instrument;
- 2. If possible while collecting data, close the lid of the pelican case to avoid water to soak the jack connectors and potentially short the channels;

8. Tools Menu

Click TOOLS to select one of the following options:

	DD Rx - 16 cha	# ◄	€ 4:	:57	ok	
Ln:	600 N-9	TOOLS	92	STAF	RΤ	
Tx:	400 Rx:	900				
Coun	t: 1069	<u>C</u> onfig		.0	mV	
MEM:	14 B: 50.	0% Stack:	<u>Special</u>		0	
CH	Rho	Vp	S <u>h</u> ow	•	rM	
01	103.60	-2.832	<u>R</u> aw Data	• •	00	-
02	1.07	-0.021	Memory	+	00	=
03	0.27	0.004	About		00	
04	0.15	0.002	328.49	0.0	ioo	
05	10.16	0.082	999.99	0.0	000	•

Config

Use the CONFIG option to change:

- Staking parameters
- Electrode array
- Active channel
- Trigger channel
- Line number and position
- Transmitter and receiver position
- Signal timing
- Mode
- GPS time synchronization

Special

Use the SPECIAL option to:

- Reinitialize the GRx8-32
- Test the GRx8-32 with the internal simulator
- Set signal processing options
- Select battery type (if not automatically detected)
- Open Port (enables the RF (radio frequency) communication between GDD's IP transmitter Tx4 and receiver using the optional GDD-RTE01 box.

<u>Show</u>

Use the SHOW option to display:

- Hotkeys (shortcut keys menu)
- PseudoSection
- Signal graph
- Contact and Noise monitor graph
- Vp and Cycle synchronization graph
- Decay curve
- Windows chargeability
- SP (self-potential)

Raw Data

Use Raw Data option to:

- Check GPS
- Start recording a Binary Data File (.bdf)

Memory

Use the MEMORY option to:

- See the History
- Recall the previous memory
- Clear the memory
- Save data in a file

<u>About</u>

Use the ABOUT option to display the GDD Rx software version number.

8.1 Config option

8.1.1 Setup

The SETUP option is used to set the electrode arrays, the active channel(s) and the trigger channel.

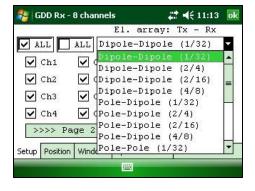
1. Select Tools | Config | Setup. The following window appears.

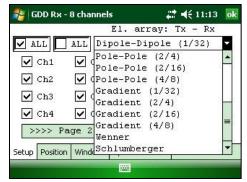
🏂 GDD Rx - 16 cha	annels		 € 4:	57	ok	鸄 GDI	D Rx - 3	32 chanr
Ln: 600 N-3 Tx: 400 Rx:	-	TOOLS	5	TAR	Т	🔽 ALI		ALL P
Count: 1069	00	<u>C</u> onfig		.0 :	mV	⊡⊂	 h1	Ch.
MEM: 14 B: 50. CH Rho	O% Stack: Vp	<u>S</u> pecial S <u>h</u> ow	+	O rM		v c	h2	🖌 Ch
01 103.60	-2.832	<u>R</u> aw Data Memory	_	00		ା ହ ା ହାର		Ch'
02 1.07 03 0.27	-0.021 0.004	About		00 00	=		n4 ≻> Paq	ע Chi ae 2
04 0.15 05 10.16	0.002 0.082	328.49 999.99	0.0 0.0		-		Position	
			_					

2 5	GDD Rx - 3	32 channels	÷	◀€ 10:56	ok
		El	. array:	Tx – Rx	
$\mathbf{\nabla}$	ALL	ALL Pole-	-Pole		•
	Ch1	🖌 Ch5	🖌 Ch9	🖌 Ch13	
	Ch2	🖌 Ch6	🖌 Ch10	🖌 Ch14	
	СһЗ	🖌 Ch7	🖌 Ch11	🗸 Ch15	
	Ch4	🖌 Ch8	🖌 Ch12	🖌 Ch16	
	>>>> Pa	ge 2 Tr	igger on:	1 •	
Setu	up Positio	n Windows			
		l			

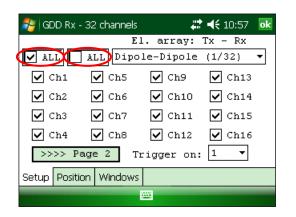
- 2. Select the electrode arrays configuration.
 - Dipole-Dipole (1/32)
 - Dipole-Dipole (2/4)*
 - Dipole-Dipole (2/16)
 - Dipole-Dipole (4/8)
 - Pole-Dipole (1/32)
 - Pole-Dipole (2/4)*
 - Pole-Dipole (2/16)
 - Pole-Dipole (4/8)
 - Pole-Pole (1/32)
 - Pole-Pole (2/4)*
 - Pole-Pole (2/16)
 - Pole-Pole (4/8)
 - Gradient (1/32)
 - Gradient (2/4)*
 - Gradient (2/16)
 - Gradient (4/8)
 - Wenner
 - Schlumberger

*For GRx8*mini* model only



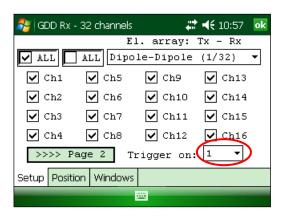


3. Check the active channel(s). Tap on the **□** ALL checkbox to select all channels, or tap on the **□** ALL checkbox to unselect all channels.



For a 32 channels receiver, channels 17-32 are shown on the second page. Click on the Page 2 button to see them.

4. Select the trigger channel, this channel is used for the synchronization process.



8.1.2 Position

The POSITION tab is used to set the following parameters: the Tx line number, the Rx line number, the line direction, the transmitter position (Tx1 and Tx2), the receiver position, the separation, the transmitter movement offset and the receiver movement offset.

1. Select Tools | Config | Position. The following screen appears.

🐴 G	DD Rx - 16 cha	nnels	t‡ ₹	€ 4:57	ok	🚑 GDD Rx - 32 c	:hanr	nels	ŧ	(; 10:57	ok
Ln:	600 N-S		TOOLS	STA	RT	Project	:: [t	est proj	ject		
Tx: Coun	400 Rx: t: 10690		<u>C</u> onfig	.0	mV	Ln. Tx: 100		Rx: 100	2	N-S	•
MEM:	14 B: 50.0)% Stack:		<u> </u>		Move LINE: T	<: [)	Rx:	o	
CH	Rho	Vp	Show	r M		Station: Tx:	1: 0)	Tx2:	25	
01 02	103.60 1.07	-2.832 -0.021	<u>R</u> aw Data <u>M</u> emory			Station R	(; [5	50	Sep:	25	-
03	0.27	0.004	About	00	Н	Move ST.: T	<: 2	5	Rx:	25	-
04 05	0.15 10.16	0.002 0.082	328.49 (999.99 (Setup Position V	Vindo	ows	1	L	

2. Enter the line number and select the line's direction.

🐉 GDD Rx - 32 channels 🛛 🗱 📢 10:57 💽	월 GDD Rx - 32 channels 🛛 🗱 📢 10:57 💀
Project: test project	Project: test project
Ln. Tx 100 Rx 100 N-S -	Ln. Tx: 100 Rx: 100 N-S
Move LINE: Tx: 0 Rx: 0	Move LINE: Tx: O Rx: O E-W
Station: Tx1: 0 Tx2: 25	Station: Tx1: 0 Tx2: 25
Station Rx: 50 Sep: 25	Station Rx: 50 Sep: 25
Move ST.: Tx: 25 Rx: 25	Move ST.: Tx: 25 Rx: 25
Setup Position Windows	Setup Position Windows

The labels N –S and E-W are used to define the direction of the lines.

3. Enter the first electrode position of the transmitter and receiver.

🐴 GDD Rx - 32 chan	- #	€ 10:57 ok						
Project:	ject							
Ln. Tx: 100	Rx: 100)	N-S 🔻					
Move LINE: Tx:	D	Rx:	0					
Station: Tx1:	D	Tx2:	25					
Station Rx:	50	Sep:	25					
Move ST.: Tx:	25	Rx:	25					
Setup Position Windows								

A negative number is used to define South and West.

4. Enter the separation between the electrodes of the receiver.

🐉 GDD Rx - 32 cha	nnels	- ## -	(10:57	ok
Project:	test prog	ject		
Ln. Tx: 100	Rx: 100)	N-S	•
Move LINE: Tx:	0	Rx:	0	
Station: Tx1:	0	Tx2:	25	
Station Rx:	50	Sep:	25	
Move ST.: Tx:	25	Rx:	25	
Setup Position Win	idows			

A negative number is used to define South and West.

5. Enter the moving distance of the transmitter and receiver electrodes.

🐴 GDD Rx - 32 cha	nnels	- # * •	📢 10:57 🛛 💽			
Project:	test proj	test project				
Ln. Tx: 100	Rx: 100	D	N-S 🔻			
Move LINE: Tx:	0	Rx:	0			
Station: Tx1:	0	Tx2:	25			
Station Rx:	50	Sep:	25			
Move ST.: Tx:	25	Rx:	25			
Setup Position Win	idows					

A negative number is used to define South and West.

8.1.3 Windows

Use the WINDOWS option to set the signal timing and the mode.

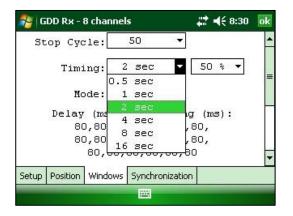
1. Select Tools | Config | Windows. The following screen appears.

	DD Rx - 16 char	nels		(4:57 ok		矝 GDD Rx - 8 channels	#‡ ◀€ 8:29	ok
Ln: Tx:	600 N-S 400 Rx:	000	TOOLS	START		Stop Cycle: 50 🔻		•
Coun			<u>C</u> onfig	.0 mV		Timing: 2 sec 🔻	50 % 🔻	
MEM: CH	14 B: 50.0 Rho	% Stack: Vp	<u>S</u> pecial S <u>h</u> ow) rM		Mode: Arith. 🔻		223.5
01 02	103.60 1.07	-2.832 -0.021	<u>R</u> aw Data Memory			Delay (ms): 240 Timing 80,80,80,80,80,80,80,80,	일	
03 04	0.27	0.004	<u>A</u> bout			80,80,80,80,80,80,80,8 80,80,80,80,80,80,80	- 1-1.54	
05	10.16	0.082	999.99		·	Setup Position Windows Synchronization		

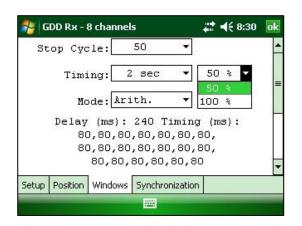
2. Select the maximum number of stacks.

餐 G	DD Rx -	B channel		🗱 📢 8:30 🛛 🔜				
St	op Cyc	le:	50	-		-		
			10	Ţ,				
	Timi	ng	15		50 🐐 🔻	1000		
			20			=		
	Mo	de	25					
	D = 1		30	H.		100		
	Delay		35	19				
),80	40		30, 30			
	80	,80	45		30,			
		80,	50	- P	J	-		
Setup	Position	Windows	Synchr	onization				

3. Select the signal timing.



4. Select the Duty Cycle (50% or 100%).



5. Select the mode (windows time definition).

🏂 GDD Rx - 8 cha	nnels	‡ ‡ 4 € 8:30 ok
Stop Cycle:	50	-
Timing:	2 sec	▼ 50 % ▼
Mode:	Arith.	
Delay (m 80,80 80,80 80,	Arith. Semi Log. Cole User Define	ug (ms): ,80, ,80, 80, 80 ▼
Setup Position Wind	lows Synchroniza	ition

• Arithmetic

• Semi logarithmic

Windows: 20 Delay (ms): 40 Timing (ms): 2000 40, 40, 40, 40, 40, 40, 80, 80, 80, 80, 80, 80, 80, 160, 160, 160, 160, 160, 160, 160 • Logarithmic

Windows: 4 Delay (ms): 160 Timing (ms): 2000 120, 220, 420, 820

• Cole

Windows: 20 Delay (ms): 20 Timing (ms): 2000 20, 30, 30, 30, 40, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 180, 200

• User defined

Windows: between 1 and 20 Delay (ms): user defined Timing (ms): user defined

In USER mode, you can load settings you have previously saved, or you can create new settings.



Click YES to load your settings from a previously saved file. This window will appear.

🐉 GDD Rx - 32 channels				# ◀€ 1:52		
Open						
Folder: All Folders Cancel Type: Windows Files (*.w2)						
Name	•	Folder	Date	Size		
myMode1.w2 userMode1.w2 userMode2.w2						
•				•		

In this dialog box, select your file. The Windows window appears automatically. Click OK. The saved values will be loaded in the User defined mode.

OR

Click NO to manually enter the delay and window(s) width.



Click OK when your settings are configured.

Click YES to save your new settings.

#	🏂 GDD Rx - 32 channels 🗱 ◀€ 10:59						
Delay (ms): 240			Timing (ms):				
01	80	06	80	11	80	16	80
02	80	SAVE	Ē			.7	80
03	80	Do you want to save the 8 80			80		
04	80	seti	tings?			.9	80
05	80		Yes		No	0	80
	OK CANCEL						
	🐉 GDD Rx - 32 channels 🛛 👫 ◀€ 1:56						

🔊 GDD I	Rx - 32 channels	#≇ ◀€ 1:56	
Save As			
Name:	I		
Folder:	None	•	
Туре:	Windows Files (*.w2)	•	
Location:	Storage	•	
Save Cancel			

Enter your filename and the location where you want to save your file. Then click SAVE. The User defined settings will be saved so you can reload them into the Allegro Pocket PC later.

OR

Click NO if you do not want to save your User defined settings to a file.

In all cases, you will be brought back to this display and the settings you have entered in the User defined window will be loaded into the Allegro Pocket PC.



8.1.4 Synchronization

Use the GPS time synchronization if you need to synchronize your receiver to your transmitter using GPS time.

Requirements:

- Your receiver must be equipped with an internal GPS module.
- Your Allegro PDA must have the Rx software version # 4.2.39 and your receiver must have Rx firmware # 0.2.5.9 (or newer versions).
- Your transmitter (itself or linked to another unit) must be synchronized with a GPS.
- 1. Refer to *Section 8.4* to verify if a satellite is being tracked by the GPS module of your receiver.
- 2. Select Tools | Config | Synchronization. The following screen appears.

🍣 GDD Rx - 8 channels	# # 4 € 11:10 ok	월 GDD Rx - 8 channels 🛛 👫 📢 11:46 🥫
Ln: 100 N-S Tx: 50 Rx: 75 Count: 32600	TOOLS START	Use GPS Time Synchronization
MEM: 3 B: 46.0% Stack CH Rho V	s <u>how</u> rM	WARNING: Make sure that the Transmitter is also synchronized
01 19.64 125.01		by GPS when enabling this option
02 78.61 250.20		
03 176.86 375.31	3 <u>A</u> bout 02 _	
04 314.14 499.96	5 7.952 0.001	
05 98.23 125.07	2 7.956 0.002 🗸	Setup Position Windows Synchronization

3. Check *Use GPS Time Synchronization* to enable the GPS synchronization.

🎥 GDD Rx - 8 channels	# # 4 € 11:46 ok
Use GPS Time Syn	nchronization
WARNING: make sure Transmitter is als by GPS when enabli	o synchronized
Setup Position Windows Synchro	nization
I	

IMPORTANT: Make sure that your transmitter is also synchronized by GPS before using this option.

Note that the GPS synchronization is disabled every time you start the program even if you checked it the last time you used it.

- 4. Before starting your acquisition process, make sure your transmitter and your receiver are well synchronized:
 - Wait for about 15 minutes before taking your first reading to ensure that the GPS module of the receiver gets the real UTC GPS time.
 - If possible, compare the GPS time of your transmitter with the GPS time of your receiver. They must have exactly the same GPS time (see *Section 8.4* to know how to get the GPS time of the receiver).
- 5. During the acquisition process, you can verify if your receiver is still synchronized with GPS (see *Section 8.4* to know how to verify the GPS signal):

GPS well synchronized

If you checked *Use GPS Time synchronization* and if a GPS signal is detected, your receiver will be synchronized with GPS.

GDD Rx - 32 channels 🛛 🖹 🗱 🏹 📢 🎟 10:54	GDD Rx - 8 channels
☑ Use GPS Time Synchronization	GPS Status: Detected Satellite: 8/8 GPS Time (UTC): 12/09/2017 15:34:34
WARNING: Make sure that the Transmitter is also synchronized by GPS when enabling this option	Satellite Signal Strength 48 46 40 43 43 47 50 43
Setup Position Windows Synchronization	19 03 22 12 02 06 17 28
Э	С

IMPORTANT: it does not confirm that your receiver is well synchronized with your transmitter. In the case that your transmitter and your receiver are not well synchronized together, your data could be erroneous.

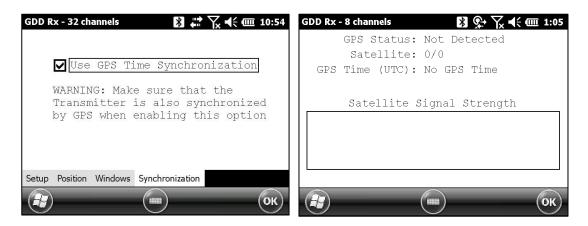
GPS signal lost for less than 5 hours

If you checked *Use GPS Time synchronization* and if the GPS signal is lost for less than 5 hours, your receiver will still be synchronized with GPS using the internal GPS clock.

GDD Rx - 32 channels 🛛 🔀 🗰 🏹 📢 🎹 10:54	GDD Rx - 8 channels 🛛 🚯 👷 🦕 📢 @ 1:06
	GPS Status: Not Detected
	Satellite: 0/8
Use GPS Time Synchronization	GPS Time (UTC): 12/09/2017 15:35:06
WARNING: Make sure that the	Holdover Time: 04h59
Transmitter is also synchronized	Satellite Signal Strength
by GPS when enabling this option	
Setup Position Windows Synchronization	19 03 22 12 02 06 24 17
(III) OK	

No GPS signal from the beginning, GPS signal lost for more than 5 hours or Use GPS Time synchronization unchecked

If your checked Use GPS Time synchronization and if there is no GPS signal or if it is lost for more than 5 hours, the receiver will automatically switch to synchronize with the ground signal.



Note that the data acquired with the GPS synchronization can be more accurate than those acquired with the ground signal, especially over noisy environment.

IMPORTANT: During the acquisition process, if all your Vp values are negative, you can switch the polarity of the current transmission at the transmitter (switch the wires at the HV block) and all de Vp will become positive.

6. The *.gps* output file indicates if the receiver is synchronized with signal or GPS (see *Section 8.5* to know how to create a *.gps* file).

Project:	Project				.0.0 RX 5							
Windows:	20 Setti	ng: User	Delay	(ms):	240 Timi	ng (ms):	80, 80, 80,	80, 80, 80,	80, 80	, 80, 80, 80,	80, 80, 80,	80, 8
Mem	Date	Hour		GPS	SyncBy	Array	LineTx	LineRx Di	r n	Tx1	Tx2	Rx1
1 27	/08/2015	19:25:25.	753399	YES	SIGNAL	DP-DP	100.00	100.00 N-	5 1.0	0.00	50.00	75.
	/08/2015					DP-DP	100.00	100.00 N-	5 2.0	0.00	50.00	100.
2 27	/08/2015	19:29:44.	062906	YES	GPS	P-P	100.00	100.00 N-	5 0.0	99999999.00	50.00	75.
	/08/2015					P-P	100.00	100.00 N-	5 0.0	9999999,00	50.00	100.

The *SyncBy* column indicates SIGNAL if the receiver is synchronized with the signal connected to the trigger channel and GPS if the receiver is synchronized with the GPS time.

IMPORTANT: Even if the file indicates that your receiver is synchronized with the GPS time, it does not confirm that your receiver is well synchronized with your transmitter. In the case that your transmitter and your receiver are not well synchronized together, your data could be erroneous.

