

Instruction Manual





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## 1 Introduction

The SCIP (Sample Core I.P.) tester is a new compact, lightweight, low consumption unit designed for resistivity measurements.

The SCIP tester uses a field handheld computer to process data acquisition. The operating system is Windows Mobile 5.0.

#### Characteristics:

- **Related to the GDD Rx 8-32:** The SCIP acts as a 1 dipole receiver relating DDH Cores to resistivity and IP survey.
- **Programmable windows:** The SCIP offers twenty fully programmable windows for a higher flexibility in the definition of the IP decay curve.
- **Modes available:** Arithmetic, logarithmic, semi-logarithmic, Cole-Cole and user defined.
- **IP display:** Chargeability values, Resistivity and IP decay curves are displayed in real time on a PDA.
- **Internal memory**: Over 100 000 readings can be stored in the internal memory of the PDA. Each reading includes the full set of parameters characterizing measurements. Data are stored on flash type memory and cannot be lost even if the battery of the PDA is totally discharged or absent.
- **Transmitting mode** : Can be used as a low voltage transmitter of 3, 6, 9 or 12V or 0.5, 5, 50 or 500uA.

## 2 SCIP tester accessories

- A 1x SCIP tester model TDLV
- B 1x Set of core holders
- C 1x Archer Field computer with one rechargeable Li-Ion battery, one handstrap and one stylus
- D 2x Red cables banana/banana or banana/alligator
- E 2x Black cables banana/banana or banana/alligator
- F 1x SCIP tester AC charger (universal voltage)
- G 1x Archer AC charger with international adapters (universal voltage)
- H 1x Serial communication cable 9 pos. D-SUB female 9 pos. D-SUB female
- I 1x Archer USB cable
- J 1x Archer User Documentation CD
- K 1x SCIP tester Instruction Manual and SCIP tester Utilities CD

Not shown on the picture:

1x bag of 50g of Cupric Sulphate



## 3 SCIP tester components





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

This connector is used to connect the RS-232 cable between the Archer Field PDA and the SCIP tester.

#### B - CABLE/WIRELESS switch

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

#### C - ON/OFF switch

This switch is used to turn ON the SCIP tester. The red light indicates ON position.

#### D - CHARGER connector

This connector is used to charge the battery of the SCIP tester with the AC charger and to supply power to the SCIP tester when the battery is discharged.

#### E – TX terminals

Transmitting connectors.

#### F - RX terminals

Receiving connectors.

## 4 Power

GDD's SCIP tester is powered by a rechargeable Li-Ion battery. Here are a few tips for using and storing the SCIP tester.

#### <u>Usage</u>

- Use the power supply provided by GDD to charge the SCIP tester battery. If you want to use another AC charger, make sure that the specifications are the same than those of the AC charger provided by GDD.
- Do not replace the SCIP internal battery without the authorization and advice from GDD's technicians.
- The total operating time of the SCIP tester will depend on the environmental conditions. Using the SCIP in very cold weather  $(-20^{\circ}C \text{ to } -40^{\circ}C)$  will lower the operating time. At a normal temperature (20°C), the operating time should be from 10 to 16 hours.
- The power level of the batteries and the charging status appear on the main screen of the Archer PDA when using the SCIP program.

	🎥 GDD SCI	P - READY	💿 🖶 🛤 ┥	€ 11:45 ok	👫 GDD SCIP - READY	📑 🛟 ┥< 1:50 🛛 ok
~	MEM: 2 BATTERV:	98\$	TOOLS	START	NEM: O	TOOLS START
	Count:	2400	V: .	59.1 mV	Counc. 100	V: -468.8 mV
				<b></b>		<u>^</u>
				<b>*</b>		-
					1	

- The AC charger can be used as a power supply for working with the SCIP tester when the battery level is too low.
- There is a protection circuit in the SCIP tester that prevents charging the battery in cold weather (under 0°C) or in hot weather (over 45°C).
- The SCIP will turn itself off when the battery reaches a critical low level.

#### <u>Storage</u>

- When storing the SCIP tester for a few days or more, make sure that the battery is fully charged.
- Store the SCIP tester in a cool and dry place.