8.2 Special option

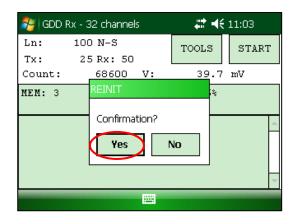
8.2.1 Reinit

The REINIT option is used to reset GRx8-32 configurations and communication with the Allegro Mx.

1. Select Tools | Special | Reinit



2. Click YES to reinitialize the GRx8-32.



Please ensure your MEM number is the same than before having reinitialized your GRx8-32. If MEM displays a 0 value, you may need to exit the GDD_Rx software, wait 15 seconds and start the application again. The MEM should be back to its original count. This issue happens when the PDA does not detect the memory card.

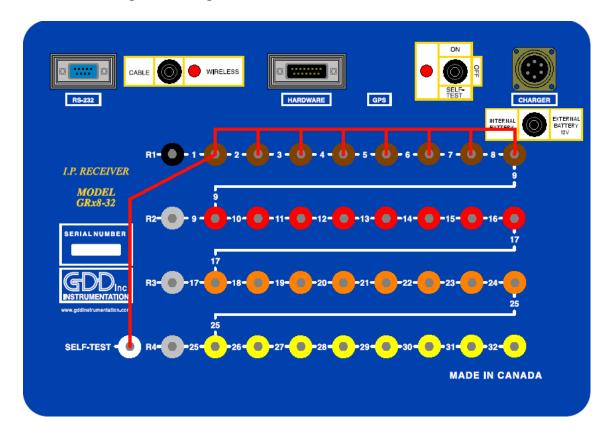
8.2.2 Simulation

The SIMULATION option is used to perform a self-test with the internal waveform generator (you need to select the Pole-Pole configuration to use this option).

1. Select the SELF-TEST mode using the ON/OFF/SELF-TEST switch.



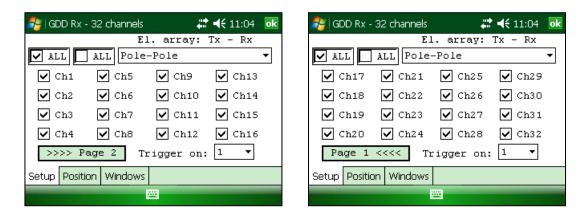
2. Short the SELF-TEST terminal with the channel(s) you want to test. The picture below shows a self-test testing the first eight channels.



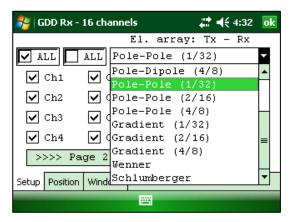
3. Select Tools | Config | Setup

考 Gi	DD Rx - 16 cha	#**	€ 4:	57	ok	
Ln: Tx:	600 N-3 400 Rx:	TOOLS	2	STARI	ſ	
Count			<u>C</u> onfig		.0 r	nV
МЕМ: СН	14 B: 50.0 Rho	D% Stack: Vp	<u>S</u> pecial S <u>h</u> ow		O rM	
01 02	103.60 1.07	-2.832 -0.021	<u>R</u> aw Dat <u>M</u> emory		00 00	▲ ≡
03 04 05	0.27 0.15 10.16	0.004 0.002 0.082	<u>A</u> bout 328.49 999.99			-
				-		·

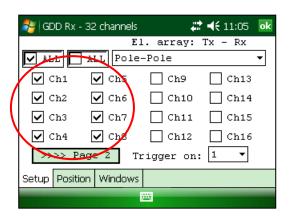
4. The following screens appear.



5. Select the Pole-Pole (1/32) array configuration.



6. Check the channel(s) you want to test.



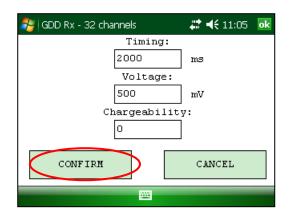
7. Select Tools | Special | Simulation

🐉 GDD Rx - !!! NO RECEIVER !!!	_ ⊑ # ◄	€ 3:	45 <mark>ok</mark>
Ln: ON-S Tx: ORx: O	TOOLS	S	TART
Count: 0	<u>C</u> onfig		0 mV
Beinit Simulation Signal processing options Battery Type	Special Show Raw Data Memory About		<u>^</u>
			¥

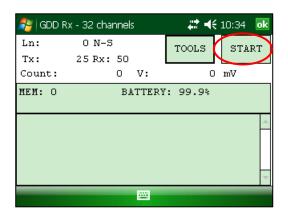
- 8. Enter the waveform timing (default = 2000ms).
- 9. Enter the primary voltage (default = 500mV).
- 10. Enter the chargeability (default = 0).



11. Click CONFIRM.



12. Click START to begin the acquisition process.



If you keep the default settings you should obtain the following results for all channels:

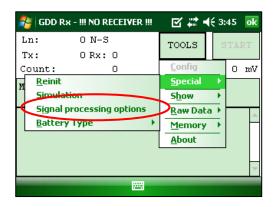
Vp ~= 500mV M ~= 0.000

When you enter a VP of 500 mV in the self-test simulation mode, it is possible that the actual voltage generated is 504, 505, 506 mV, etc. It does not mean that the channels are not working properly. It would be a problem if the VP value is not the same during a reading for every channel. For example, a value of 520mV for one channel while you get a value of 503mV for the other ones.

8.2.3 Signal Processing Options

The SIGNAL PROCESSING OPTIONS are used to disable the default gain and offset settings. When offset and gains are applied, the signal to noise ratio is improved.

1. Select TOOLS | Special | Signal Processing Options



2. Check the checkboxes of the settings you want to disable and click CONFIRM.



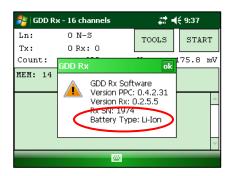
Note that the gains and offsets are enabled (applied) every time you start the GDD Rx program again even if you disabled them the last time you used them.

8.2.4 Battery type

With Rx firmware version 2.5.4 or higher, the GDD Rx program detects the type of batteries in the receiver automatically.

If a battery type is detected, the information will appear in the About pop-up window.

Select Tools | About



If the GDD Rx program cannot detect the battery type (older Rx firmware versions), the About pop-up window will indicate *Battery Type : not detected*.

🐴 GDD R	x - 32 channels	🗹 🛟 ◀€ 3:48							
Ln:	0 N-S	TOOLS	START						
Tx:	0 Rx: 0								
Count:	GDD Rx	ok	-15.4 mV						
MEM: O	GDD Rx Soft Version PPC: Version Rx: (Kx SN: 1177 Battery Type detected	0.4.2.31 0.2.5.4	*						

In which case, it is possible to select the battery type manually.

Select Tools | Special | Battery Type

🐉 GDD Rx - !!! NO RECEIVER !!!	_ ⊠ # ◄	€ 3:	45 <mark>ok</mark>
Ln: ON-S	TOOLS	20	TART
Tx: ORx:O Count: O	Config		0 mV
M <u>R</u> einit Simulation	<u>S</u> pecial S <u>h</u> ow	•	
Signal processing options Battery Type	<u>R</u> aw Data	-	
Dattery Type	<u>M</u> emory <u>A</u> bout	-	
			_
		-	

Select the type of batteries in your receiver.



Refer to your receiver's charger to find out which type of batteries your receiver has.

Ni-CD batteries

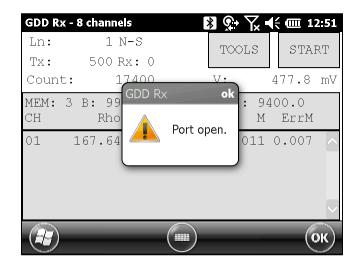


If you select the wrong battery type, the battery level indicated in the main window of the GDD Rx program will be slightly different from the actual value.

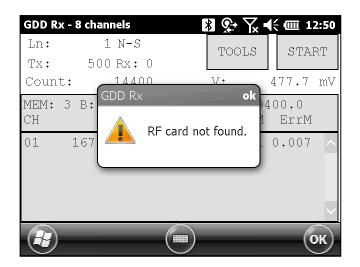
8.2.5 Open Port

The OPEN PORT option is used to enable the Tx-Rx RF communication when using the optional GDD-RTE01 box.

- 1. Connect the optional GDD-RTE01 box to the USB port of your Allegro²
- 2. Select Tools | Special | Open Port



If the GDD-RTE01 box is not connected or defective, the following message will pop up.

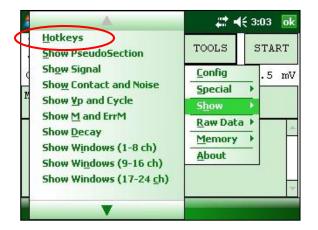


8.3 Show option

8.3.1 Hotkeys

The HOTKEYS option is used to display the shortcut keys menu.

1. Select Tools | Show | Hotkeys Hotkey 'M'



2. The following screen appears.

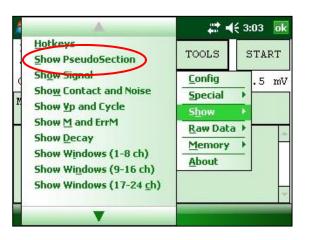
🐉 GDD Rx - 16 channels 🛛 👫	4 € 3:02	ok	💏 GDD Rx - 16 channels	a:02	ok
Action	Key	-	Show Decay:	"D"	-
			Show Windows (1-8 ch):	"1"	
Hotkeys:	"M"		Show Windows (9-16 ch):	"2"	
Quick start (Repeat reading):	"F5"	=	Show Windows (17-24 ch):	"3"	
Show Signal:	"S"		Show Windows (25-32 ch):	"4"	
Show Contact and Noise:	"N"		Show Sp:	"P"	
Show Vp and Cycle:	"C"		Mode Resistivity:	"E"	
Show M and ErrM:	"R"		Mode Chargeability:	"A"	=
Show Decay:	"D"		History:	"H"	
Show Windows (1-8 ch):	"1"		Pseudosection:	"U"	
Show Windows (9-16 ch):	"2"	-	Invert Pseudo Colors:	"I"	Ŧ

Use the shortcut keys to navigate quickly between the different options. The Quick Start option (F5) can be used to start the acquisition procedure using the same settings as the previous acquisition. Using F5 will skip the settings and contact resistance windows. If the F1 to F5 buttons do not work on your Allegro Mx, see Section 12 – Troubleshooting.

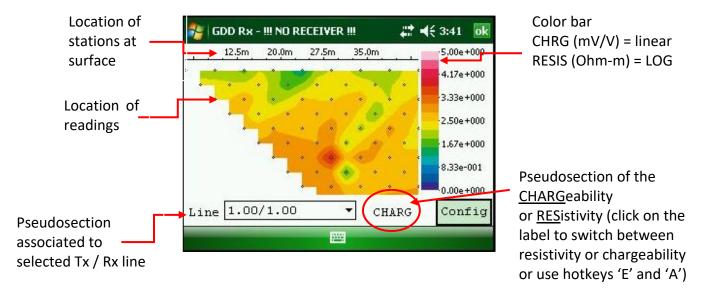
8.3.2 Pseudosection

The Pseudosection option is used to display the calculated pseudosection (in color) for each surveyed line.

1. Select Tools | Show | Show Pseudosection Hotkey 'U'



2. The following screen appears.



Note: Use the hotkey 'I' to invert the Pseudo colors.

3. Color bar editing.

GDD Rx - III NO RECEIVER III ok 20.0m 35.0m 5.00e+000 12.5m 27.5m 4.17e+000 3.33e+000 2.50e+000 1.67e+000 8.33e-001 0.00e+000 Line 1.00/1.00 CHARG Config •

Click on the "Config" button in the pseudosection main screen.

The following screen appears.

Unclick the automatic range —— option	Solution Solution <t< th=""><th>(the value suggested corresponds to the line's highest value)</th></t<>	(the value suggested corresponds to the line's highest value)
σραση	Maximum value 5.000000 Minimum value 0.000000	Enter a minimum value (the value suggested corresponds to the line's smallest value)
	Note : Press ENTER when finished	

To validate and go back to the pseudosections view, you can either click on « Enter » or on the « OK » button.

4. To visualize the whole pseudosection, use the arrows on the PDA keyboard:

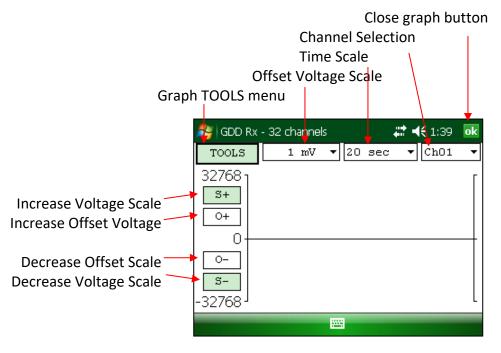


Enter a maximum value

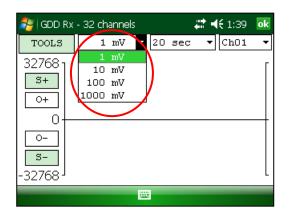
8.3.3 Signal

The SIGNAL option is used to display the signal graph of a selected channel.

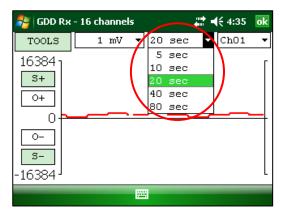
- 📰 📢 3:03 🛛 🗔 🛛 Hotkeys TOOLS START Show PseudoSection Show Signal Config 5 mV Show Contact and Noise Special . Show <u>Yp</u> and Cycle Show Show M and ErrM Raw Data 🕨 Show Decay Memory . Show Windows (1-8 ch) About Show Windows (9-16 ch) Show Windows (17-24 ch)
- Select Tools | Show | Show Signal Hotkey 'S'



3. Select offset voltage scale.



4. Select time scale.



5. Select display channel.

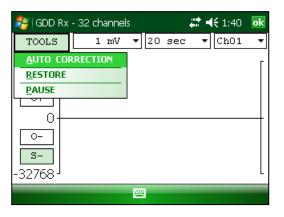
🔊 GDD Rx	- 32 channels		# € 1	:40 ok
TOOLS	1 mV 🔻	20 sec	- Ch	.01 🔽
327681			\mathbf{Ch}	.01 🔺
			Ch	.02
S+			Ch	.03 🔳
			Ch	.04
			Ch	.05 🗖
0 			Ch	.06
			Ch	.07
			Ch	.08 🛛
S-			Ch	.09
-32768			Ch	10 📙
52700		_	Ch	11 🔻
		H.		

8.3.3.1 Tools menu

8.3.3.1.1 Auto Correction

The AUTO CORRECTION option is used to optimize the graph scale and correct the offset of the signal. This option should be used after one signal period (8 sec for a 2 sec time base).

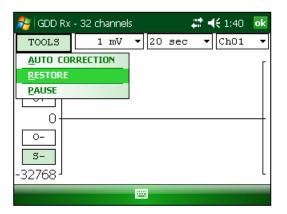
1. Select Tools | Auto Correction



8.3.3.1.2 Restore

The RESTORE option is used to reset the settings to default.

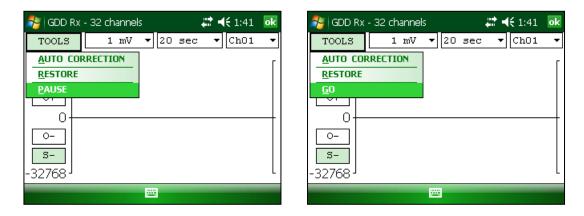
1. Select Tools | Restore



8.3.3.1.3 PAUSE/GO

The PAUSE/GO option is used to pause or play the signal.

1. Select Tools | Pause or Tools | Go

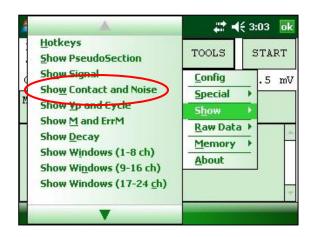


8.3.4 Contact and Noise

The CONTACT AND NOISE option is used to display the noise graph of all of the channels. This option can be useful for troubleshooting if you have a noise problem. The Contact graph shows the contact resistance between the electrodes and the ground.

*This option should be used before your transmitter sends a current. If the transmitter sends a current, the Vp signal will be displayed for each active channel.

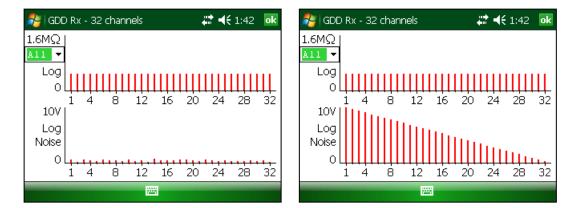
1. Select Tools | Show | Show Noise Hotkey 'N'



2. The following screen appears.

Transmitter is *not* sending a current

Transmitter is sending a current.

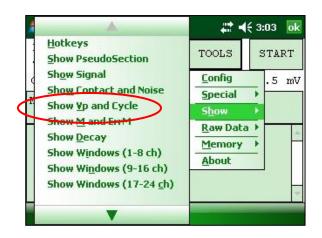


8.3.5 Vp and Cycle

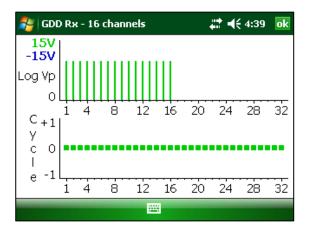
Steps 14 to 16 of *Section 5* of this Manual must be done before using this feature.

The VP AND CYCLE option is used to show the channel synchronization. This option can be useful for troubleshooting if you have any connection problems. The VP part of the graph shows the primary voltage of all your electrodes. The current graph is an example; your VP graph will depend on the physical configuration of the electrodes.

1. Select Tools | Show | Show Cycle Hotkey 'C'



2. The following screen appears.



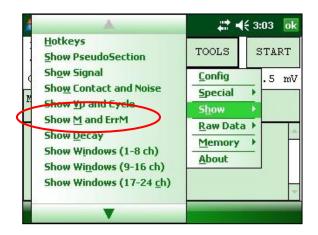
- Green line indicates that this Vp is positive.
- Blue line indicates that this Vp is negative.
- Red dots indicate that the GRx8-32 is not synchronized.
- Green dots indicate that the GRx8-32 is synchronized.
- If the GRx8-32 is synchronized and the green dots are not moving in the same direction, check the position of the electrodes on the GRx8-32 front panel.

8.3.6 Show M and errM

Steps 14 to 16 of *Section 5* of this Manual must be done before using this feature.

The Show M and errM option is used to display the chargeability and the error in chargeability for each channel.

1. Select Tools | Show | M and errM Hotkey 'R'



2. The following screen appears.

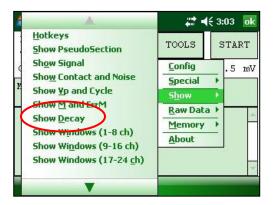
🚑 GDD Rx	- 16 chan	nels			∷	4:41	ok
0.0	dud	шĿ					
м							
0.04	ЩЩ	ЩЦ	Ц.			··· <u>·</u> ···	
100.0	48	12	16	20	24	28	32
Log ErrM							
0.0							
1	4 8	12	16	20	24	28	32
		<u></u>	:				

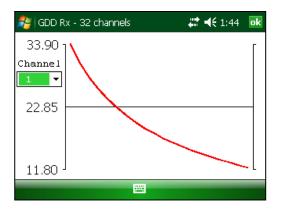
8.3.7 Decay Curve

Steps 14 to 16 of *Section 5* of this Manual must be done before using this feature.

The *Decay Curve* option is used to display the decay graph of a selected channel.

1. Select Tools | Show | Show Decay Hotkey 'D'





3. Select the display channel.

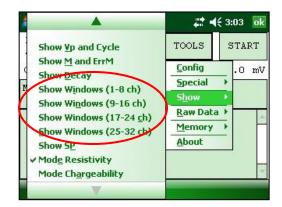


8.3.8 Show Windows

Steps 14 to 16 of *Section 5* of this Manual must be done before using this feature.

The Show Windows option is used to display the chargeability windows of each channel.

1. Select Tools | Show | Show Windows (1-8 ch), (9-16 ch), (17-24 ch) or (25-32 ch) Hotkeys '1' (1-8 ch), '2' (9-16 ch), '3' (17-24 ch), '4' (25-32 ch)



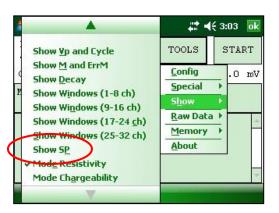
	鸄 GDD I	Rx - 32 char	nnels	##.⊀	€ 1:59 ok	
	Ln:	100 N-S		TOOLS	STOP	
	Tx:	25 Rx:	50			
	Count:	7780	o v:	112.0	mV	
				5 I: 100 CO6 CO7		Channel number
Window number	 01 -0	90 99	99 99		-99 🔺 🔺	Chargeability value
	02 -0 03 -0	99 99 99 99			-99 <u>≡</u> -99	
	04 0.0 05 -0	99 99 99 99	99 -40 99 -95		-99 -99 🗸	
					1	

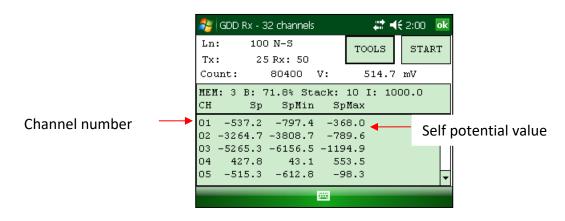
8.3.9 Show Sp

Steps 14 to 16 of *Section 5* of this Manual must be done before using this feature.

The SHOW SP option is used to display the self-potential (SP) in mV of each channel.

1. Select Tools | Show | Show SP Hotkey 'P'





8.4 Raw Data Option

8.4.1 Check GPS

To use the GPS function, your receiver must be equipped with an internal GPS module. This GPS module is designed for use with applications that require accurate time (getting GPS timestamps in output files, synchronizing a receiver with a transmitter using GPS signal, recording raw data without synchronization for post processing, etc.).

The *Check GPS* option is used to verify if a satellite is being tracked by the GPS module.

Connect an external antenna (SMA) to the GPS connector of the GRx8-32 receiver for more efficiency.



After turning on the GRx8-32 receiver, it can take up to 2 or 3 minutes for the GPS receiver to track and synchronize with a satellite.

Important: the internal GPS module of the receiver can take up to 15 minutes to get the UTC time. Wait for this time before taking your first reading if your receiver needs to get the same GPS time than another device.

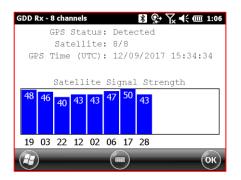
Select Tools | Raw Data | Check GPS



If the GPS module is not synchronized with a satellite, the following window will appear.



Once the GPS module is synchronized with a satellite, the following window should appear.



This window allows you to verify if the GPS works properly. You can close this window and continue to work normally with your GRx8-32 receiver. You can occasionally verify if the GPS is still tracking the satellite.

The GPS timestamps will appear in the *.gps* file (see *Section 8.5.5* to create a *.gps* file). The data in this file is the same than that of the *.gdd* file except for the GPS timestamp (the time in the *.gdd* file comes from the PDA).

Example of .gps file

			5	1											
V	ersid	n PP	c: 0.4	.2.39 Ver	sion Rx	: 8.1	.0.0 RX	SN: 1266							
			roject												
W	indov	15: 2) Sett	ing: Arit	h. Dela	/ (ms): 240	Timing (ms):	80, 80,	80,	80, 80, 80,	80, 80,	80, 80, 80), 80, 80,	80, 80, 8
1	Mem	Da	te	Hour	annonanas ³	GPS	SyncBy	Array	LineTx		LineRx Dir	n	Tx1	Tx2	Rx1
- 11	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	1.0	25.00	50.00	75.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	2.0	25.00	50.00	100.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	3.0	25.00	50.00	125.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	4.0	25.00	50.00	150.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	5.0	25.00	50.00	175.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	6.0	25.00	50.00	200.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	7.0	25.00	50.00	225.00
	1	27/0	8/2015	15:00:07	.049443	YES	SIGNAL	DP-DP	100.00		100.00 N-5	8.0	25.00	50.00	250.00
Ц	2	27/0	8/2015	15:03:47	.001726	YES	SIGNAL	DP-DP	100.00		100.00 N-5	1.0	25.00	50.00	75.00
_															

If there is GPS synchronization with a satellite, the column GPS will show YES as shown on the picture above. See *Section 8.1.4* to know more about SyncBy column.

If the GPS synchronization is lost, the synchronization will be kept for 5 hours (holdover). In that case, the Date and Hour will continue to increase following the GPS time but the GPS column will show NO as shown on the picture below.

		PPC: 0.		ersi	on Rx:	8.1	.0.0 RX	SN: 1266										_			٦
				ith.	Delay	(ms): 240	Timing (ms):	80, 80,	80,	80, 80,	80,	80,	80,	80,	80,	80,	80,	80,	80, 8	Ο,
Me	m	Date	Hour			GPS	SyncBy	Array	LineTx		LineRx	Dir	n		Tx1			Tx2		RX: 7	1
1000	1 28	/08/201	5 17:03:	35.5	92977	NO	SIGNAL	P-P	100.00		100.00	N-S	0.0	999	99999	.00		50.	00	7	5.
	1 28	/08/201	5 17:03:	35.5	92977	NO	SIGNAL	P-P	100.00		100.00	N-S	0.0	999	99999	.00		50.	.00	10	0.
	2 28	/08/201	5 17:04:	31.5	80638	NO	SIGNAL	DP-DP	100.00		100.00	N-S	1.0	999	99999	.00		50.	.00	7	5.
	2 28	/08/201	5 17:04:	31.5	80638	NO	SIGNAL	DP-DP	100.00		100.00	N-S	2.0	999	99999	.00		50.	.00	10	0.
	3 28	/08/201	5 17:05:	31.5	78131	NO	SIGNAL	DP-DP	100.00		100.00	N-S	1.0	999	99999	.00		50.	.00	7	5.
			5 17:05:				STGNAL	DP-DP	100.00		100.00	N-5	2.0	999	99999	.00	×		00	10	0.

If there is no GPS synchronization with a satellite from the beginning or if the GPS signal is lost for more than 5 hours, the Date and Hour will be replaced by *NO GPS TIME*.

	PPC: 0.4.2.39 Versio	on Rx: 8.1.	0.0 Rx	5N: 1266		_						_	_				
	20 Setting: Arith.	Delay (ms)	: 240	Timing (ms):	80, 80,	80,	80, 80,	80,	80,	80,	80,	80,	80,	80,	80,	80, 8	80,
	Date Hour		SyncBy		LineTx		LineRx		n		TX			Tx2		RX	(1
1	NO GPS TIME	NO	SIGNAL	DP-DP	100.00		100.00	N-S	1.0	999	9999	9.00		50.	00	7	75.0
1	NO GPS TIME	NO	SIGNAL	DP-DP	100.00		100.00	N-5	2.0	999	9999	9.00		50.	00	10	0.00
2	NO GPS TIME	NO	SIGNAL	P-P	100.00		100.00	N-5	0.0	999	9999	9.00		50.	00	7	75.0
2	NO GPS TIME	NO	SIGNAL	P-P	100.00		100.00	N-S	0.0	999	9999	9.00		50.	00	10	0.00
3	NO GPS TIME	NO	SIGNAL	DP-DP	100.00		100.00	N-S	1.0	999	9999	9.00		50.	00	7	75.0
3	NO GPS TIME	NO	STGNAL	DP-DP	100.00		100.00	N-5	2.0	999	9999	9.00	<u>}</u>	50.	00	10	0.00

The GPS timestamps will also appear in the fullwave file (see *Section 8.5.5* to create a fullwave file) or in the raw data file (see *Section 8.4.2* to use raw data option).

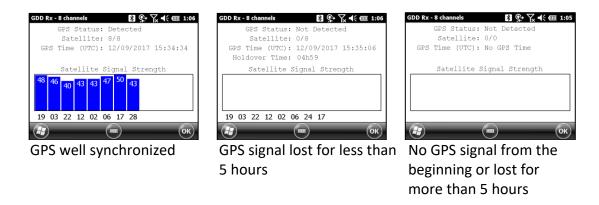
Example of a fullwave file

	Version PPC: 0.4.2.39	Version Rx:	8.1.0.0 R	< SN: 1266				
	Project: Project							
	Windows: 20 Setting:	Arith. Delay	(ms): 240	Timing (ms):	80, 80, 80,	80, 80, 80	, 80, 80, 80,	, 80, 80, 8
	MEM: 1 FULL WAVE: 8 C	hannel(s) 27	/08/2015 19	5:00:07 (Time	GPS) ARRAY:	DP-DP LINE	TX: 100.00 M	N-S LINE R)
1	Time GPS	GPS	CH01	CH02	CH03	CH04	CH05	CH00
1	27/08/2015 15:00:07.0	49443 YES	4402.110	4417.473	4446.574	4415.306	-4404.320	4367.173
L	27/08/2015 15:00:07.0	69458 YES	5594.123	5619.028	5625.894	5617.490	-5593.644	5572.307
L	27/08/2015 15:00:07.0	89446 YES	5917.275	5948.031	5945.424	5948.056	-5916.514	5904.229
L	27/08/2015 15:00:07.1	.09414 YES	5992.098	6025.043	6020.204	6026.248	-5991.927	5982.474
L	27/08/2015 15:00:07.1	29439 YES	6008.621	6041.841	6036.090	6042.971	-6007.934	5999.322
L	27/08/2015 15:00:07.1	49438 YES	6011.757	6044.923	6039.294	6046.429	-6011.360	6002.895
L	27/08/2015 15:00:07.1	.69437 YES	6012.301	6045.485	6040.224	6046.776	-6011.911	6004.075
L	27/08/2015 15:00:07.1	.89437 YES	6012.851	6045.410	6040.478	6047.488	-6012.057	6004.236
1	27/00/2015 15.00.07 2	0043C 1/5	C013 004	CO45 003	6040 543	CO47 700	C013 103	CO04 503

As for the *.gps* file, if there is no GPS synchronization or if the GPS signal is lost for more than five(5) hours, the *Date* and *Hour* will be replaced by *NO GPS TIME* in the *.fullwave* and *.bdf* files.

Take note that for some reasons, such as weak signal areas, the GPS module will not be able to track and synchronize with a satellite.

During the acquisition process, the GPS status is available by selecting Tools | Raw Data | Check GPS:



8.4.2 Start Recording (raw data)

This option is used to record raw data without any synchronization with a transmitter signal. This can be useful to record the telluric or noise from the ground.

The receiver will record a reading every 20 ms. Thanks to the GPS module, each recorded reading will be accurately time stamped. Your receiver must be equipped with an internal GPS module to use GPS with the raw data function.

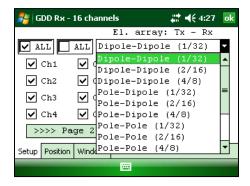
Select Tools | Raw Data to begin the process.

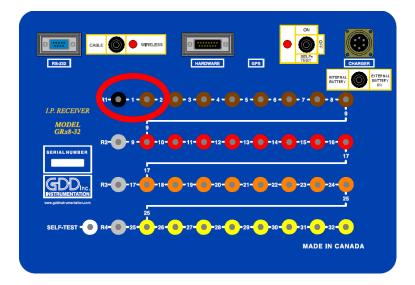
🔊 gdd r	x - 32 channels	#: +	; 9:30 ok
Ln:	100 N-S	TOOLS	START
Tx:	25 Rx: 50		
Count:	7400	<u>C</u> onfig	3 mV
MEM: 8	BATTERY	<u>Special</u>	•
		Show	•
	Check GP5	<u>R</u> aw Data	
	Start recording	Memory	•
		<u>L</u> anguage	•
		About	
			-

1. Make sure that channel 1 or R1 is connected to the ground.

If a pole configuration is selected in the Setup – Config menu, make sure that channel R1 is connected to the ground.

If a dipole configuration is selected in the Setup – Config menu, make sure that channel 1 is connected to the ground.





2. If you want to verify the GPS time, select Check GPS.



If you see No GPS Time, either the internal GPS module cannot receive any data from a satellite, or your receiver does not have this option.

- 3. To begin the data acquisition, select Tools | Raw Data | Start recording.
- 4. You will be prompted to name your file.

🌯 GDD	Rx - 8 channels	# # 4 € 8:34	🎥 GDD	Rx - 8 channels	# # 4 € 8:35
Save As			Save As		
Name:			Name:	fullw	
Folder:	None	•	Folder:	None	*
Туре:	Binary Raw Data Files	(*.BC ▼	Type:	Binary Raw Data Files	(*.BE ▼
Location:	CF Card	•	Location:	CF Card	*
	Save	ancel		Save	ancel

5. The following icon will appear and data will be recorded until you stop the acquisition by selecting Tools | Raw data | Stop recording.

鸄 GDD F	Rx - 32 channels	#		ok	😤 GDD	Rx - 32 channels	#‡ 4 €	9:3	1 ok
Ln: Tx:	100 N-S 25 Rx: 50	TOOLS	STA	RT.	Ln: Tx:	100 N-S 25 Rx: 50	TOOLS	87	LART
Count:	14000	v:	291.3	mV	Count:	10300	Config		8 mV
MEM: 8	BATTER'	∀: 26.1%			MEM: 8	BATTERY	Special Show	-	
						Check GP5	Raw Data	2	-
				*		Stop recording	<u>M</u> emory <u>A</u> bout	•	*

The file created with your raw data is a binary file and its extension is '.bdf'. This binary format file can be imported and visualized using GDD's IP Post-Processing software.

8.5 Memory Option

8.5.1 Display Reading

The Display Reading option displays a particular reading on the PDA as the operator would see it in the field even if no receiver is connected to the PDA.

The following window will appear. The number in the *Reading Number:* field is always the Memory number of the latest reading taken.



Enter the number of the reading you want to see. Click on CONFIRM.

	DD Rx -	!!! NO	RECEIVER !	. !!!	#	(£ :	1:25	ok
Ln:	10	00 N-S	5	тоо	LS		STA	RТ
Tx:	2	25 Rx:	50					
Coun	t:	305	00	V:		30	8.6	mV
MEM:	8 B:	99.04	Stack:	0 I:	0.0)		
СН	F	Rho	Vp		M	E	rrM	
01	983.	.17	500.722	0.0	011	Ο.	008	
02	43.	.55	11.091	244	.45	38	3.26	=
03	10.	.50	1.782	258	.53	99	.99	
04	6.	46	0.823	-187	.03	99	.99	
05	з.	.09	0.315	-999	.99	99	9.99	-

Use Left and Right arrow buttons to compare your current data with that of your previous acquisitions. Use the Up and Down arrows to see all the channels.

	DD Rx - 32 chan	nels		€ 1:43 🛛 ok
Ln:	600 N-S		TOOLS	START
Tx:	400 Rx:	900	10020	
Coun	t: 12070	0	v:	471.2 mV
MEM:	3 B: 40.9%	Stack:	10 I: 10	000.0
CH	Rho	Vp	М	ErrM
01	642.86	0.190	-43.355	99.99 🔺
02	4681.10	1.178	-198.79	12.11 🔳
03	168.80	0.037	403.23	99.99
04	5211.87	1.006	-152.48	21.50
05	1072.20	0.185	42.090	99.99 👻
		111		

Keep in mind that there is no indication of which reading is monitored on the PDA display.

🤊 GC	DD Rx - !!! NO	RECEIVER !!	u 📫	(; 1:25	ok
Ln:	100 N-9	3	TOOLS	STA	RT
Tx:	25 Rx:	50			
Count	: 305	00	v:	308.6	mV
MEM:	8 B: 99.0	% Stack:	0 I: O.	0	
CH	Rho	Vp	М	ErrM	
01	983.17	500.722	0.011	0.008	•
02	43.55	11.091	244.45	38.26	
03	10.50	1.782	258.53	99.99	
04	6.46	0.823	-187.03	99.99	
05	3.09	0.315	-999.99	99.99	-

At this point, it is possible to use the Hotkeys or the Show menu to display graphs or channel values.

8.5.2 History

鸄 GDD I	Rx - 16 channels	t‡ ¥	‡ ‡ 4 € 4:46 ok			
First	Prev 1 - 5	Next	Last			
Mem	Date / Time	EJ	-Arra			
Project			=			
	Windows: 20	Se	etting			
1	22/01/2013 13:51	:30	P-			
1	22/01/2013 13:51	:30	P-			
1	22/01/2013 13:51	:30	P-			
1	22/01/2013 13:51	:30	P-			
1	22/01/2013 13:51	:30	₽- _			
4	22/01/2012 12.51	•20				

The History option is used to display all the data accumulated in memory.

You will have to use the scroll bar to see all the information available. Click Next to go to the next page. The three following slides show all the information displayed by the history.

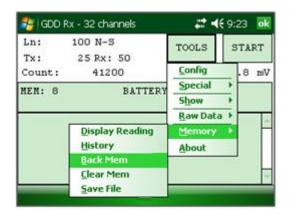
1 20/03/2008 11:11:41 P-P 0.00 0.00 N-S 999999.00 50.00 75.00 999999.00 INFINI	(I 6.2
story	
tory	
etory	
30, 80, 80, 80	
Sp SpMin SpMax Vp ErrVp Sym(%) H ErrM In Time DC Stack M01 M02 M03 H	M04 M0
-173.8 -330.2 -17.4 0.039 99.999 58 -727.92 99.99 1.0 2000 50 1 999.99 815.34 786.02 606.	
	5.62 139.1

MO7 MOS MO 6 M09 M10 M11 M12 M13 M14 M15 M16 M17 M18 M19 M20 -894.78 -104.95 -437.02 -803.81 -684.56 -951.07 -944.17 -999.99 -999.99 -999.99 -999.99 -999.99 -999.99 -999.99

8.5.3 Back Mem

The *Back Mem* option is used to clear the last readings of the memory one by one.

1. Select Tools | Memory | Back Mem



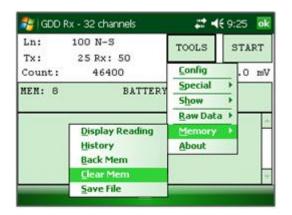
2. Click Yes to clear the last readings.

🏂 GDD I	Rx - 32 channels		' ◀€	9:24	
Ln:	100 N-S	TOOLS	;	STA	RT
Tx:	25 Rx: 50				
Count:	43500	V:	3	13.3	mV
MEM: 8	BACK MEM Confirmation?	No	olo 		4

8.5.4 Clear Mem

The *Clear Mem* option is used to clear all the readings of the memory.

1. Select Tools | Memory | Clear Mem



2. Click Yes to confirm the operation.

餐 GDD F	Rx - 3	32 channels	÷	≀ ⊣€	9:26	
Ln:	100) N-S	TOOLS	3	STA	RТ
Tx:	25	5 Rx: 50	1002	<u> </u>		
Count:		48500	V:	3	09.0	mV
MEM: 8		CLEAR MEM		14		
		Confirmation?				4
		Yes	No			
				1		-
				-		

3. Enter 9999 in the text box.



4. Click *Confirm* to clear all the readings of the memory.



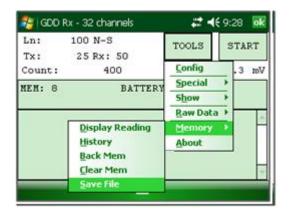
5. A message will follow to confirm your operation.

시 GDD 🖉	Rx - 32 channels	47 ·	t: 9:27
Ln:	100 N-S	TOOLS	START
Tx:	25 Rx: 50		
Count:	500	V:	281.7 mV
MEM: O	GDD Rx	ok	
		ory Cleared	<u>_</u>
			*

8.5.5 Save File

The Save File option is used to save the readings to a file.