Here are a few tips about preparing and measuring your core samples:

- Soak your core samples in water for several weeks (up to a month) before testing them.
- Remove the excess water on the core sample before beginning the measuring process.
- During the measuring process, wait until the contact resistance becomes stable before taking a reading. This may take a few minutes.
- For better results, take the average of several readings on each core sample.

## 6 Quick start guide

- 1. Place the core sample into the core holders (see Section 7 How to use Core Holders).
- 2. Turn ON the SCIP tester using the ON/OFF switch on the front panel.
- 3. Select the communication mode using the CABLE/WIRELESS switch on the SCIP tester front panel. If the Cable mode is selected, connect the serial communication cable between the SCIP (RS-232 connector) and the Archer Field PDA.



4. Turn ON the Archer Field PDA with the ON/OFF key.



5. Click on Start Menu and select GDD SCIP program.



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



7. The following screen appears.

	P CORE - READY	) 🖻 🗮 📢	10:46	ok
MEM: O		TOOLS	STAR	от
BATTERY:	86%	10015	JIAI	~ 1
Count:	1500	V:	-1.9	mV
				-
				Π
				-

Make sure that the opened window is the SCIP\_Core window. See section 8.2 for more details.

8. Click *S*TART to begin the acquisition process.

🎥 GDD SCI	P CORE - READY	🛛 🕒 🐺 💎	10:5 ok
MEM: O		TOUS	STAR
BATTERY:	86%	10055	JIAN
Count:	1500	V:	-1.9 mV
			_

9. The following screen appears. The 'Contact' is the value of the core resistance.



If the value of the core resistance is higher than 50 000kOhms (50MOhms), the value of the chargeability could be affected. In this case, if you click on NEXT, the following message should appear.

🏂 GDD SCI	P CORE - READY	⊠ # ◄	€ 11:10
MEM: O		TOOLS	START
BATTERY:	ATTENTION		
Count:	A++		21.5 mV
	e is		
	ation		
	Yes N	10	

Click on Yes to continue or click on NO to stop the measuring process.

10. Click NEXT to continue.

	то	OLS	NEXT
2800	v:	478.	
: 391	07.492		-
	1		×
	: 391	: 39107.492	: 39107.492

11. Set the parameters of the core sample in the 'Parameters' window.



Use the keybord at the bottom of the screen by clicking on it.

For a core sample, select Diameter and enter the diameter of the cross section in mm. If you measure a half core sample, select Half Sample.

For any other type of sample, enter the cross-sectional area in mm<sup>2</sup>.

12. In the 'Windows' window, select the maximum number of stacks, the signal time and the mode (windows time definition). See Section 8.1 for more details.



13. In the 'TX' window, select if you want to use a constant voltage or a constant current. You can use a voltage of 3, 6, 9 or 12 volts or a current of 0.5, 5, 50 or 500 μAmps.

🚹 GDD SCIP CORE - READY 🛛 🗟 🗱 📢 8:43 🛛 ok	🏄 GDD SCIP CORE - READY 💦 🖏 🗮 📢 8:43 🧕 k
Voltage     O Current	O Voltage  © Current
12 Volt	5 uA 🔻
3 Volt	0.5 uA
6 Volt	5 uA
9 Volt	50 uA
12 Volt	500 uA
Position Windows Tx	Position Windows Tx

14. Click Ok to close the settings windows.

18 GD	D SCIP COP	RE - REAL	ov 🤇	) <b></b> 46	8:41 ok
	O Volte	ıge	) Cu	rrent	
		5 uA		•	
Position	Windows	Тх	_		
		μ.	ž.		

15. The following screen appears. See Annex 1 for readings details.

🌆 GDD SCIP COR	E - READY	- @ # ⊀	€ 8:45 <b>ok</b>
MEM: 85		TOOLS	STOP
BATTERY: 93%		10025	JAVE
Count:	11300 V	:	3.0 mV
Stack: 10			
Rho (Ohm*m)	Vp (mV	) ErrVp	
86.573	544.80	7 0.002	
I (uA)	61	M ErrM	
4.943	0.00	3 0.001	
			4
	1000		

In constant current mode, if a little red square appears in the window that means that the signal is saturated. Stop the measuring process, select a lower current and start over the readings. These instructions appear in a pop-up window when you click on the red square.