1. Select Tools | Memory | Save File



2. Select the output file format available according to your electrode configuration (only one output file format could be available). A GDD Generic file is always created even if you choose another format.

🐉 GDD Rx - 16 channels	# ◀€ 1:03	ok
GDD Generic (.gdd) GDD GPS Time (.gps) Geosoft (.dat) - except 3 Amira (.dat) - except 3D Prosys (.csv) - except 3	-survey	
FULLWAVE		
CONFIRM	CANCEL	

3. Check the *FULLWAVE* check box if you want to create the ascii format fullwave file and click CONFIRM.

🚝 GDD Rx - 16 channels 🛛 🗱 🐗 1:0)3 <mark>ok</mark>
GDD Generic (.gdd) GDD GPS Time (.gps) Geosoft (.dat) - except 3D-survey Amira (.dat) - except 3D-survey Prosys (.csv) - except 3D-survey	7
FULLWAVE	
CONFIRM	

Saving the FULLWAVE file will take significant time. We recommend to copy the .mem file from the PDA to you computer and to create this file using the IP Post-Process software.

4. Select the file location.

It is recommended to save your files in the CF Card folder to make sure that you will have enough disk space. Do not save the data in the My Documents folder.

	鸄 GDD I	Rx - 32 channels 🛛 👫 ◀€ 2:03
	Save As	
	Name:	
	Folder:	None 🔻
	Type:	Text Files (*.gdd) 🔹
<	Location:	CF Card
		Save Cancel

5. Enter the file name and click **Save** (the saving operation can take several minutes).

鸄 GDD	Rx - 16 channels	#? ◄< @
Save As		
Name:	GDD Test1	
Folder:	None	▼
Туре:	Text Files (*.dat)	▼
Location:	CF Card	•
	Save	ancel

6. One of the following screens appears; click **OK** to close the pop up dialog box.

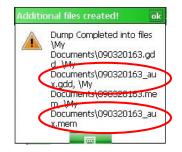


The *.mem* file, as the *.gdd* file, is automatically created by the system. The *.mem* file has a specific format required to be used with the new GDD IP Post-Process software. Contact GDD for more information about this new software.

If using the GDD-RTE01 communication boxes, an *ascii* file (gdd_rte.log) will be created at the same location than your IP data. This gdd_rte.log file contains the output current and power values broadcasted by the GDD IP transmitter (model Tx4).

*** WARNING ***

The Allegro PDA sometimes does not detect the memory card and records the GDD_RX_MEM data file somewhere else in the PDA. If a part of the memories has been acquired without detecting the CF card and another part with detecting the CF card, the Rx software creates auxiliary files with **_aux** at the end of their name. These auxiliary files contain the part of the data that was not saved directly to the compact flash card. You must transfer all these output files from your Allegro PDA to your computer in order to prevent loss of data.



8.6 About Option

The *About* option is used to display the software version number.

1. Select Tools | About

😤 GDD i	Rx - 32 channels		€9:	29 ok
Ln: Tx:	100 N-S 25 Rx: 50	TOOLS	97	TART
Count:	3000	Config		.3 mV
MEN: 8	BATTERY	Special		
	Parton	Show		
		Raw Data	a 🕨	-
		Memory	*	
		About		
				-

2. The following screen appears.

🐴 GDD Ra	€ 9:3 7		
Ln:	0 N-S	TOOLS	START
Tx:	0 Rx: 0		
Count:	GDD Rx	ok	175.8 mV
MEM: 14	GDD Rx Sof Version PPC Version Rx: Rx SN: 1974 Battery Typ	: 0.4.2.31 0.2.5.5 4	

*See Section 8.2.4 for more information about Battery Type.

9. Transferring data

In order to establish communication between the Allegro and a desktop PC, you need to install the appropriate synchronisation software.

Windows 7, 8 or Vista 64 bits users will require Windows Mobile 64 bits while Windows 7, 8 or Vista 32 bits users will need to install Windows Mobile 32 bits. Refer to the *"Sync PDA on Windows 10.pdf"* document located on the CD-ROM/USB stick if your experience problems using *Windows 10*. Install ActiveSync if you run Windows XP or earlier.

All three programs are available on the CD/USB stick supplied by GDD.

9.1 ActiveSync

9.1.1 Installation and settings

1. Once ActiveSync is installed, a gray icon will appear in the bottom right corner of your desktop PC screen.



2. Right click on the *ActiveSync* icon to open the following menu and select *Connection Settings...*

Open Microsoft ActiveSync	-
Synchronize Stop	
Resolve items	
Connection Settings	
Explore	

3. Check Allow USB connection with this desktop computer.

connection Settings	2
Click Get Connected to connect your mo	bile device to this
Status: Waiting for device to connect	Get Connected
Allow serial cable or infrared connection to thi	s COM port:
СОМ1	v
Status:	
Allow USB connection with this desktop com	outer.
Status: USB is available	
 Allow network (Ethernet) and Remote Access server connection with this desktop computer Status: Network is available 	
- Status icon	
Show status icon in Taskbar.	
OK Cancel	Help

9.1.2 Establishing connection with a desktop PC

1. Turn the PDA ON



2. Insert the Allegro Mx in the USB power dock. Connect the USB power dock to the desktop PC with the USB Plug.



3. The desktop ActiveSync icon is now green.



4. A small *PCLink* icon appears on the Allegro Mx taskbar.



9.1.3 Transferring file(s) from the Allegro Mx to a desktop PC

1. Double click on the *My Computer* icon on your desktop PC.



2. Double click on the *Mobile Device* icon.

J My Computer File Edit View Favorites Tools	Help
Back • O • D s	
Address 💡 My Computer	
System Tasks	Files Stored on This Computer
 View system information Add or remove programs Change a setting 	Shared Documents Hard Disk Drives
Other Places 🛞	Local Disk (C;)
 My Documents Shared Documents Control Panel 	Devices with Removable Storage
Details Mobile Device System Folder	315 Floppy (A:) Network Drives
	Base, donness on Simon(C)Simon Roger GDD' (Z.)
(Other Model Device Mes dossiers de partage

3. Double click on the *My Handheld PC* icon.

3 Mobile Device				
Pie Edit View Favorites Tools				
3 tax . 0 1 / 2 .	earch 🕑 Folders	· .		
Address 🔋 Roble Device	-			
Other Places		MyCoca deektopu	9 an 24	Miczech Wy Deam Worshed Wy Deam

4. Double click on the CF Card folder (if that is where you saved your files).



5. Use the drag and drop; or cut, copy and paste functions to move file(s) from your Allegro Mx to your desktop PC.

The GDD Generic data file is named: File_Name.gdd The GDD binary file is named: File_Name.mem If created, the fullwave file is named: File_Name.fullwave

 \ast See Section 8.5.5 -SAVE FILE for more information about alternate output formats and creating a FULLWAVE file.

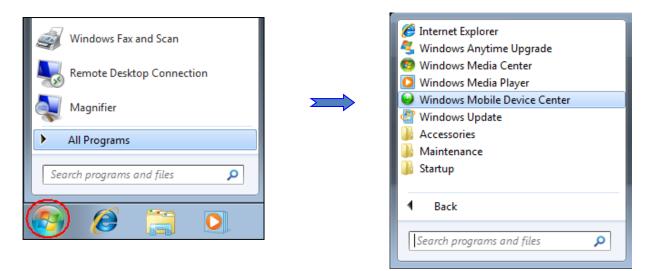
CF Card				
Fichier Edition Affichage Favoris		as 🛄 -		
dresse 🔄 YC F Card	♠ Nom ♠	Taile Type	Modifié	💌 🛃 ок
Autres emplacements * Mon appareil Windows Mobile * Mes documents * Pavoris réseau *	Example.fullwave Example.gdd Rx_MEM_Ver_1	5.04 Mo Fichier FULLWAYE 92.8 Ko Fichier GDD 1.32 Mo Fichier	2008-07-30 13:27:52 2008-07-30 13:27:02 2008-07-28 15:57:54	

6. Open the saved files with Notepad or Excel.

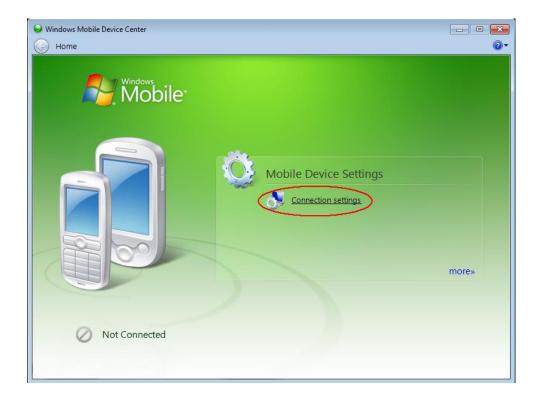
9.2 Windows Mobile Device Center

9.2.1 Installation and settings

1. Once Windows Mobile Device Center 32 or 64 bits is installed, click the Windows Start Menu icon and then click *All Programs* to display all installed programs. Click *Windows mobile Device Center* to launch the application.



2. Under the *Mobile Device Settings* option, click on *Connection settings*.



3. Check Allow USB connections.

Section Settings	? 🔀
Waiting for device to connect	
Allow USB connections	
Allow connections to one of the following:	
Bluetooth 🔹	
This computer is connected to:	
Automatic 🔹	
Allow automatic device authentication	
Allow data connections on device when connected to PC	
ОК	Cancel

9.2.2 Establishing connection with a desktop PC

1. Insert the Allegro Mx in the USB power dock. Connect the USB power dock to the desktop PC with the USB Plug.



2. Turn the PDA ON.



3. The Windows Mobile Device Center application will connect with the PDA.



4. A small *PCLink* icon appears on the Allegro Mx taskbar.



9.2.3 Transferring file(s) from the Allegro Mx to a desktop PC

1. From the Windows Mobile Device Center, click *Connect without setting up your device*.



2. Click Browse the content of your device under the File Management section.



3. Double click on the CF Card (if that is where you saved your files).

O I I I I I I I I I I I I I I I I I I I	► FieldPC100864 ►	▼ 4g Recherch	er dans : FieldPC100864
rganiser 🔻			₩ = • 1
🕻 Favoris 💻 Bureau 强 Emplacements récents 🚺 Téléchargements	L 1,97 Go libres sur 1,98 G	io CF Card	
Bureau Bibliothèques Documents Images Musique			
Vidéos Celine Desgagnes Ordinateur Disque local (C:)			

4. Use the drag and drop; or cut, copy and paste functions to move file(s) from your Allegro Mx to your desktop PC.

The GDD Generic data file is named: File_Name.gdd The GDD binary file is named: File_Name.mem If created, the fullwave file is named: File_Name.fullwave

* See Section 8.5.5 (SAVE FILE) for more information about alternate output formats and creation of the FULLWAVE file.

🕽 🕞 🗢 🕨 Com	puter	 AllegroCX_19297 	 Storage Card 		✓ 4 Search	Storage Card	
Drganize 🔻						≣ ▼ 🔳	(
🏭 Local Disk (C:)	*	Name	Туре	Size	Modified	Created	
AllegroCX_19297		퉬 GDD	File folder		18/11/2010 11:02 PM	18/11/2010 11:02 PM	
<u> </u>		06-14-2011	GDD File	978 KB	14/06/2011 9:13 PM	14/06/2011 9:13 PM	
👝 C_Drive	_	Exemple	GDD File	14 KB	15/06/2011 3:38 PM	14/06/2011 9:45 PM	
Metwork	E	Rx MEM Ver 3	File	0 KB	22/06/2011 10:39 PM	09/12/2010 9:50 PM	

5. Open the saved files with Notepad or Excel.

10. Bluetooth configuration

1. In the main screen of the Allegro Mx, click on the Bluetooth icon.



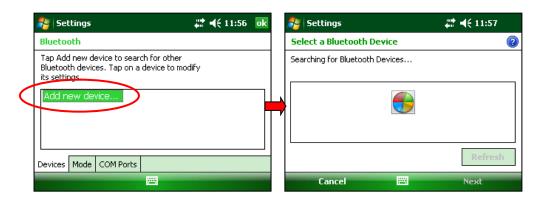
2. If Bluetooth is off, click on the Bluetooth icon to turn Bluetooth on.



3. Click on Menu and select Bluetooth Settings.



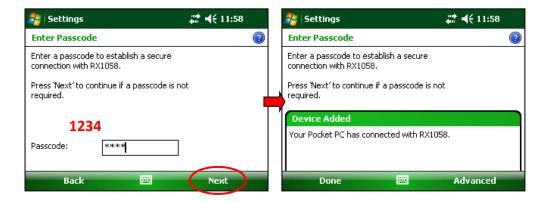
4. Click on Add new device.



5. Select your device (the serial number of your receiver), and click Next.

背 Settings	‡ ‡ 4 € 11:57	
Select a Bluetooth Device		0
Select a device to connect with and tap Next,		
RX1058 NC1512		
	Refrest	า
Cancel	Next	

6. Enter the passkey 1234, and click Next. The Device Added window appears for a few seconds.



7. Click on your device (the serial number of your receiver) to modify its settings.

	餐 Sel	tings			<i>‡</i> ‡ 4 € 11:59	ok		
	Blueto	oth						
	Tap Ado Bluetool its settir	dify						
$\boldsymbol{<}$	Add new device							
	Devices Mode COM Ports							
				-				

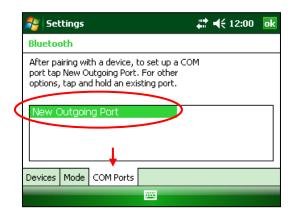
8. Check Serial Port and click Save.

	🐉 Settings		# ◀€ 11:59	
	Partnership Settings			0
	Display Name:	RX1058		
	Select services to use fro	om this device.		
q	Serial Port			
			Refresh	•
	Cancel		Save	

9. Click on the Mode tab. Turn on Bluetooth should be checked.

🏂 Sel	ttings			# ◀€ 12:00	ok	
Blueto	oth					
Turn on Bluetooth						
	To connect to a device, click on the Devices tab below.					
	¥					
Devices	Mode	COM Ports				

10. Click on the COM Ports tab and select New Outgoing Port.



11. Select your device (the serial number of your receiver) and click Next.

🐉 Settings	# ◀€ 12:00	
Add a Device		?
Select the device you want to add		
RX1058		
	\frown	
Cancel 🚟	Next	
	Add a Device Select the device you want to add RX1058	Add a Device Select the device you want to add RX1058

12. Select COM8 and check Secure Connection. Click Finish.

	🐉 Settings	₩ 4 € 12:01
	Bluetooth	0
	Port.	
(СОМВ	-
	Secure Connection	
	Back	Finish

13. Click OK to close the COM Ports settings.



14. Click X to close the Wireless Manager.



11. GDD Rx software update

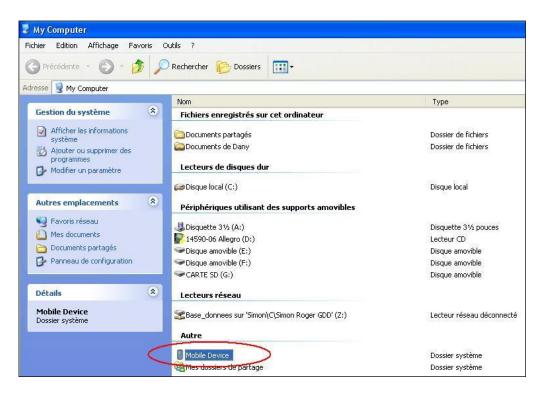
1. Place the Allegro into the USB/Power Dock. The USB/Power Dock must be connected to the desktop PC with the USB plug. The Allegro automatically turns on.



2. Double click on the *My Computer* icon on your PC's desktop.



3. Double click on the Mobile Device icon. Pictures could be different depending on your computer's operating.



4. Double click on the main directory. (Could be *My Handheld PC* on another operating system).

Solution → Credinateur → FieldPC100864 →	✓ 4 Rei	chercher dans : FieldPC100864
rganiser 🔻		
Documents Images Musique	CF Card 1,90 Go libres sur 1,90 G	io
Image: Section 2 Image: Section 2 Image: Section 2 Image: Section 2 Image: Section 2 Image: Section 2 Image: Section 2 Image: Section 2		

5. Double click on the Storage folder.

rganiser 🔻			
Bureau	Application Data Dossier de fichiers	ConnMgr Dossier de fichiers	
Documents Images Musique	Documents and Settings Dossier de fichiers	MUSIC Dossier de fichiers	
Vidéos Celine Desgagnes		Program Files Doscier de fichiers te de création : 2011-04-07 18:09	
I∎ Ordinateur I∎ Réseau III Panneau de configurati	Storage Dossier de fichiers	bdifié le : 2011-04-07 18:09 Fichier VOL 64,0 Ko	
 Corbeille ht My Mobile 	Fichier VOL 340 Ko		

6. Double click on the GDD folder.

Organiser 🔻			
E Bureau Bibliothèques Documents Images Musique Vidéos Celine Desgagnes	GDD Dossier de fichiers	Rx_MEM_Ver_3 Fichier 2012-06-18 19:57	

7. Rename the old version of the software to keep a backup on your Allegro Mx. Right click on the GDD Rx.exe icon and click on the Rename option.

V Vrdinateur 🕨 Fie	ldPC100864 ► \ ► Stora	age 🕨 GDD		✓ 4 Recherche	r dans : GDD	-
rganiser 🔻						
Bureau Bibliothèques	atl80		FireFly Co 2012-04-0 17,0 Ko			
Images	2012-04-03 224 223 Ko	Ouvrir	GDD Rx c	h		
Vidéos 🔀 Celine Desgagnes	GDD Rx es	Couper Copier	GDD Rx fr	r		
Pározu		Supprimer	- MECONI			
- Reseau	GDD Rx por	Renommer	MFC80U			
Corbeille		Propriétés				
Panneau de configurati	msvcr80		MIFC800			

8. Rename the software (example: GDD_Rx_Old Version.exe)

rganiser 🔻				
ureau	Q	at180	FireFly Config 2012-04-03 22:31 17,0 Ko	
 Documents Images Musique 	Q	GDD Rx ch	GDD Rx es	
Vidéos R Celine Desgagnes	Q	GDD Rx fr	GDD Rx por	
14 Ordinateur 14 Réseau 19 Panneau de configurati		GDD Rx_Vieille version 2012-04-03 22:31 223 Ko	MFC80U	
🗑 Corbeille 퉬 ht 퉬 My Mobile	Q	msvcr80		

9. Use the drag and drop, or the copy and paste functions to move the new GDD Rx software files from your computer to your Allegro MX's GDD.

rganiser 🔻		L. M.	= - 🔟 (
Bureau Bibliothèques	atl80	FireFly Config 2012-04-03 22:31 17,0 Ko	
 Documents Images Musique 	GDD Rx 2012-04-03 22:31 223 Ko	GDD Rx ch	
Vidéos Celine Desgagnes	GDD Rx es	GDD Rx fr	
Image: Contracteur Image: C	GDD Rx por	MFC80U	
🧑 Corbeille 🎍 ht 🦆 My Mobile	msvcr80		

12. Troubleshooting

This section suggests problems that could occur while using the GDD Rx8-32 and their solutions.

For any issues regarding the Allegro Mx pocket PC other than those related to the GDD program, please refer to the Allegro Mx's user manual available on the Allegro Mx CD/USB stick sent by GDD.

➢ Problem:

The GDD Rx program's shortcut has disappeared from the Start menu of the main screen of the Allegro Mx pocket PC.

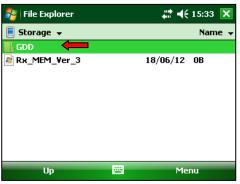
✓ <u>Answer</u>:

This might happen if the Allegro Mx main battery has been completely discharged. To recreate the shortcut on the desktop, follow these steps:

- 1. Click on Start menu and select File Explorer.
- 2. Click on the upper bar and select Storage.



3. Click on the GDD folder.



4. Click and hold your pencil on the GDD Rx file and select Copy.

	💦 File Explorer	₩	1:35 🗙	眷 File Explorer	🗱 📢 1:37 🗙
	冒 GDD 👻		Name 🚽	冒 GDD 👻	Name 👻
	Fireriy Config	2/10/09	17.0K	🥵 FireFly Config	2/10/09 17.0K
C	🕵 GDD Rx 🌙	2/10/09	175K	GDD RY	2/10/09 175K
	GDD RX	2/10/09	28B	GDD B	2/10/09 288
	🔊 Rx_MEM_Ver_2	2/10/09	OB		2/10/09 OB
				<u>R</u> ename	
				Delete	
				<u>S</u> end	
				<u>B</u> eam File	
	Up	🖽 Me	nu	Up	Menu

5. Click on the upper bar and select My Device.

💦 File Explorer	🗱 📢 1:39 🗙
Show 👻	Name 👻
My Device	2/10/09 17.0K
<u>S</u> torage	2/10/09 175K
• <u>G</u> DD	2/10/09 288
My Documents	2/10/09 OB
CF Card	
Up	Menu

6. Select Windows.

	背 File Explorer	# ₹	(1:40	x
	📕 My Device 👻		Nam	e 🗸
	MUSIC			
	My Documents			
	📙 Program Files			
	🚰 Storage			
_	Temp			
C	🔲 Windows 💙			=
	ALL_DATA_LOG	2/10/09	OB	
	🔊 cemail	2/10/09	144K	
	Nxip_lang	2/10/09	28.0K	•
	Up	 Me	nu	

7. Select Start Menu.



8. Click and hold your pencil on an unoccupied spot in the window until the pop-up menu appears. Select Paste Shortcut.

🐉 File Explorer	цт.	4 € 1:44 🛛 🗙
📃 Start Menu 👻		Name 👻
Programs Settings O ActiveSync File Explorer	Refresh Show All Files Paste Paste Shortcut New Folder	8 15B 8 14B
Up		Menu

9. Rename the shortcut GDD Rx.

🐉 File Explorer	ŧ	🕈 📢 15:42 🗙	💕 File Explorer	🗱 📢 15:43 🗙
📃 Start Menu 👻	Cu <u>t</u>	Name 🗸	📃 Start Menu 👻	Name 👻
📙 Programs 🛛 🦯	Есру		Settings	▲
Settings	Rename		🔇 ActiveSync	07/04/11 15B
🔇 ActiveSync		4/11 15B	🞑 File Explorer	07/04/11 14B _≡
🞑 File Explorer		4/11 14B	🛃 GDD Rx	29/06/12 288
Shortcut to GDD Rx	<u>B</u> eam File	5/12 28B		▼
				8 9 0 - = 🗲
			Tab q w e r t y u	1 1 0 p []
			CAP a s d f g h	j k l ; '
			Shift Z X C V b n	m / . / ←
			Ctl áü ` \	↓ ↑ ← →
Up		Menu	Up 🔤 🔺	Menu

Problem:

The receiver is not ON when the On-Off switch is at 'On'.

✓ <u>Answer</u>:

- In Cable mode, the receiver will only be ON when the GDD Rx program is active on the pocket PC.
- If the receiver's battery power rating is below the critical threshold, the receiver will not turn on. (See Section 4 - Power for more details.)

➢ <u>Problem</u>:

The Internal Battery Label on the receiver panel does not light when the power supply is connected to the receiver.

✓ <u>Answer</u>:

- Verify that the 120V or 240V (black) power cable is plugged into the power supply and that it is connected to a power source.
- Verify that the connector is properly inserted into the power supply connector.
- Verify that the "Internal battery / External battery" switch is on "Internal battery".
- Verify that the power supply is working properly: unplug the power supply from the receiver and from its power source. Plug it into the power source again and the green light should turn on.
- ➢ <u>Problem</u>:

The message: 'GDD Rx – No Receiver' is shown in the program bar of the GDD Rx program. It stays on the bar even if the Allegro Mx is connected to the receiver.



✓ <u>Answer:</u>

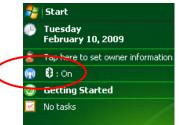
- Check that the receiver's On-Off switch is at On and that the LED is on.
- Verify that the receiver's batteries are powered enough and not within the critical threshold limit.
- In Cable mode, verify that the cable is plugged correctly into the receiver and into the Allegro Mx pocket PC. If you are using the D-SUB 9 to D-SUB 9 cable, try replacing the cable to a D-SUB 9 to Amphenol 6 cable (or the opposite if you were using a D-SUB 9 to Amphenol 6 as your primary cable).
- In Cable mode, make sure your cable is connected to the COM1 port of the Allegro Mx pocket PC.
- In Bluetooth mode, this can happen if the Bluetooth module of the PDA did not close its virtual communication port properly. Close the GDD Rx program and turn off the receiver. Wait for about 10 seconds and then, turn on the receiver and try to restart the GDD Rx program in Bluetooth mode.
- If the program still not detects the receiver in Bluetooth mode, open the program in RS232 mode and save all your data. When your data is saved, push and hold the ON button of the Allegro to reset it.
- > <u>Problem</u>:

In Bluetooth mode, the following message appears.

COM Error 0.					
Try again?					
Yes No					

✓ <u>Answer</u>:

- Make sure that the Cable / Wireless switch is in the Wireless position and that the receiver is turned on.
- Verify that your Allegro Mx's Bluetooth is ON. If the Bluetooth is Off, see Section 10.1 to turn it on.

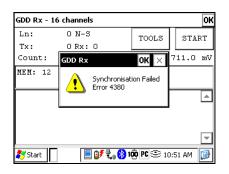


- See Section 10.1 to find out how to verify if a partnership has been established between your receiver and your Allegro Mx.
- Reset your Allegro Mx by pressing and holding the Power button. The following message appears. Select Reset.



Problem:

A synchronization error message appears while synchronizing with the receiver.



✓ <u>Answer</u>:

 Make sure that the Timing and Duty Cycle of the receiver corresponds to the Time base and Duty Cycle of the transmitter.



 Check if the signal (Vp > 2) of the trigger channel is high enough. Otherwise, try to synchronize with another channel. You should select the channel that receives the higher signal as the trigger channel.

GDD Rx -	32 channels		. ◀€ 10:57	ok
	E	l. array:	Tx – Rx	
🔽 ALL 🔲	ALL Dipo	le-Dipole	(1/32)	•
Ch1	Ch5	🖌 Ch9	🖌 Ch13	
🗸 Ch2	🖌 Ch6	🖌 Ch10	🖌 Ch14	
🗸 Ch3	Ch7	🖌 Ch11	🖌 Ch15	
🔽 Ch4	🗸 Ch8	V Chiz	Ch16	
>>>> Pa	age 2 T	rigger on:	1 🔻	
Setup Positio	n Windows			

- Check if the transmitter works properly. If the transmitted signal is asymmetrical, the receiver may not synchronize.
- > <u>Problem</u>:

A warning red rectangle appears in the main window during the acquisition process. If you click on the red rectangle, a saturation message appears.

鸄 GDD I	Rx - 15 channels	#‡ ◄<	10:02 ok	#	GDD Rx - 15 ch	annels		€ 10:02
Ln:	0 N-S	TOOLS	STOP	Ln:	0 N-	3	TOOLS	STOP
Tx:	0 Rx: 0			Tx:	0 Rx	: 0		
Count:	26200 ???	V: -17	653.1 mV	Cou	nt: 264	:00	V: 1	7394.1 mV
MEM: 2 CH	B: 0.0% Stack: 4 Rho Vp		.0 ErrM	MEM CH	: 2 B: (GDD RI	Rx	ok)C	00.0 M ErrM
01	0.00 17491.449	724.19	86.02 🔺	01	0.0	SATURA Channel		84.98

- ✓ <u>Answer</u>:
- If this message appears, it means that the signal on some of the channels is higher than 15 volts. The channels of the receiver are protected against voltage up do 500V but they can read a Vp of up to 15V only. To prevent the voltage saturation, you can try to reduce the transmitted current at the transmitter.
- > <u>Problem</u>:

F1 to F5 keystrokes do not work.

- ✓ <u>Answer</u>:
- On your Allegro Mx, go to Start Menu | Settings | Buttons | FKey and enable F buttons.



Problem:

Creating files or transferring files takes too much time.

- ✓ <u>Answer:</u>
- The size of the fullwave file explains the export time on the PDA. We have developed an IP Post-Process software and we would recommend using this tool to generate the fullwave files instead of doing it on the PDA. It will speed up the export process.

You will find the software and the instructions on the CD-ROM / USB stick provided by GDD. Or contact GDD technical support for more information.

> <u>Problem</u>:

It is not possible to start Windows Mobile Device Center and transfer the IP data from the Allegro for computer operating under *Windows 10*.

- ✓ <u>Answer</u>:
- Refer to the "Sync PDA on Windows 10.pdf" document located on the CD-ROM/USB stick provided by GDD.
- > Problem :

After carrying out a soft reset of the PDA, the MEM number indicates 0 even though a certain number of acquisitions have already been made.

Ln:	100 N	Contraction of Contra	TOC	DLS	STC	P
Tx:		x: 50		_		
Count	: 1	1700	V:	34	-125.1	m
MEM:	0 B: 86.	3% Stack	2 I:	10	00.0	
CH	Rho	VI	C	Μ	ErrM	
01	19.65	17125.095	57.	945	0.005	1
02	78.61	12250.23	57.	946	0.001	- iii
03	176.59	9374.73	э 7.	947	0.001	
04	314.54	7500.603	27.	954	0.002	
05	491.66	5625.995	5 7.	949	0.000	1.0

✓ <u>Answer</u>:

 On rare occasions, the PDA does not detect the memory card after reinitialization (or when starting the GDD_Rx software very shortly after turning the PDA ON) and this is why the MEM number is back to 0.

When this happens, you need to exit the GDD_Rx software, wait 15 seconds and start the application again. The MEM should be back to its original count.

Newer versions of the GDD_Rx software (4.2.43) include an automatic detection and the MEM count should be back to its expected value within a minute or so. A ! sign will appear in front of the MEM number if the SD card is not detected.

GDD Rx Ln: Tx:	- !!! NO REC 0 N 0 R:		TOOLS	K € @ 9 Stai	
Count	:	0	V:	0	mV
!MEM: CH	1 B: 99 Rho		k: 10 I: P ErrVp	0.0 Sym(%)	
01 02 03 04 05	29.52 88.54 177.15 295.33 442.97	234.88 -234.84 234.95 -235.01 235.00	7 0.013 3 0.017 9 0.014	100 100 100 100 100	
)		ж

13. Specifications

13.1 General specifications

Number of channels:	8, 10, 16, 24 or 32
Size (receiver only):	41 x 33 x 17 cm (16 x 13 x 7 in)
Weight (receiver only):	7 kg (15 lbs)
Enclosure:	Heavy-duty Pelican case, environmentally sealed
Communication options:	RS-232 (serial) and Bluetooth to communicate with a PDA USB for data download
Power supply:	14.4V 13.5Ah rechargeable Lithium-Ion internal battery 14.4V 5.5Ah rechargeable Lithium-Ion external battery pack
Temperature range:	-40 to +60°C (-49 to +140°F)
Humidity range:	Waterproof
13.2 Technical specifications	
Survey capabilities:	Resistivity and Time domain IP
Twenty chargeability windows:	Arithmetic, logarithmic, semi-logarithmic, Cole-Cole and user defined
Synchronization:	Automatic re-synchronization Process on primary voltage Signal GPS time synchronization

Noise reduction:Automatic stacking numberComputation:Apparent resistivity,
chargeability, standard
deviation, and % of symmetrical Vp

Ground Resistance:Up to 1.5 MΩSignal waveform:Time domain (ON+, OFF, ON-, OFF)Time base:0.5, 1, 2, 4, 8 and 16 seconds

Instrumentation GDD

Input impedance:	5 G Ω at 0.125 Hz and 130 M Ω at 7 Hz
Primary voltage range:	±10 uV to ±15 V for any channel
Input Common-Mode Voltage range with respect to reference in dipole-dipole configuration:	±15 V
Protection:	500V (on each channel)
Input:	True differential for common-mode rejection in dipole configuration
Voltage measurement (Vp):	Resolution 1µV Accuracy ≤ 0.15%
Chargeability measurement (M):	Resolution 1µV/V Accuracy ≤ 0.4%
(SP) offset adjustment:	Automatic compensation through linear drift correction per steps of 150μ, with resolution of 1μV
Filter:	Eight-pole Bessel low-pass 15 Hz, Notch filter 50 Hz and 60 Hz
Reads up to 32 ch. simultaneously in pole	es or dipoles

PDA menu-driven software / simple to use

32 channels configuration allows 3D Survey:
4 lines X 8 channels – 2 lines X 16 channels –
1 line X 32 channels

Real-time data and automatic data stacking

Screen-graphics: decay curves, apparent resistivity, chargeability, Vp, pseudosection

20 programmable chargeability windows

One 24 bits A/D converter per channel

Internal test generator (Self-test mode)

For more details about the Allegro Mx rugged field PC specifications, read the Allegro Mx manual.

14. Technical help

If you encounter a problem not described in this manual, do not hesitate to contact **Instrumentation GDD** for help at:

Tel.: +1 (418) 478-5469

e-mail: info@gddinstruments.com

Any GDD IP Receiver that breaks down while under warranty or service will be replaced free of charge upon request for the duration of repairs, except for shipping fees. This service is subject to instrument availability but we have been able to honour this commitment up to now.

Printed in Canada in 2023

Version: manual-ip-receiver-2023-07-17-MX -EN.docx

Annex 1 – Geometrical parameters

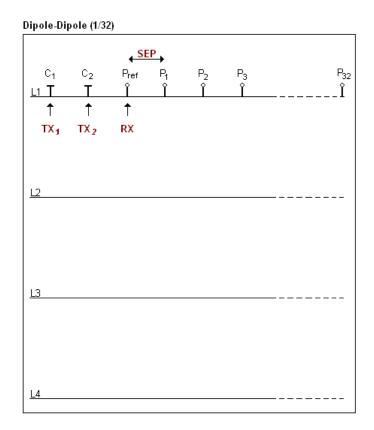
This annex explains how to configure your receiver according to the selection of the electrode array.

Electrode array	Geometrical parameters to			ters to	Maximum number of dipoles
	enter				
Dipole-Dipole	Tx1	Tx2	Rx	Sep	32
Pole-Dipole		Tx2	Rx	Sep	32
Pole-Pole		Tx2	Rx	Sep	32
Gradient	Tx1	Tx2	Rx	Sep	32
Wenner	Tx1	Tx2			1
Schlumberger	Tx1	Tx2		Sep	1

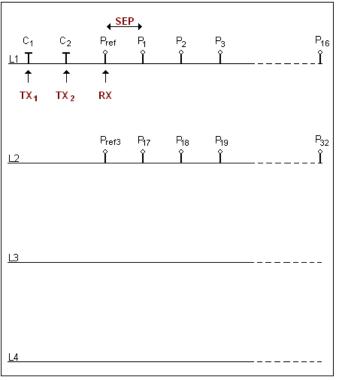
Tx1: Transmitter first electrode position

- Tx2: Transmitter second electrode position
- Rx: Receiver first electrode position
- Sep: Separation between two receiver electrodes

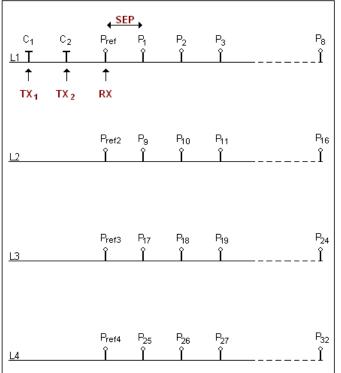
Note: For all electrode arrays, the Tx line and the RX line(s) can be different.

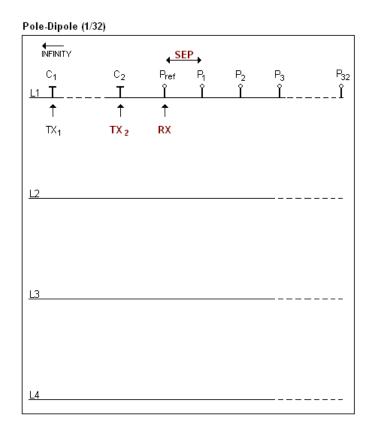




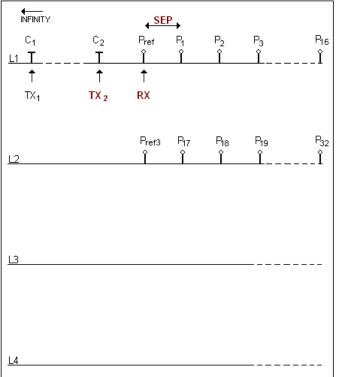


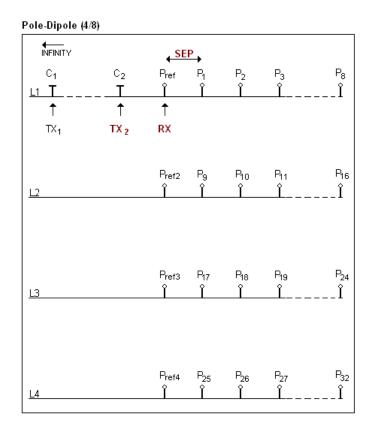




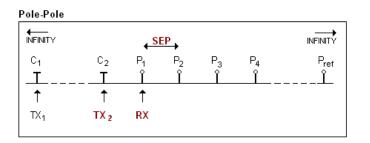


Pole-Dipole (2/16)

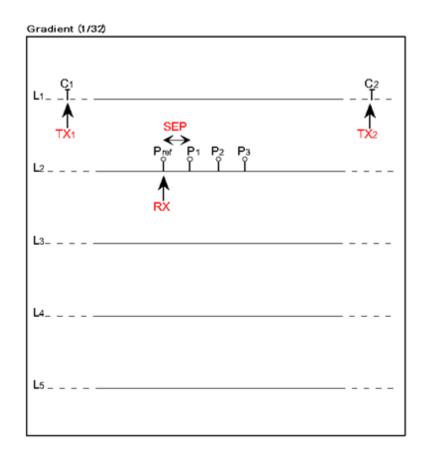




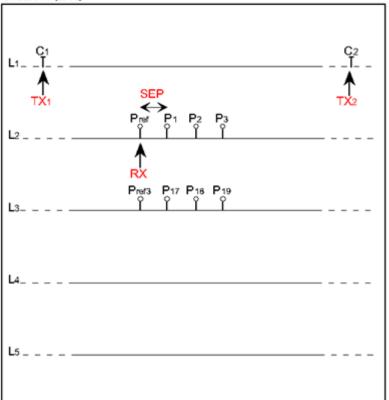
The electrode C1 has to be set far from the other electrodes, usually 5 times the maximum distance between C2 and Pref.

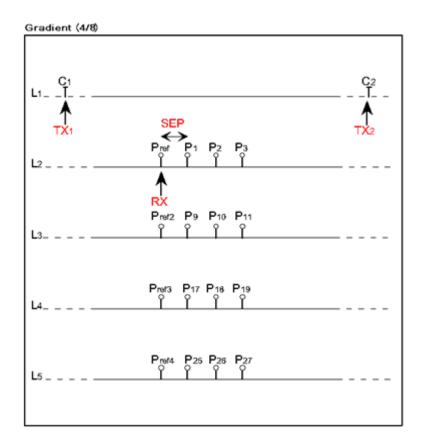


The electrodes C1 and Pref have to be set far from C2 and P1, usually 10 times the maximum distance between C2 and P1.

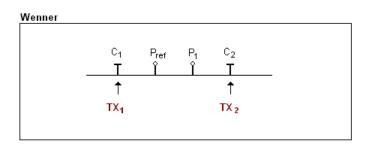




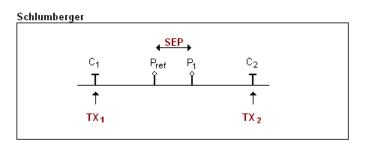




The electrodes C1 and C2 are fixed. The electrode P is moved parallel to C inside a zone located in the central part of C1, C2.