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

figdd SCIP CORE	- READY	D # 4	5745 K
MEM: 85		TOOLS	STOP
BATTERY: 93%			
Count:	11300 V:		8.0 mV
Stack: 10			
Rho (Ohm*m)	Vp(mV)	ErrVp	1
86.573	544.807	0.002	Π
I (uA)	М	ErrM	
4.943	0.003	0.001	
			4
	8.52		

17. Click YES to confirm the operation.

MEM: 85 BATTERY:	90%	TOOLS	STOP
Count:	58100 V:		2.6 mV
Stack: 8	STOP READING		
Rho (Oh 86	Confirmation?	Vp 19 rM	
		07	

18. Click YES to save readings into the memory.

fodd SCIP CORE - READY	S # 4	9:06
MEM: 85 BATTERY: 90%	TOOLS	START
Count: 59000 V Stack: 1	7:	8.1 mV
Rho (Ol Do you want to reading?	NO M	-
	]7	7

The number of memories increases after each saving process. You can save more than one reading before creating a file.

MEM: 86	E - READY	0	7 FAR
Count:	60100 V:	8.1	m
Stack: 12			
Rho (Ohm*m	) Vp(mV)	ErrVp	
86.58	0 545.005	0.005	
I (uA	) M	ErrM	
4.94	4 -0.027	0.007	

19. Click on 'Tools' and select 'Memory' to create a file with your saved data. Click on 'Save File'.

🐴 GDD SCIP C	ORE - READY	🔊 🗱 ⊀€	11:56 ok
MEN: 3 BATTERY:	0%	TOOLS	START
Count:	o v	Config	0 mV
		Special	
		Show	-
	History	Memory	2
	Back Mem	About	
	Save File		-

20. Enter your File name and the location of your file in the Archer Field PC memory.

Name:	core1	
Folder:	None	•
Type:	Text Files (*.gdd)	•
Location:	Storage	-

It is recommended to use the Storage location to have enough memory space for all your saved files.

21. Click on Save to save your file.

Name:	core1	
Folder:	None	•
Type:	Text Files (*.gdd)	•
Location:	Storage	-

#### 7.1 Core Holders components



1. Receptacle (2x)



The two receptacles must be used to keep the surface between the two core holders dry. The receptacles keep all the liquid (water, copper sulphate) in them. It is possible to screw the receptacles on a table using the four holes.

#### 2. Holder (2x)



The two holders keep the core sample in place. Fix the holders to the receptacles with two bolts.

3. Electrode (2x)



The electrode consists of a copper disc with a stainless steel bolt. The banana connector can be inserted into the bolt for better contact. It is possible to adjust the distance between the electrode and the holder by using spacers.

#### 4. Graduated rod



The rod fixes the two holders together. Move one of the holders along the rod to keep the core sample in place. It is possible to connect two or three rods together if the core sample is too long for one rod. To fix the rod, insert and turn it. The graduation on the rod can help you to measure de length of the core sample.

5. Fixing screw



The fixing screw holds the holder in place along the rod.

6. Cellulose sponges (soaked in a solution of copper sulphate\*)



Using copper sulphate\* soaked sponges increases the contact between the core sample and the electrodes. Cellulose sponges give better results than other kind of sponges.

\*Copper sulphate might be harmful if inhaled, ingested, or having contact with skin or eye. It is highly recommended to wear nitrile gloves, safety glasses and safety mask when using copper sulphate.

#### 7.2 How to use it

1. It is important to place each core holder in its receptacle to keep the surface between the two core holders dry.



2. Soak the cellulose sponges into a solution of copper sulphate\*. Make sure that both sponges are totally soaked.



\* Copper sulphate might be harmful if inhaled, ingested, or having contact with skin or eye. It is highly recommended to wear nitrile gloves, safety glasses and safety mask when using copper sulphate.