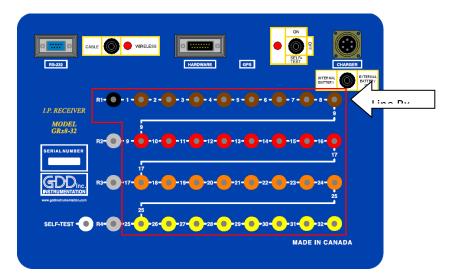
The electrodes C1, Pref, P1 and C2 are equidistant.



The electrodes Pref and P1 are located at the middle point of electrodes C1 and C2.

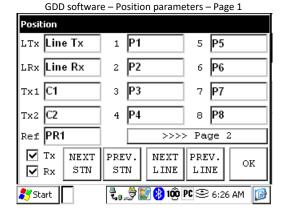
Annex 2 – 3D Survey

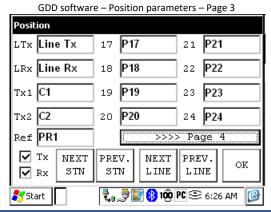
1. Receiver Dipole (1/32)



Electrode number	Electrode position on the	Electrode color on the	Electrode line number
(software parameter)	receiver	receiver	(software parameter)
PR1	1 st row – 1 st hole	Black	Line Rx
P1	1 st row – 2 nd hole	Brown	Line Rx
P2	1 st row – 3 rd hole	Brown	Line Rx
P3	1 st row – 4 th hole	Brown	Line Rx
P4	1 st row – 5 th hole	Brown	Line Rx
Р5	1 st row – 6 th hole	Brown	Line Rx
P6	1 st row – 7 th hole	Brown	Line Rx
P7	1 st row – 8 th hole	Brown	Line Rx
P8	1 st row – 9 th hole	Brown	Line Rx
Р9	2 nd row – 2 nd hole	Red	Line Rx
P10	2 nd row – 3 rd hole	Red	Line Rx
P11	2 nd row – 4 th hole	Red	Line Rx
P12	2 nd row – 5 th hole	Red	Line Rx
P13	2 nd row – 6 th hole	Red	Line Rx
P14	2 nd row – 7 th hole	Red	Line Rx
P15	2 nd row – 8 th hole	Red	Line Rx
P16	2 nd row – 9 th hole	Red	Line Rx
P17	3 rd row – 2 nd hole	Orange	Line Rx
P18	3 rd row – 3 rd hole	Orange	Line Rx
P19	3 rd row – 4 th hole	Orange	Line Rx
P20	3 rd row – 5 th hole	Orange	Line Rx
P21	3 rd row – 6 th hole	Orange	Line Rx
P22	3 rd row – 7 th hole	Orange	Line Rx
P23	3 rd row – 8 th hole	Orange	Line Rx
P24	3 rd row – 9 th hole	Orange	Line Rx
P25	4 th row – 3 rd hole	Yellow	Line Rx
P26	4 th row – 4 th hole	Yellow	Line Rx
P27	4 th row – 5 th hole	Yellow	Line Rx
P28	4 th row – 6 th hole	Yellow	Line Rx
P29	4 th row – 7 th hole	Yellow	Line Rx
P30	4 th row – 8 th hole	Yellow	Line Rx
P31	4 th row – 9 th hole	Yellow	Line Rx
P32	4 th row – 10 th hole	Yellow	Line Rx

Dipole number	Dipole description
D1	P1-PR1
D2	P2-P1
D3	P3-P2
D4	P4-P3
D5	P5-P4
D6	P6-P5
D7	P7-P6
D8	P8-P7
D9	P9-P8
D10	P10-P9
D11	P11-P10
D12	P12-P11
D13	P13-P12
D14	P14-P13
D15	P15-P14
D16	P16-P15
D17	P17-P16
D18	P18-P17
D19	P19-P18
D20	P20-P19
D21	P21-P20
D22	P22-P21
D23	P23-P22
D24	P24-P23
D25	P25-P24
D26	P26-P25
D27	P27-P26
D28	P28-P27
D29	P29-P28
D30	P30-P29
D31	P31-P30
D32	P32-P31





Instrumentation GDD

GDD software – Position parameters – Page 2					
Position					
ltx Line Tx	9 P 9	13 P13			
lrx Line Rx	10 P10	14 P14			
Tx1 C1	11 P11	15 P15			
Tx2 C2	12 P12	16 P16			
Ref PR1	>>>>	> Page 3			
TX NEXT Rx STN	PREV. NEXT STN LINE	PREV. LINE OK			
	🖏 🏓 💽 🚷 100	PC 😌 6:26 AM 🛛 🞯			

GDD software – Position parameters – Page 4

GDD Soltwal	e – Posicion parame				
Position					
LTX Line TX	25 P25	29 P29			
lrx Line Rx	26 P26	30 P30			
Tx1 C1	27 P27	31 P31			
Tx2 C2	28 P28	32 P32			
Ref PR1	>>>>	> Page 1			
Tx NEXT Rx STN	PREV. NEXT STN LINE	PREV. LINE OK			
🀉 Start 📘 🗧 🎝 💭 🚷 100 PC 😂 6:26 AM 🞯					

<u>Pole-L</u>	Dipole (1/3	<u>82)</u>					
	↓ INFINITY						
Line Tx		C2					
Line Rx			PR1	P1	P2	P3	<u>P32</u>

Dipole-Dipole (1/32)

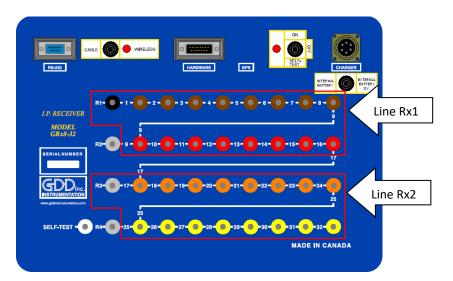
Line	C1	C2					
Tx							
			PR1	P1	P2	Р3	P32
Line							
Rx							

<u>Gradient (1/32)</u>

_ine o	21						C2
x							
		PR1	P1	P2	P3	P32	
ine				-			
Rx		•	•		•		

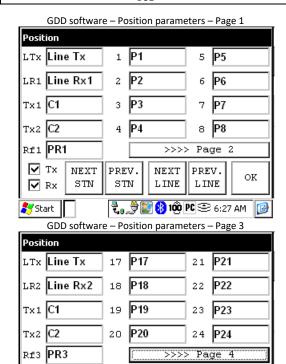
*The transmitter and the receiver can be on the same line.

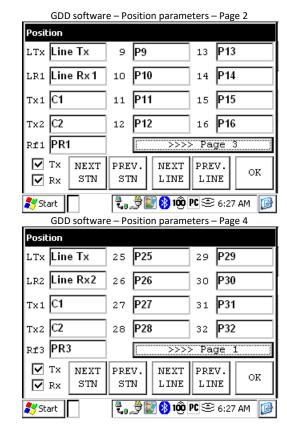
2. Receiver Dipole (2/16)



Electrode number	Electrode position on the	Electrode color on the	Electrode line number
(software parameter)	receiver	receiver	(software parameter)
PR1	1 st row – 1 st hole	Black	Line Rx1
P1	1 st row – 2 nd hole	Brown	Line Rx1
P2	1 st row – 3 rd hole	Brown	Line Rx1
P3	1 st row – 4 th hole	Brown	Line Rx1
P4	1 st row – 5 th hole	Brown	Line Rx1
P5	1 st row – 6 th hole	Brown	Line Rx1
P6	1 st row – 7 th hole	Brown	Line Rx1
P7	1 st row – 8 th hole	Brown	Line Rx1
P8	1 st row – 9 th hole	Brown	Line Rx1
P9	2 nd row – 2 nd hole	Red	Line Rx1
P10	2 nd row – 3 rd hole	Red	Line Rx1
P11	2 nd row – 4 th hole	Red	Line Rx1
P12	2 nd row – 5 th hole	Red	Line Rx1
P13	2 nd row – 6 th hole	Red	Line Rx1
P14	2 nd row – 7 th hole	Red	Line Rx1
P15	2 nd row – 8 th hole	Red	Line Rx1
P16	2 nd row – 9 th hole	Red	Line Rx1
PR3	3 rd row – 1 st hole	Grey	Line Rx2
P17	3 rd row – 2 nd hole	Orange	Line Rx2
P18	3 rd row – 3 rd hole	Orange	Line Rx2
P19	3 rd row – 4 th hole	Orange	Line Rx2
P20	3 rd row – 5 th hole	Orange	Line Rx2
P21	3 rd row – 6 th hole	Orange	Line Rx2
P22	3 rd row – 7 th hole	Orange	Line Rx2
P23	3 rd row – 8 th hole	Orange	Line Rx2
P24	3 rd row – 9 th hole	Orange	Line Rx2
P25	4 th row – 3 rd hole	Yellow	Line Rx2
P26	4 th row – 4 th hole	Yellow	Line Rx2
P27	4 th row – 5 th hole	Yellow	Line Rx2
P28	4 th row – 6 th hole	Yellow	Line Rx2
P29	4 th row – 7 th hole	Yellow	Line Rx2
P30	4 th row – 8 th hole	Yellow	Line Rx2
P31	4 th row – 9 th hole	Yellow	Line Rx2
P32	4 th row – 10 th hole	Yellow	Line Rx2

Dipole number	Dipole description
D1	P1-PR1
D2	P2-P1
D3	P3-P2
D4	P4-P3
D5	P5-P4
D6	P6-P5
D7	P7-P6
D8	P8-P7
D9	P9-P8
D10	P10-P9
D11	P11-P10
D12	P12-P11
D13	P13-P12
D14	P14-P13
D15	P15-P14
D16	P16-P15
D17	P17-PR3
D18	P18-P17
D19	P19-P18
D20	P20-P19
D21	P21-P20
D22	P22-P21
D23	P23-P22
D24	P24-P23
D25	P25-P24
D26	P26-P25
D27	P27-P26
D28	P28-P27
D29	P29-P28
D30	P30-P29
D31	P31-P30
D32	P32-P31





Instrumentation GDD

NEXT

STN

PREV.

STN

NEXT

PREV.

LINE LINE

🖏 🍠 💽 🚯 100 PC 😂 6:27 AM

OK

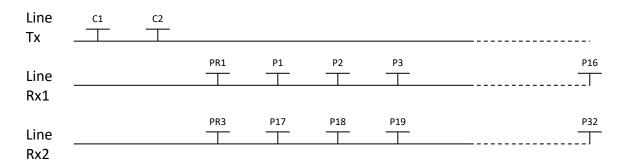
🔽 Tx

🔽 Rx

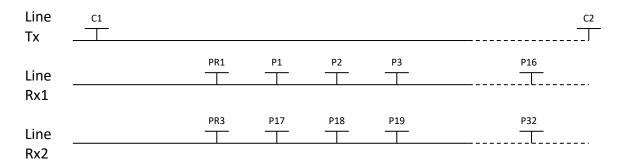
💦 Start

Pole-L	Dipole (2/1	<u>.6)</u>					
	■						
Line	C1	C2					
Тx							
			PR1	P1	P2	РЗ	P16
Line							
Rx1							
			PR3	P17	P18	P19	P32
Line							
Rx2							

Dipole-Dipole (2/16)

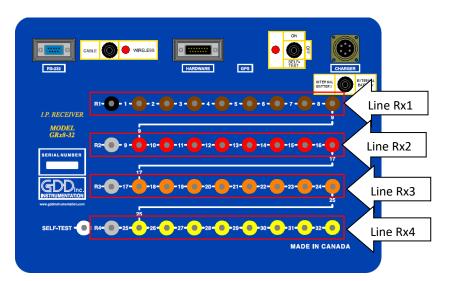


Gradient (2/16)



*The transmitter and the receiver can be on the same line.

3. Receiver Dipole (4/8)



Electrode number (software	Electrode position on the	Electrode color on the	Electrode line number
parameter)	receiver	receiver	(software parameter)
PR1	1 st row – 1 st hole	Black	Line Rx1
P1	1 st row – 2 nd hole	Brown	Line Rx1
P2	1 st row – 3 rd hole	Brown	Line Rx1
P3	1 st row – 4 th hole	Brown	Line Rx1
P4	1 st row – 5 th hole	Brown	Line Rx1
P5	1 st row – 6 th hole	Brown	Line Rx1
P6	1 st row – 7 th hole	Brown	Line Rx1
P7	1 st row – 8 th hole	Brown	Line Rx1
P8	1 st row – 9 th hole	Brown	Line Rx1
PR2	2 nd row – 1 st hole	Grey	Line Rx2
Р9	2 nd row – 2 nd hole	Red	Line Rx2
P10	2 nd row – 3 rd hole	Red	Line Rx2
P11	2 nd row – 4 th hole	Red	Line Rx2
P12	2 nd row – 5 th hole	Red	Line Rx2
P13	2 nd row – 6 th hole	Red	Line Rx2
P14	2 nd row – 7 th hole	Red	Line Rx2
P15	2 nd row – 8 th hole	Red	Line Rx2
P16	2 nd row – 9 th hole	Red	Line Rx2
PR3	3 rd row – 1 st hole	Grey	Line Rx3
P17	3 rd row – 2 nd hole	Orange	Line Rx3
P18	3 rd row – 3 rd hole	Orange	Line Rx3
P19	3 rd row – 4 th hole	Orange	Line Rx3
P20	3 rd row – 5 th hole	Orange	Line Rx3
P21	3 rd row – 6 th hole	Orange	Line Rx3
P22	3 rd row – 7 th hole	Orange	Line Rx3
P23	3 rd row – 8 th hole	Orange	Line Rx3
P24	3 rd row – 9 th hole	Orange	Line Rx3
PR4	4 th row – 2 nd hole	Grey	Line Rx4
P25	4 th row – 3 rd hole	Yellow	Line Rx4
P26	4 th row – 4 th hole	Yellow	Line Rx4
P27	4 th row – 5 th hole	Yellow	Line Rx4
P28	4 th row – 6 th hole	Yellow	Line Rx4
P29	4 th row – 7 th hole	Yellow	Line Rx4
P30	4 th row – 8 th hole	Yellow	Line Rx4
P31	4 th row – 9 th hole	Yellow	Line Rx4
P32	4 th row – 10 th hole	Yellow	Line Rx4

Dipole number	Dipole description
D1	P1-PR1
D2	P2-P1
D3	P3-P2
D4	P4-P3
D5	Р5-Р4
D6	P6-P5
D7	Р7-Р6
D8	P8-P7
 D9	P9-PR2
D10	P10-P9
D10	P10-P9 P11-P10
D11 D12	P11-P10 P12-P11
D12	P12-P11 P13-P12
D13	P13-P12 P14-P13
D15	P15-P14
D16	P16-P15
D17	P17-PR3
D18	P18-P17
D19	P19-P18
D20	P20-P19
D21	P21-P20
D22	P22-P21
D23	P23-P22
D24	P24-P23
D25	P25-PR4
D26	P26-P25
D28	P26-P25
D28	P27-P20
D29	P29-P28
D30	P29-F28
D30	P30-F29
D31 D32	P31-P30 P32-P31
032	422-421

GDD software – Position parameters – Page 1

Position		
ltx Line Tx	1 P1	5 P5
LR1 Line Rx1	2 P2	6 P6
Tx1 C1	3 P3	7 P7
Tx2 C2	4 P 4	8 P8
Rf1 PR1	>>>>	> Page 2
Tx NEXT Rx STN	PREV. NEXT STN LINE	PREV. LINE OK
Start	🖥 🛞 🗐 🔡 🖏 100	PC 🗢 6:27 AM 🛛 🞯

GDD software – Position parameters – Page 3						
Position						
LTx Line Tx	17 P17 21 P21					
LR3 Line Rx3	18 P18 22 P22					
Tx1 C1	19 P19 23 P23					
Tx2 C2	20 P20 24 P24					
R£3 PR3	>>>> Page 4					
▼ Tx NEXT ▼ Rx STN	PREV. NEXT PREV. STN LINE LINE OK					
🂦 Start	ᢏ 💭 🌑 🚷 100 PC 🕾 6:28 AM 🛛 🕼					

GDD software – Position parameters – Page 2

Position	
ltx Line Tx	9 P9 13 P13
LR2 Line Rx2	10 P10 14 P14
Tx1 C1	11 P11 15 P15
Tx2 C2	12 P12 16 P16
R£2 PR2	>>>> Page 3
▼ Tx NEXT ▼ Rx STN	PREV. NEXT PREV. STN LINE LINE OK
	🗞 🏓 💽 🚯 100 PC 🗢 6:28 AM 👔

GDD softwar	e – Position parame	eters – Page 4
Position		
LTx Line Tx	25 P25	29 P29
LR4 Line Rx4	26 P26	30 P30
Tx1 C1	27 P27	31 P31
Tx2 C2	28 P28	32 P32
Rf4 PR4	>>>>>	> Page 1
TX NEXT Rx STN	PREV. NEXT STN LINE	PREV. LINE OK
	2,, 党 🔝 🛞 100	PC 😌 6:28 AM 🛛 😰

Instrumentation GDD

Pole-Dipole (4/8)

		-7					
	INFINITY						
Line	C1	C2					
Tx _							
			PR1	P1	P2	P3	P1
Line _						<u> </u>	
Rx1							
			PR2	P9	P10	P11	P1
Line _							
Rx2							
			PR3	P17	P18	P19	P2
Line _							
Rx3							
			PR4	P25	P26	P27	РЗ
Line							

Dipole-Dipole (4/8)

Rx4

Line Tx	C1	C2					
			PR1	P1	P2	P3	 P8
Line]
Rx1							
			PR2	Р9	P10	P11	P16
Line						<u> </u>	
Rx2							
10.2							
			PR3	P17	P18	P19	P24
Line							
Rx3							
			PR4	P25	P26	P27	P32
Line			—			\top	
Rx4						·	 ,

<u> Gradient (4/8)</u>

Line Tx					<u></u>
Line Rx1	 PR1	P1	P2	P3	P8
Line Rx2	 PR2	P9 	P10	P11	P16
Line Rx3	 PR3	P17	P18	P19	P24
Line Rx4	 PR4	P25	P26	P27	P32

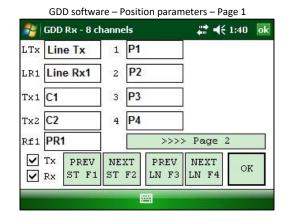
*The transmitter and the receiver can be on the same line.

4. Receiver Dipole (2/4) – For GRx8*mini* model only



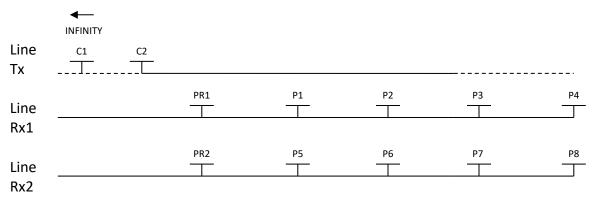
Electrode number (software parameter)	Electrode position on the receiver	Electrode color <i>on the receiver</i>	Electrode line number (software parameter)
PR1	1 st row – 1 st hole	Black	Line Rx1
P1	1 st row – 2 nd hole	Brown	Line Rx1
P2	1 st row – 3 rd hole	Brown	Line Rx1
P3	1 st row – 4 th hole	Brown	Line Rx1
Р4	1 st row – 5 th hole	Brown	Line Rx1
PR2	2 nd row – 1 st hole	Grey	Line Rx2
Р5	2 nd row – 2 nd hole	Red	Line Rx2
P6	2 nd row – 3 rd hole	Red	Line Rx2
Р7	2 nd row – 4 th hole	Red	Line Rx2
P8	2 nd row – 5 th hole	Red	Line Rx2

Dipole number	Dipole description
D1	P1-PR1
D2	P2-P1
D3	P3-P2
D4	P4-P3
D5	P5-PR2
D6	P6-P5
D7	P7-P6
D8	P8-P7



	GDD softwa	re – F	ositi	on paran	neters – Pa	nge 2	
-	GDD Rx - 8 cl	nanne	ls		_ #‡ ◄€	1:41	ok
LTx	Line Tx	5	P5				
LR2	Line Rx2	6	P6]		
Tx1	C1	7	P7]		
Tx2	C2	8	P8]		
Rf2	PR2			>>>>	> Page	3	
> >	Tx PREV Rx ST F1	NE ST		PREV LN F3	NEXT LN F4	OK	3
			6	2011 			-

Pole-Dipole (2/4)



Dipole-Dipole (2/4)

Line Tx	 C2					
Line Rx1		PR1	P1	P2	P3	P4
Line Rx2	 	PR2	P5	P6	P7	P8

<u>Gradient (2/4)</u>

PR1	P1	P2	P3	P4	
 l	l		I		
PR2	P5	P6	P7	P8	
	•		<u>. </u>		

*The transmitter and the receiver can be on the same line.

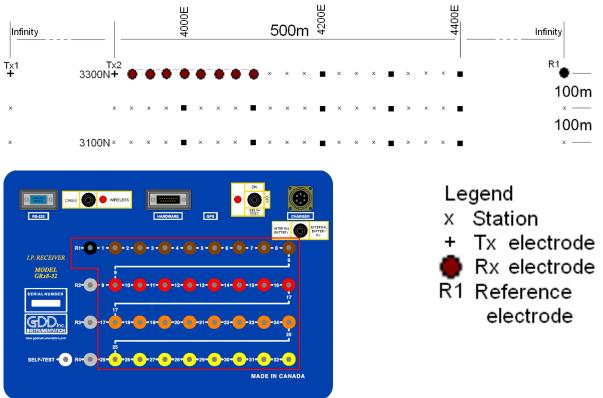
Annex 3 – Field survey setup

Survey setup

Line informa	ation	4200E	4400E	4600E	4800E	2000E
3300N • • • •	• · · · • • · ·	· • · · · • • · ·		· • · · · • • · · ·	•••••	
3100N • • • •					•••••	
	• · · · • • · ·					• • • • • • • • • • 3000N
2900N • • • •	• • • • • • • •					• • • • • • • • • • 2800N
2700N · · · ·		· • · · · · • · · ·	· • · · · · • • · ·			· • · · · • • · · · · 2000N
				· • · · · • • · · ·		•∎••••2600N
2500N · · · ·	• • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • • • •		
			• • • • • • • • •			• • • • • • • • • • 2400N
2300N* * * * *	4100E · · · •	4300E	4500E	4700E	4900E	5100E

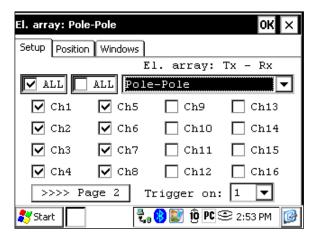
This survey consists of 11 lines, each separated by 100m. Each line is 1.3 km long. The examples below will begin at position 3300N-3900E.





For this pole-pole setup, 8 electrodes of the GDD-Rx will be used.

1) Select Pole-Pole in the setup page.



2) Enter the positions corresponding to your survey parameters.

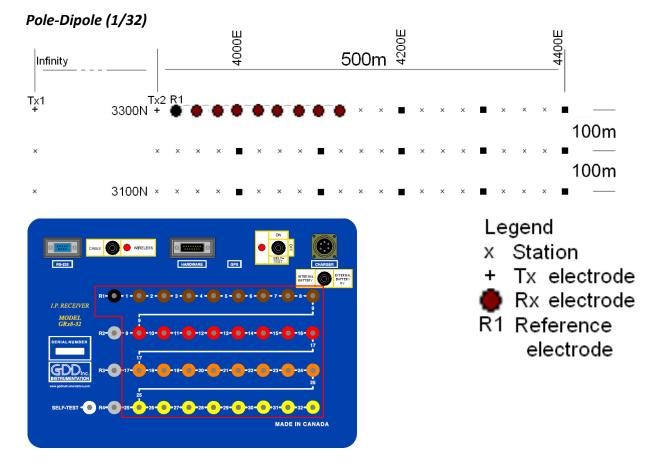
El. array: Pole-Pole			ок	×
Setup Position Windo	ows			
Project:	GDD Test			
Ln. Tx: 3300	Rx: 330	00	E-W	◄
Move LINE: Tx:	-100	Rx:	-100	
Station: Tx1:	N/A	Tx2:	3900	
Station Rx:	3925	Sep:	25	
Move ST.: Tx:	25	Rx:	25	
🂦 Start	रै. 😵 💓	ÎÕ PC 😌	2:54 PM	1

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page.

Posit	ion							
LTx	330	0	1	39	25	5	402	:5
LRx	330	0	2	39	50	6	405	0
Tx1	999	9999	3	39	75	7	407	'5
Tx2	390	10	4	40	00	8	410	10
Ref	995	9999			>>>	> Pa	ge 2	2
2		NEXT STN	PRE ST		NEXT LINE	PRE LII		ок
🀉 Sta	art		[₹.,	🤌 💓 🔞	PC 오	2:55	PM 📝

4) When the reading is done, click the NEXT STN button to increment the positions.

Posit	ion						
LTx	3300	1	3950	5	4050		
LRx	3300	2	3975	6	4075		
Tx1	9999999	3	4000	7	4100		
Tx2	3925	4	4025	8	4125		
Ref	99999999		>>>>	> Pa	ge 2		
	▼ Tx NEXT PREV. NEXT PREV. ▼ Rx STN STN LINE LINE OK						
💦 Sta	🐉 Start 🛛 🗧 🖏 💓 🔞 🖻 😂 2:56 PM 👔						



For this pole-dipole setup, 8 electrodes of the GDD-Rx will be used.

1) Select Pole-Dipole (1/32) in the setup page. The Pole-Dipole (2/16) and Pole-Dipole (4/8) options are explained in the 3D survey section at the end of this document.

El. array: Pol	e-Dipole (1/3	2)	ок 🗙
Setup Positio	n Windows		
	E	l. array:	Tx – Rx
🔽 ALL	ALL Pole	e-Dipole (1/32) 🔽
🔽 Chi	🔽 Ch5	🗌 Ch9	🗌 Ch13
🔽 Ch2	🔽 Ch6	🗌 Ch10	🗌 Ch14
🔽 Ch3	🔽 Ch7	🗌 Ch11	🗌 Ch15
🔽 Ch4	🔽 Ch8	🗌 Ch12	🗌 Ch16
>>>> P	age 2 T	rigger on:	1 🔻
	-	🛞 💓 🔞 PC S	Ҽ 3:04 РМ [🎯

2) Enter the positions corresponding to your survey parameters.

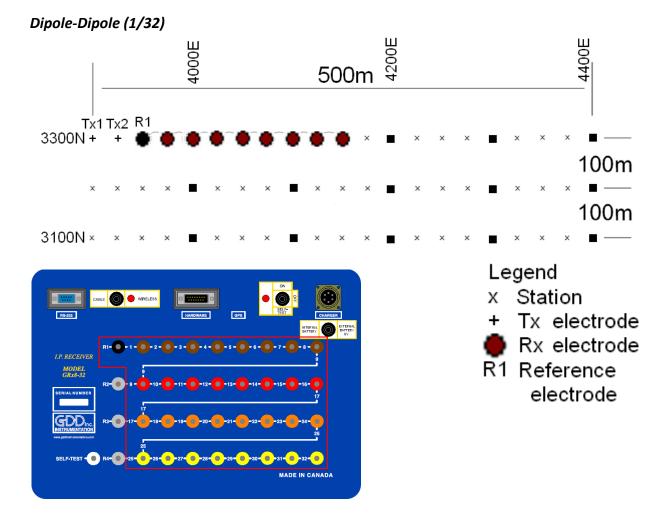
El. array: Pole-Dipole (1	(32)		ок	×
Setup Position Windows]			
Project: G	DD Test			
Ln. Tx: 3300	Rx: 330)0	E-W	▾
Move LINE: Tx:	100	Rx:	-100	
Station: Tx1:	N/A	Tx2:	3900	
Station Rx: 39	925	Sep:	25	
Move ST.: Tx: 2	5	Rx:	25	
🎝 Start	t., 🛞 💓 🛛	ÎÕ PC 🕾	3:04 PM	0

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page.

Posit	ion							
LTx	330	10	1	39	50	5	405	0
LRx	330	0	2	39	75	6	407	5
Tx1	999	99999	3	40	00	7	410	0
Tx2	390	10	4	40	25	8	412	5
Ref	392	5			>>>>	> Pa	ge 2	
V		NEXT STN	PRE ST		NEXT LINE	PRE LII	I I	ок
籺 Sta	art		[₹.,) 🔝 🔞	PC 😳	3:04	PM 🞯

4) When the reading is done, click the NEXT STN button to increment the positions.

Posit	ion				
LTx	3300	1	3975	5	4075
LRx	3300	2	4000	6	4100
Tx 1	9999999	3	4025	7	4125
Tx2	3925	4	4050	8	4150
Ref	3950		>>>>	> Pa	ge 2
>		PRE ST		PRE LIN	
ಶ Sta	art		t. 🛞 💓 🔞	PC 오	3:05 PM [



For this dipole-dipole setup, 8 electrodes of the GDD-Rx will be used.

1) Select Dipole-Dipole (1/32) in the setup page.

El. array: Dip	ole-Dipole (1,	(32)	ок 🗙
Setup Positio	n Windows		
	E	l. array:	Tx – Rx
🔽 ALL	ALL Dipo)le-Dipole	(1/32) 🔻
🔽 Chi	🗹 Ch5	Ch9	🗌 Ch13
🔽 Ch2	🗹 Ch6	🗌 Ch10	🗌 Ch14
🔽 Ch3	🔽 Ch7	🗌 Ch11	🗌 Ch15
🔽 Ch4	🔽 Ch8	🗌 Ch12	🗌 Ch16
>>>> P	age 2 T	rigger on:	1 🔻
	2.0	🛞 💓 🔞 PC 9	🖹 3:11 РМ [

2) Enter the positions corresponding to your survey parameters.

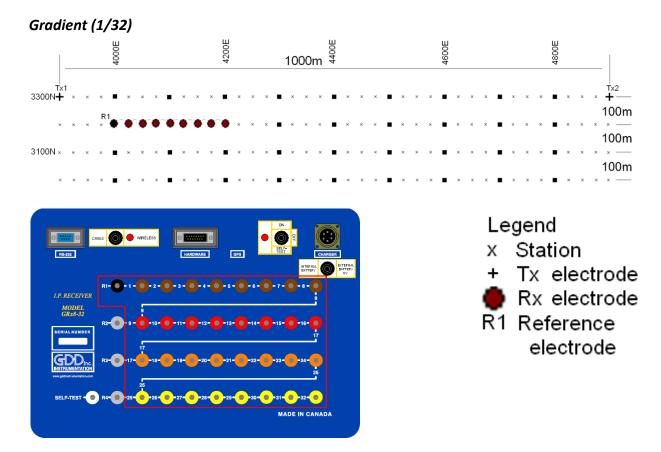
El. array: Dipole-Dipo	ile (1/32)		ок 🗙						
Setup Position Windows									
Project:	GDD Test								
Ln. Tx: 3300	Rx: 330	00	E-W 🔻						
Move LINE: Tx:	-100	Rx:	-100						
Station: Tx1:	3900	Tx2:	3925						
Station Rx:	3950	Sep:	25						
Move ST.: Tx:	25	Rx:	25						
💦 Start	2. 😢 💓	ÎÔ PC 오	3:11 PM 🛛 🚱						

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page.

Posit	ion							
LTx	330	0	1	39	75	5	401	75
LRx	330	0	2	40	00	6	410)0
Tx1	390	0	3	40	25	7	412	:5
Tx2	392	5	4	40	50	8	415	50
Ref	395	0			>>	>> Pa	.ge 2	2
N		NEXT STN	PRE ST		NEXT LINE			ок
ಶ Sta	💱 Start 🛛 🕄 🕄 🕲 🗓 🕫 🗠 3:11 PM 🕼							

4) When the reading is done, click the NEXT STN button to increment the positions.

Posit	ion				
LTx	3300	1	4000	5	4100
LRx	3300	2	4025	6	4125
Tx1	3925	з	4050	7	4150
Tx2	3950	4	4075	8	4175
Ref	3975		>>>>	> Pa	ge 2
V		PRE ST		PRE LIN	
🀉 Sta	art	4	t. 🛞 💓 🔞	PC 오	3:11 PM [

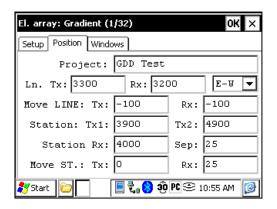


For this Gradient setup, 8 electrodes of the GDD-Rx will be used.

1) Select Gradient (1/32) in the setup page.

El. array: Gra	dient (1/32)		ок 🗙
Setup Position	n Windows		
	E	l. array:	Tx – Rx
🔽 ALL	ALL Grad	dient (1/32	
🗹 Chi	🔽 Ch5	🗌 Ch9	🗌 Ch13
🗹 Ch2	🔽 Ch6	Ch10	🗌 Ch14
🗹 Ch3	🗹 Ch7	Ch11	🗌 Ch15
🔽 Ch4	🔽 Ch8	Ch12	🗌 Ch16
>>>> P:	age 2 T	rigger on:	1 🔻
🐉 Start 🛅	2	, <mark>, 😵</mark> ĝ PC 😌	10:50 AM [

2) Enter the positions corresponding to your survey parameters.



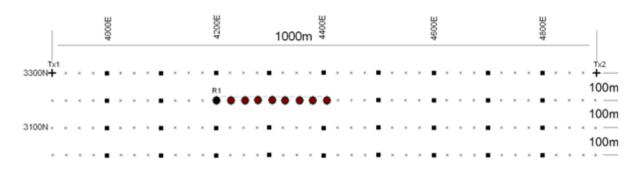
3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page. Uncheck the Tx box so that only the Receiver electrodes position will change.

Position						
LTx 33	00	1	4025	5	4125	
LRx 32	00	2 4050		6	4150	
Tx1 39	D0	3 4075		7	4175	
Tx2 49	00	4 4100		8	4200	
Ref 40	00		>>>>	> Pa	ge 2	
TX Rx	NEXT STN	PRE ST		PRE LII		
		1	t. 😣 💓 🗓	PC 🕾	3:17 PM [

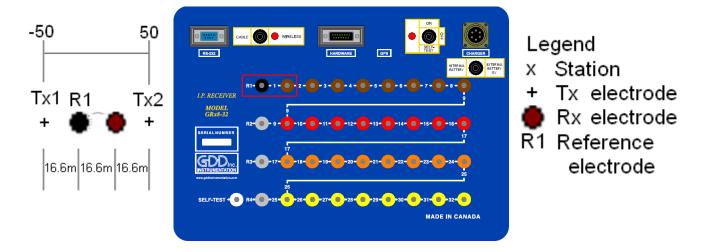
 When the reading is done, make sure that the Tx box is unchecked, click the NEXT STN button to increment the positions. Only the Receiver electrodes position changes. In this example, you will need to click the NEXT STN button 8 times to be at the position indicated on the next screen.

Position							
LTx 3300	1 4225	5 4325					
LRx 3200	2 4250	6 4350					
Tx1 3900	3 4275	7 4375					
Tx2 4900	4 4300	8 4400					
Ref 4200	>>>>	> Page 2					
Tx NEXT Rx STN	PREV. NEXT STN LINE	PREV. LINE OK					
鸄 Start 📴 🔲 📳 🗞 🕄 🤨 🔍 🕮 11:00 AM 🔯							

5) Your next setup on the field should be like this.

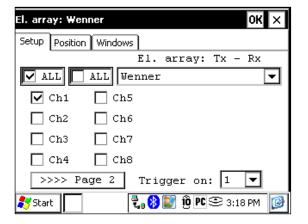


Wenner



A Wenner setup uses only two electrodes, the Reference R1 and the electrode 1 of the GDD Rx.

1) Select Wenner in the setup page and check only one channel.



2) Enter the positions corresponding to your survey parameters.

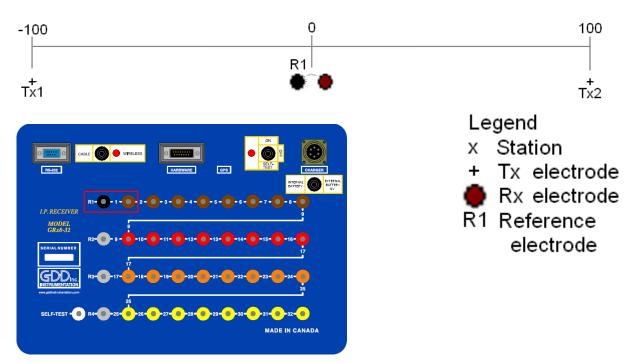
El. array: Wenner			ок 🗙
Setup Position Windo	ows		
Project:	GDD Test		
Ln. Tx: O	Rx: O		E-W 🔻
Move LINE: Tx:	0	Rx:	0
Station: Tx1:	-50	Tx2:	50
Station Rx:	N/A	Sep:	N/A
Move ST.: Tx:	0	Rx:	0
鸄 Start	t. 🛞 💓 į	Ô PC ©	3:21 PM 👔

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page.

Posit	ion		
LTx	o	1 16	.66666 5
LRx	o	2	6
Tx1	-50	3	7
Tx2	50	4	8
Ref	-16.6666		>>>> Page 2
N		PREV. STN	NEXT PREV. LINE LINE OK
ಶ Sta	art	2.	👂 💽 🔞 PC 😂 3:21 PM 🛛 🞯

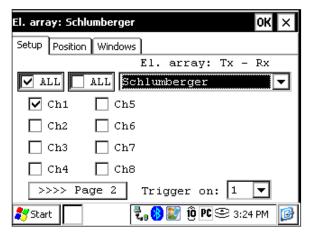
4) For a Wenner survey, you will have to manually enter the parameters for each reading. To access the Position page, click the Tools button and select the Config option in the pop-up menu.

Schlumberger



A Schlumberger setup uses only the Reference R1 and the electrode 1 of the GDD Rx.

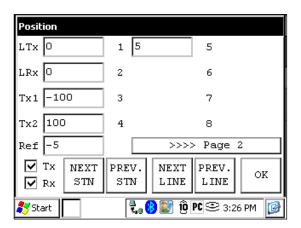
1) Select Schlumberger in the setup page.



2) Enter the positions corresponding to your survey parameters.

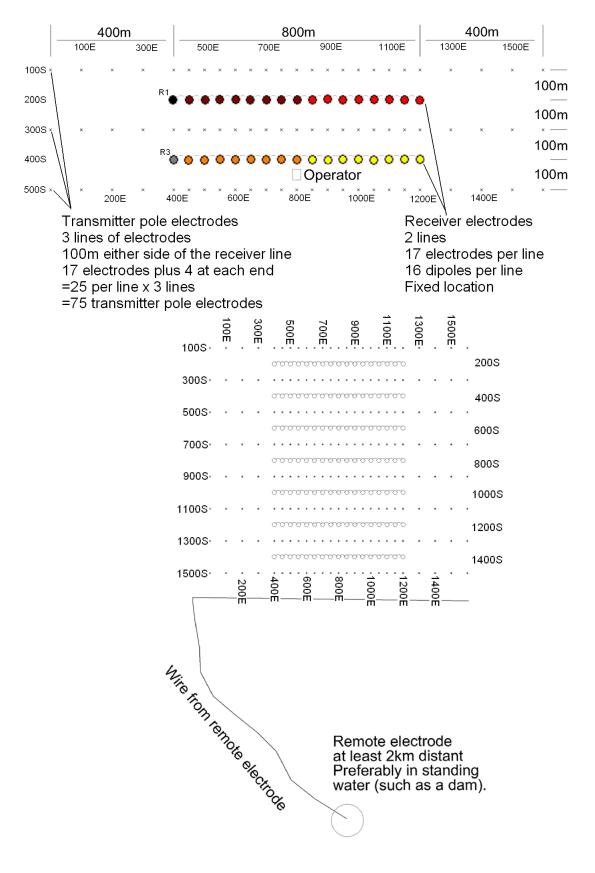
El. array: Schlumberg	jer		ок 🗙
Setup Position Windo	ows		
Project:	GDD Test		
Ln. Tx: 0	Rx: 0		E-W 💌
Move LINE: Tx:	0	Rx:	0
Station: Tx1:	-100	Tx2:	100
Station Rx:	N/A	Sep:	10
Move ST.: Tx:	0	Rx:	0
🌮 Start	र्च., 🛞 💓	ÎÕ PC 😌	3:26 PM 👔

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on this page.