3. Make sure that the sponges touch the electrodes.



4. Place one, two or three graduated rods between the core holders depending on the size of the core sample.



5. Place the core sample between the sponges and fix the core holders by using the fixing screw.



6. On the SCIP tester, connect Tx-A with Rx-A and Tx-B with Rx-B.



7. Connect electrodes A and B to the Core Holders.



8. At any time during the measurement process, make sure that the surface between the core holders is totally dry.



If you need four electrodes to be able to use your own core holders with the GDD SCIP tester or to use the SCIP as a field IP Tester (see Section 8.2), use the two Tx connectors on the SCIP tester for transmitting and the two Rx connectors for receiving.



It is important to clean the Core\_Holder after using it to make sure that the copper sulphate will not damage it.

## 8 Tools menu

Click TOOLS to select one of the following options:

MEM: 1 BATTERY: 97%	TOOLS	STOP
Count: 8000 V	Config	8 mV
Stack: 23	Special >	
Rho(Ohm*m) Vp(mV 70601.660 9993.13	Show )	
T(nk)	Memory >	
0.463 13.71	About	

#### <u>Config</u>

Use the CONFIG option to change:

- Core sample parameters
- Transmitter voltage
- Signal timing
- Mode

#### **Special**

Use the SPECIAL option to:

- Re-init the communication between the SCIP tester and the Archer Field PC
- Use the SCIP Tester as a low voltage transmitter only
- Use the SCIP Tester as a field IP tester

#### <u>Show</u>

Use the SHOW option to display:

- Hotkeys (shortcut keys)
- Signal graph
- Decay curve
- Windows chargeability

#### <u>Memory</u>

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 SCIP tester software version number.

#### 8.1 Config Option

The Parameters section is used to set the core sample parameters:



Use the keyboard at the bottom of the screen by clicking on it.

For a core sample, select Diameter and enter the diameter of the cross section in mm. If you measure a half core sample, select Half Sample.

For any other type of sample, enter the cross-sectional area in mm<sup>2</sup>. The Windows section is used to set the signal timing and the mode.

Set the maximum number of stacks.

GOD SCIP CORE - R	EADY 😪	🗱 📣 1:59	ok
Stop Cycle:	10	·	-
Timing:	2 sec	•	=
Mode:	Arith.	•	
Delay (ms): 80,80,80 80,80,80 80,80,80	240 Timing ,80,80,80, ,80,80,80, 80,80,80,8	; (ms): 80, 80, 0	
Position Windows Tx	-		

Set the signal timing.

fodd SCIP CORE - RI	eady 🕘 🚑 🖈 1:59 ok
Stop Cycle:	10 -
Timing:	2 sec 🔹
Mode:	Arith. •
Delay (ms): 80,80,80, 80,80,80, 80,80,80,	240 Timing (ms): .80,80,80,80, .80,80,80,80, .80,80,80,80,80
Position Windows Tx	

Select the mode.



Here are the different modes you can use:

• 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 (20ms or more) Timing (ms): user defined (20ms ore more) In the USER mode, you can load settings you have saved before, or you can create new settings.

fe GDD SCIP CORE - READY ⓑ # ◀€ 11:42 ok -Stop Cycle: 10 ٠ 2 sec + Timing: Do you want to load saved Dela s): settings? Yes No • Position Windows Tx

After selecting User Mode, the program asks you if you want to load saved settings.

• If you select YES :

The program will prompt you to select saved settings to load.

Folder:	All Fold	ers	-	Cancel
Type:	Window	vs Files (*.v	v2)	
Name	•	Folder	Date	Size
bom 🖪	e1		25/06 5:3	84b

The loaded settings will be displayed in this window.

🏂 🖬 GDD SCIP CORE - REA	IDY C	🗟 🚑 🔺 1:53	ok
Stop Cycle:	10	•	-
Timing:	2 sec	•	=
Mode:	User	•	
Delay (ms): 2 60,100,80, 80,80,80, 80,80,80,	240 Timi: 80,80,8 80,80,80 0,80,80,	ng (ms): 0,80, ),80, 80	
Position Windows Tx		-	

• If you select NO :

The program will lead you to this window where you can modify the windows length.