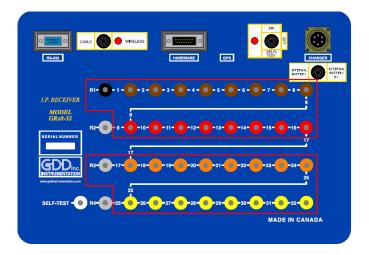


4) For a Schlumberger survey, you will have to manually enter the parameters for each reading. To access the Position page, click the Tools button and select the Config option in the pop-up menu.

3D Survey: Pole-Dipole (2/16)



As shown on the images on the previous page, this setup is for 2 lines of 16 dipoles each using a GDD Rx-32. For the reference pins, R1 and R3 will be used; R2 and R4 will not be used since this is a 2 lines setup.



1) Select the Pole-Dipole 2/16 on the Setup tab.

El. array: Pol	e-Dipole (2/1	6)	ок 🗙
Setup Position	n Windows		
	E	l. array:	Tx – Rx
🔽 ALL	ALL Pole	e-Dipole (2	2/16) 🔻
🔽 Chi	🔽 Ch5	🔽 Ch9	🗹 Ch13
🔽 Ch2	🔽 Ch6	🔽 Ch10	🔽 Ch14
🔽 Ch3	🔽 Ch7	🔽 Ch11	🗹 Ch15
🔽 Ch4	🔽 Ch8	🔽 Ch12	🔽 Ch16
>>>> P:	age 2 T	rigger on:	1 🔻
💦 Start 📃	₹.9	🚯 💽 SÔ PC S	🖻 1:32 PM 🛛 🞯

2) On the Position tab; enter the parameters of your survey.

El. array: Pole-Dipole (2/16)	ок 🗙							
Setup Position Windows								
Project: GDD Test								
Ln. Tx: 100 Rx: 2	00 E-W 🔻							
Move LINE: Tx: 200	Rx: 200							
Station: Tx1: N/A	Tx2: 0							
Station Rx: 400	Sep: 50							
Move ST.: Tx: 100	Rx: 50							
🐉 Start 📃 🕄 🖏 📓	50 PC 😌 1:25 PM 👔							

3) Uncheck the Rx box so that only the Tx position will change when you click the NEXT STN and NEXT LINE buttons. Verify that the positions of the 32 electrodes are set properly. Hit the OK button to close this window. On the next screen, click Start to take readings.

Posit	ion						Posit	ion							
LTx	100	1	450	5	650		LTx	100)	9	850)	13	1050	2
LR1	200	2	500	6	700		LR1	200)	10	900)	14	1100	2
Tx 1	9999999	3	550	7	750		Tx1	999	99999	11	950)	15	1150	2
Tx2	o	4	600	8	800	l	Tx2	0		12	100	00	16	1200	2
Rf1	400		>>>>	> Paq	ge 2		Rf1	400)			>>>>	> Pa	ge 3	
	TX NEXT RX STN	PRE' STI		PRE LIN			-	Tx Rx	NEXT STN	PRE ST		NEXT LINE	PRE LII		ок
💦 Sta	🐉 Start 📃 🕄 🖏 🖏 🕄 🧐 🔍 🕾 1:34 PM 🧝							art		4	t., () 🔊 🧐	PC 오	21:34	PM 😰

Posit	ion					Posit	ion			
LTx	100	17	450	21	650	LTx	100	25	850	29 1050
LR2	400	18	500	22	700	LR2	400	26	900	30 1100
Tx1	99999999	19	550	23	750	Tx1	9999999	27	950	31 1150
Tx2	0	20	600	24	800	Tx2	o	28	1000	32 1200
Rf3	400		>>>>	> Paç	ge 4	R£3	400		>>>>	> Page 1
	Image: Market backware Mext PREV. Next PREV. Next PREV. Market backware STN STN LINE OK Image: STN STN NEXT PREV. OK									
鸄 Sta	🐉 Start 🛛 🗧 🖏 😵 🗐 🕫 🔍 1:35 PM 👔						art	-	t, 😢 💓 🎨	PC 😌 1:34 PM [

4) After readings are taken and stored, click the Start button. Click the NEXT STN button and only the Tx2 station will be incremented by 100 since it was entered as the Tx spacing.

Posit	ion							
LTx	100	1	450	5 650				
LR1	200	2	500	6 700				
Tx1	99999999	3	550	7 750				
Tx2	100 🔵	4	600	8 800				
Rf1	400		>>>>	> Page 2				
	▼ Tx NEXT PREV. NEXT PREV. Rx STN STN LINE LINE OK							
鸄 Sta	art	- T	t. 😢 💓 🔨	PC 😌 1:36 PM 🛛 🚱				

5) When the Tx2 station position is at 400, you will have to modify the spacing from 100 to 50. Select Tools -> Config and the next screen will appear. Select the Position tab and change the Move St.: TX: to 50.

El. array: Pole-Dipole	(2/16)		ОК	×				
Setup Position Windo	ws							
Project: GDD Test								
Ln. Tx: 100	Rx: 200)	E-W .	ਤ				
Move LINE: Tx:	200	Rx:	200					
Station: Tx1:	N/A	Tx2:	400					
Station Rx:	400	Sep:	25					
Move ST.: Tx:	50	Rx:	25					
💦 Start	t. 😢 💓 4	ŧÕ PC 🕾	21:39 PM	0				

6) Continue the survey. When the Tx2 station position is at 1200, you will have to change the spacing back to 100.

El. array: Pole-Dipole (2/16)		ок 🗙									
Setup Position Windows											
Project: GDD Test											
Ln. Tx: 100 Rx: 20	E-W 🔻										
Move LINE: Tx: 200	Rx:	200									
Station: Tx1: N/A	Tx2:	1200									
Station Rx: 400	Sep:	50									
Move ST.: Tx:	Rx:	50									
🐉 Start 📃 🕄 🖏 🔊	40° PC ⊙	2 1:40 PM [

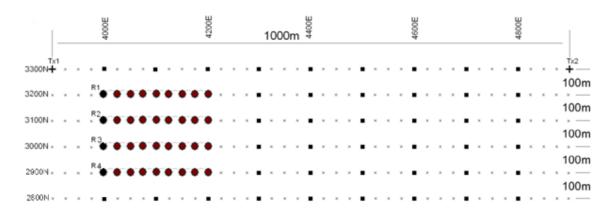
7) When the line is complete press NEXT LINE to increment the LTx.

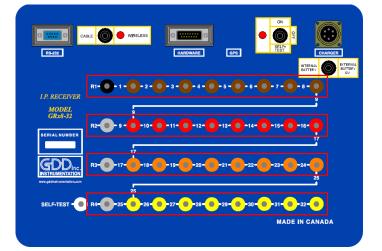
Posit	Position												
LTx	300	1	450	5	650								
LR1	200	2	500	6 700									
Tx1	99999999	3	550	7	750								
Tx2	1600	4	600	8 800									
Rf1	400		>>>> Page 2										
	TX NEXT RX STN		PREV. NEXT PREV. STN LINE LINE OI										
🥙 Start 🛛 🕄 😵 💓 🏟 PC 🕾 1:41 PM 🕼													

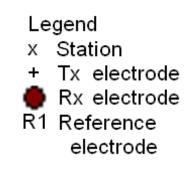
8) When the line is done, change the Move ST.: TX: to -100 or the Tx2 position to 0 depending on where you are starting the next line.

El. array: Pole-Dipole (2/16)		ок 🗙
Setup Position Window	s		
Project: G	DD Test		
Ln. Tx: 300	Rx: 200)	E-W 🔻
Move LINE: Tx: 2	:00	Rx:	200
Station: Tx1:	N/A	Tx2:	1600
Station Rx: 4	100	Sep:	50
Move ST.: Tx:🧲	100	Rx:	50
🂦 Start	🖏 🛞 💓 4	Ô PC 😌	2:21 PM 🛛 🚱

3D survey: Gradient (4/8)

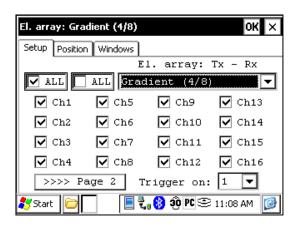






For this Gradient setup, 32 electrodes of the GDD-Rx will be used.

1) Select Gradient (4/8) in the setup page.



2) Enter the positions corresponding to your survey parameters.

El. array: Gradient (4/8)	ок ×
Setup Position Windows	
Project: GDD Test	
Ln. Tx: 3300 Rx: 320	00 E-₩ 💌
Nove LINE: Tx: -100	Rx: -100
Station: Tx1: 3900	Tx2: 4900
Station Rx: 4000	Sep: 25
Move ST.: Tx: 0	Rx: 25
🎝 Start 🗁 🔳 🖏 🤪 🕺	PC 🕾 11:09 AM [

3) If all the values are correct, click the Ok button to continue and take a reading. If something is incorrect, you can modify it on these pages. Uncheck the Tx box so that only the Receiver electrodes position will change.

Posit	ion					Position						
LTx	3300	1	4025	5	4125	LTx	3300	9	4025	13 4125		
LRx	3200	2	4050	6	4150	LRx	3100	10	4050	14 4150		
Tx1	3900	з	4075	7	4175	Tx1	3900	11	4075	15 4175		
Tx2	4900	4	4100	8	4200	Tx2	4900	12	4100	16 4200		
Ref	4000		>>>>	> Pa	ge 2	Ref	4000		>>>>	> Page 3		
TX NEXT PREV. NEXT PREV. RX STN STN LINE LINE OK RX STN PREV. NEXT LINE										PREV. LINE OK		
💦 Sta	art	[t. 😣 💓 🗓	PC 🕾	3:17 PM 🛛 😰	ಶ St	art 🗁		🗏 🛃 😵 20 I	PC 🕾 11:16 AM 🛛 🞯		

Posit	ion					Posit	ion				
LTx	3300	17	4025	21	4125	LTx	3300	25	4025	29	4125
LRx	3000	18	4050	22	4150	LRx	2900	26	4050	30	4150
Tx1	3900	19	4075	23	4175	Tx1	3900	27	4075	31	4175
Tx2	4900	20	20 4100		24 4200		4900	28	4100	32	4200
Ref	4000		(> Pa	ge 4	Ref	4000		>>>>	> Pa	ge 1
	TX NEXT RX STN	PRE' STI		PRE LIM			TX NEXT RX STN	PRE ST		PRE LIM	
💦 St	art 🗁		🛯 🗞 🚷 20 🛙	¢©	11:17 AM [🐉 St	art 🗁		🛯 🖏 🚷 20 🛙	¢©	11:17 AM [

4) When the reading is done, make sure that the Tx box is unchecked, click the NEXT STN button to increment the positions. Only the electrodes position on the Receiver will change.

In this example, you will need to click the NEXT STN button 8 times to be at the position indicated on the next screen.

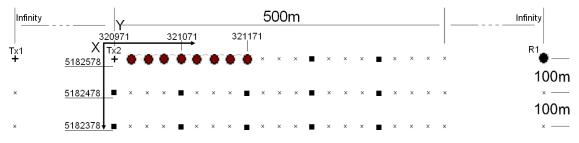
Position		Position
LTx 3300	1 4225 5 4325	LTx 3300 9 4225 13 4325
LRx 3200	2 4250 6 4350	LRX 3100 10 4250 14 4350
Tx1 3900	3 4275 7 4375	Tx1 3900 11 4275 15 4375
Tx2 4900	4 4300 8 4400	Tx2 4900 12 4300 16 4400
Ref 4200	>>>> Page 2	Ref 4200 >>>> Page 3
Tx NEXT Rx STN	PREV. NEXT PREV. STN LINE LINE OK	□ Tx NEXT PREV. NEXT PREV. ☑ Rx STN STN LINE PREV. OK
鸄 Start 📄	📄 🔩 😵 20 PC 🗢 12:11 PM 🛛 🥬	🏂 Start 🗁 📄 🗐 🖓 🏟 🕅 😂 12:12 PM 🔯

Positi	ion					Posit	ion			
LTx	3300	17	4225	21	4325	LTx	3300	25	4225	29 4325
LRx	3000	18	4250	22	4350	LRx	2900	26	4250	30 4350
Tx1	3900	19	4275	23	4375	Tx1	3900	27	4275	31 4375
Tx2	4900	20	4300	24	4400	Tx2	4900	28	4300	32 4400
Ref	4200		>>>>	> Paq	ge 4	Ref	4200		>>>>	> Page 1
	TX NEXT RX STN	V. NEXT N LINE	PRE LIN			TX NEXT RX STN	PRE ST		PREV. LINE OK	
🐉 Sta	art 🗀	[🗏 🖏 🛞 20 I	¢©	12:12 PM 👔	💦 St	art 🗁	[🛯 🖏 🛞 20 🛛	PC 오 12:11 PM 🛛 🞯

5) Your next setup on the field should be like this.

	4000E	u 1000m	4400E	4600€	4800E
			• * * * • * * * *		
			• • • • • • • • •		100
			• • • • • • • • •		• * * * * · · · ·
			·•···		
			• · · · • • · · · •		100

GPS Positions



Setting GPS positions instead of nominal positions

Starting position: X – 320971.52 Easting Y – 5182578.35 Northing

El. array: Pole-Pole			ок 🗙
Setup Position Windo	ows		
Project:	GDD		
Ln. Tx: 5182578	3. Rx: 518	32578.	N-S 🔻
Move LINE: Tx:	-100	Rx: -	100
Station: Tx1:	N/A	Tx2:3	20971.5
Station Rx:	320996.5	Sep: 2	5
Move ST.: Tx:	25	Rx: 2	5
🐉 Start 🔽 🤇	2. <mark>8</mark> 9) PC 😌 10	:07 PM [

Instead of using a relative position system (the starting position being 0,0), you can enter a GPS position in meters in the Line TX, Line RX, Tx1, Tx2 and Station Rx cases. You can enter any number between -9999999 and 9999999.

Next Station	Next Line							
Position	Position							
LTx 5182578. 1 321021.5 5 321121.5	LTx 5182478. 1 320996.5 5 321096.5							
LRx 5182578. 2 321046.5 6 321146.5	LRx 5182478. 2 321021.5 6 321121.5							
Tx1 9999999 3 321071.5 7 321171.5	Tx1 9999999 3 321046.5 7 321146.5							
Tx2 320996.5 4 321096.5 8 321196.5	Tx2 320971.5 4 321071.5 8 321171.5							
Ref 9999999 >>>> Page 2	Ref 9999999 >>>> Page 2							
▼ Tx NEXT PREV. NEXT PREV. ▼ Rx STN STN LINE LINE OK	▼ Tx NEXT PREV. NEXT PREV. ▼ Rx STN STN LINE LINE OK							
🍠 Start 🛛 🤇 🕄 🕄 🔞 🕄 🗐 😂 10:35 PM 📝	💦 Start 🛛 🗧 🕄 🕄 🕄 🕄 10:36 PM 📝							

Version PPC: 0.4.2.42 Version Rx: 0.2.5.10 Rx SN: 1309

Project:																					
Windo	ws: 20 Sett	ing: /	Arith.	Dela	ay (ms):	: 240 Tim	ing (ms)	: 80	, 80), 80,	80, 80, 8	0, 80	, 80, 80), 80,	80, 80,	80, 8	0, 80, 8	30 <i>,</i> 80	, 80	, 80, 80	
Mem	Date	Date Hour			Array	LineTx	LineRx	Dir	r n		Tx1		Tx2	Rx1	Rx2		Con	tact	Rho		
1	06/11/201	13 0	08:09:5	55	P-P	0.00	0.00	N-9	S	0.0	9999999.00		0.00	0.00	99999	99.0	8.9		0.00)	
1	06/11/201	13 0	08:09:5	55	P-P	0.00	0.00	N-9	S	0.0	9999999	0.00	0.00	0.00	99999	99.0	0 16.0)	0.00)	
1	06/11/2013 08:09:55		55	P-P	0.00	0.00	N-9	S	0.0	9999999.00		0.00	0.00	99999999.00		9999999.00		0 21.2	2	0.00)
1	06/11/2013 08:0		08:09:5	55	P-P	0.00	0.00	N-9	S	0.0	9999999.00 0.00		0.00	0.00	9999999.00		0 24.2	2	0.00)	
	_										_										
Sp	SpMin	SpN	Max	Vp		ErrVp	Sym(%	6)	Μ		ErrM	In		Tim	e DC		Stack	M02	1		
0.4	0.4	0.4		125	5.112	0.001	100		7.9	947	0.009	100	00.000	200	0 50		10	7.97	74		
0.5	0.4	0.7		250	0.336	0.001	100		7.9	945	0.002	100	00.000	200	2000 50		10	7.95	54		
0.7	0.7	0.8		375	5.726	0.002	100		7.9	947	0.002	1000.000		200	2000 50		10	7.96	51		
-0.0	-0.1	0.9	1	500	0.038	0.002	100		7.9	945	0.000	100	00.000	200	0 50		10	7.95	52		

First section - File header:

Version PPC:	Version of the Rx program on the PDA
Version Rx:	Version of the Rx firmware
Rx SN:	Serial number of the IP Receiver

Second section:

Project:	Name of your project
Third section:	
Windows:	Number of windows (depending on the selected mode)
Setting:	Selected mode (Arith., Semi, Log., Cole, User)
Delay (ms):	Delay in ms before the first window (depending on the selected mode)
Timing (ms):	Timing of each window (depending on the selected mode)

- The file is divided in 4 sections. The fourth one contains the data.
- Sections 2 and 3 will be repeated within the same file following a parameter change.
- Infinite values within Rho, TX1 and RX2 (in pole arrays) are represented by 9999999.00.
- Values in section 4 are delimited by one or more spaces. Therefore, the import software must treat consecutive delimiters as one.
- Each line in section 4 has a fix number of entries. If less than 20 windows are defined for a selected entry, the unused columns will be padded with 999.99
- The example file is truncated on the right side omitting column M02 to M20.

Mem	Memory number
Date	Date, format DD/MM/YYYY
Hour	Time, format HH:MM:SS
Array	Electrode Array; P-P, P-DP, DP-DP, WEN, GRAD
LineTx	Transmitter Line Label
LineRx	Receiver Line Label
Dir	Line Direction (N-S or E-W)
n	Number or Rank of dipole
Tx1	First electrode of the transmitter
Tx2	Second electrode of the transmitter
Rx1	First electrode of the dipole
Rx2	Second electrode of the dipole
Contact	Soil resistance in kOhm; XX.X, INFINI or (undefined)
Rho	Resistivity in Ohm*m
Sp	Self potential in mV
SpMin	Minimum value of SP in mV
SpMax	Maximum value of SP in mV
Vp	Primary voltage in mV
ErrVp	Error of Vp: standard deviation of the data set used to calculate the primary
	voltage
Sym(%)	Symmetry in %
Μ	Chargeability in mV/V
ErrM	Error of M: standard deviation of the data set used to calculate the
	chargeability
In	Current in mA
Time	Transmitter timing in ms
DC	Duty Cycle in %
Stack	Number of stacks
M01 – M20	Windows of chargeability

** Date and Hour are those of the PDA for the .gdd file and GPS time for the .gps file.