After entering the windows size, click on OK button. You will be prompted to save your settings. Select 'Yes' to save your settings.



The TX section is used to set the transmitter fixed voltage between 3, 6, 9 and 12 volts or fixed current between 0.5, 5, 50 or 500  $\mu$ Amps.



## 8.2 Special options

#### <u>Reinit</u>

Select Reinit to re-initialize the communication between the SCIP tester and the Archer Field PC. This option is useful to reinitialize the Bluetooth link if the SCIP has been turned off and on again.

🏄 GDD SCIP C	ORE - READY	i 🖻 🗱 ┥	€ 1:05 ok
MEM: O		TOOLS	START
BATTERY: 7	9%		
Count:	600	Config	2.0 mV
	Reinit	Special	
	Tx Control SCIP Mode ►	Show	
		Memory	•
		About	
			-

#### <u>Tx Control</u>

Select Tx Control if you need to use a low voltage transmitter only (without receiver).

🏄 GDD SCIP C	ORE - READY	🛛 🗐 🚑 ┥	€ 1:05 ok
MEM: O BATTERY: 7	9%	TOOLS	START
Count:	600	Config	2.0 mV
	Reinit	Special	Image: A set of the
	Tx Control SCIP Mode ►	Show	
		Memory	-
		About	
			-

Select Voltage if you need a constant voltage or Current if you need a constant current. The contact resistance appears automatically.

🚰 GDD SCIP CORE - F	READY 🛛 😂 👫 📲 8:47	
ON	CLOSE	
O Voltage	Current	
5 uA	• C+1	
Timing: 2	sec • C-1	
R contact (-):	109.464 kOhm 🔶	Contact
Current:		resistance

Select the value of the constant voltage or the value of the constant current you need to transmit.

🏄 😡 s	SCIP CORE - READY	🐚 🚅 📢 8:47 🛛 ok	🏄 GDD SCIP CORE - REAL	ov 🐚 🗱 ◀€ 8:48 ok
	ON	CLOSE	ON	CLOSE
• Vo	oltage O Cu	irrent	O Voltage	) Current
Г	12 Volt	- C+1	5 uA	- C+1
	3 Volt	C0 🗧	0.5 uA	C0 🗧
Tin	6 Volt 9 Volt	C-1	Tin 5 uA	C-1
R conte	12 Volt	82 kOhm	R cont. 500 uA	78 kOhm
с	Current:		Current:	
	1000			

Select the timing.



Click on the ON button to turn the transmitter on. The transmitted current appears. The little green square indicates the transmitted signal polarity.

👫 GDD SCIP CORE - READY	🐚 🚅 ◀€ 8:50	ok
OFF	CLOSE	
🔿 Voltage 💮 Curr	rent	
5 uA	• C+1 • C0	Signal polarity
R contact: 100	C-1	
Current ( ):	5.001 uA	Transmitted
		current

You cannot change the value of the transmitted voltage or transmitted current while the transmitter transmits.

Click on the OFF button to stop the transmitter.



Click on the CLOSE button to quit the Tx Control option.

OFF		CLOS	E
) Voltage	• Cur	rent	
5 už		• c.	+1
Timings [	2 880	°	0
Timing.	2 200	c.	-1 📕
R contact:	10	9.494 ko	im
arrent (1):		5.001	Au

## SCIP Mode

Select SCIP Mode and Field IP if you want to use the SCIP Tester as a Field IP Tester.

🏄 GDD SCIP C	背 GDD SCIP CORE - READY				ok
MEM: O		TOOLS		STAR	эт
BATTERY: 7	10015		JIAI	~1	
Count:	Config	_	2.3	mV	
	Reinit	Special	F		
	Tx Control				-
Fore IP	SCIP Mode ►	SHOW	_		
Field IP	$\mathbf{>}$	Memory	F		
		About			
					-

The title of all windows will turn to GDD SCIP Field.

$\langle$	🏄 GDD SCI	P FIELD - REDDY	- 🖪 # <b>-</b> €	10:46 ok
	MEM: O		TOOLS	STADT
	BATTERY:	86%	10015	STANT
	Count:	4200	V:	-2.0 mV
				-
				-

Follow the steps 8 to 10 of the Section 6 – Quick Start Guide to begin the measuring process.

For the step 11, set these parameters: Tx line number, Rx line number, line direction, transmitter position and receiver position.

📌 GDD SCIP FIELD	- READY 👘 🖶 🗮 🕂 10:49	ok
Project:	Test	<b>^</b>
Ln. Tx: 100	Rx: 100 N-S	-
Station: Tx1:	0 Tx2: 1	
Station: Rx1:	2 Rx2: 3	
		-
Position Windows Tx		

Enter a line number and select line direction. A negative number cannot be entered for the line; the labels N, S, E and W are used to define direction.

	📌 GDD SCIP FIELD	- READY	9) # ·	€ 10:49	ok
	Project:	Test			•
<	Ln. Tx: 100	Rx: 100		N-S	$\mathbf{P}$
	Station: Tx1:	0	Tx2:	1	
	Station: Rx1:	2	Rx2:	3	
					•
	Position Windows Tx				

Enter the transmitter and receiver electrodes position. A negative number is used to define South and West direction.

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Follow the step 12 to 21 of the Section 6 – Quick Start Guide to complete the measuring process.

#### 8.3 Show Options

For the Show Signal, Show Decay and Show Windows options, you have to wait until Step 15 of the Section 6 – Quick Start Guide before using them.

#### <u>Hotkeys</u>

This feature is useful if you are using a Allegro CX or Allegro MX PDA.



#### Show Signal

The Show Signal option is used to display the signal graph of the transmitted voltage or the signal graph of the current that is passing through the core sample.



1. Select offset scale. The offset is in mV for the Voltage graph and in uA for the Current graph.

👭 GDD SCIP - READY	📑 🖶 🗮 📢 8:24 🛛 ok	📌 GDD SCIP - READY	📑 🗱 📢 8:25 🛛 ok
TOOLS         1 mV         20           32768         1 mV         10 mV           S+         100 mV         1000 mV           0+         0         0	Voltage V	TOOLS         1 uÅ           32768         1 uÅ           S+         100 uÅ           0+         1000 uÅ	20 sec V Current V
-32768		-32768	

2. Select time scale.



3. Select graph type

者 GDD SC	IP - READY		Ð	***	<b>4</b> € 8:25	ok
TOOLS	1 mV	▼ 20	sec	•	Voltage	-
327681					Voltage Current	
S+						Τ
-32768						Ĺ

4. TOOLS menu :

📌 GDD SC	IP - RE	ADY		Ð		<b> </b> € 8:24	ok
TOOLS	1	mV	▼ 20	sec	•	Voltage	• <b>•</b>
AUTO CO	RRECTI	DN					Г
RESTORE							
PAUSE							
0- <u>s-</u> -32768							

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).

#### Restore

The RESTORE option is used to reset the default settings.

#### PAUSE/GO

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

者 GDD SCIP - READY 🛛 🕲 🗱 📢 8:24 🛛 ok	🏄 GDD SCIP - READY 💿 📰 📢 8:24 🛛 ok
TOOLS 1 mV 🔻 20 sec 🔻 Voltage 🔻	TOOLS 1 mV - 20 sec - Voltage -
AUTO CORRECTION	AUTO CORRECTION
RESTORE	RESTORE
PAUSE	<b>GO</b>
<u></u>	<u>-</u> <u>-</u> -32768

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#### Show Decay

The Show Decay option is used to display the decay graph.



#### Show Windows

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



## 8.4 Memory Option

## <u>History</u>

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

figdd S	CIP -	!!! No SC	IP !	!! 🕒 .	🗱 ┥× 10	:37 <mark>ok</mark>
Version	PPC:	1.1.1	1.7	Versio	on SCIP	: 1. 🔺
Project:	Tes	st				
Windows:	20	Settin	ng:	Arith.	. Delay	(ms
Mem		Core	ID	D (mm)	l (mm)	Hal
1			8	25	160	N _
2			8	25	160	N
3			8	25	160	N
4			8	25	160	N
5			8	25	160	Ye
6			1	25	100	N
						<b>•</b>
•						

If you scroll all the way, you will see the following information.

Version PPC: 1	1.1.1.7 Vers	ion SCIP: 1	.1.1.5 SC	IP SN: 20	01					
Project: lest										
Windows: 20 56	etting: Arit	n. Delay (m	13): 240 1	iming (ms	s): 80, 80	, 80, 80,	80, 80, 8	0, 80, 8	0, 80, 80	, 80,
Mem (	core ID D(mm	ı)⊥(mm) Ha	III	Date	Time Con	tact (konm)	Rho (Onm*)	m) ∨p	(mv) Err	Vp
1	8 2	5 160	No 19/06/	2009 08:3	2:44	21533.571	49895.2	82 9991	.836 0.2	45
2	8 2	5 160	No 19/06/	2009 08:3	3:55	25149.983	56166.9	49 9992	.576 0.3	39
3	8 2	5 160	No 19/06/	2009 08:3	5:07	29513.790	58851.6	97 9992	.778 0.2	55
4	8 2	5 160	No 19/06/	2009 08:3	6:20	30772.079	59810.1	63 9992	.974 0.3	76
5	8 2	5 160 Y	es 19/06/	2009 08:3	37:38	31355.346	30122.9	90 9992	.864 0.3	24
6	1 2	5 100	No 19/06/	2009 13:2	1:29	INFINI	228397.2	56 9997	.919 8.7	71
80, 80, 80,	80, 80, 80,	80, 80								
M ErrM	I (uA)	Time Stack	M01	M02	M03	M04	M05	M06	M07	MO8
11.661 0.020	0.614	2000 10	24.305	20.946	18.489	16.540	14.994	13.738	12.621	11.751
12.698 0.050	0.546	2000 10	27.291	23.214	20.330	18.145	16.407	14.986	13.793	12.782
12.865 0.026	0.521	2000 10	27.281	23.345	20.513	18.347	16.615	15.195	14.001	12.986
13.278 0.014	0.513	2000 10	28.838	24.447	21.360	19.020	17.169	15.657	14.406	13.341
13.108 0.012	0.509	2000 10	27.966	23.881	20.976	18.737	16.952	15.478	14.252	13.216
506.769 0.688	0.215	2000 6	809.859	761.299	716.943	676.329	638.959	604.355	572.854	543.257
M09 1	M10 M11	. M12	M13	M14	M15	M16	M17	M18	M19	M20
11.000 10.1	302 9.746	9,230	8.735	8.302	7,914	7.549	7.229	6,932	6.624	6.394
11.914 11.	149 10.478	9,889	9.355	8.874	8,440	8.046	7.687	7.357	7.048	6.767
12,109 11.	342 10.661	10.062	9.528	9.042	8,605	8.204	7.836	7.500	7,198	6,913
12,419 11.0	621 10.910	10.284	9.726	9,225	8.774	8.359	7.985	7.642	7.326	7.030
12.309 11.	530 10.844	10.228	9.677	9,181	8.735	8.325	7,953	7.614	7.303	7.011
515,586 490	089 467 846	445.176	423,122	403.611	384.455	367.088	350.840 3	35.634	321.209	307.959
515.500 150.0	107.010	, 113.176	120.122	100.011	301.433	007.000	000.010 0		021.205	507.555

#### Back Mem

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

#### <u>Clear Mem</u>

The Clear Mem option is used to clear all the readings of the memory. **Make sure that you have created a file with your saved readings before erasing all memories**.

Click 'Yes' to confirm the operation.



Enter '9999' in the text box and click 'Confirm' to clear the memory.

👭 GDD SCIP - READY 🛛 🚇 🕹	🕈 📢 9:27 🛛 ok	📌 GDD SCIP	P - READY		9 #		<del>(</del> 9:27
		MEM: O BATTERY:	0%		TOOLS	;	START
Enter "99999" to ERASE A	LL DATA	Count:		0	v:		0 mV
****			GDD SC	IP	ok		
CONFIRM				Memo	ory Cleared		<u>*</u>
CANCEL							
							· · · · · · · · · · · · · · · · · · ·
				222			

#### Save File

The Save File option is used to create a file with your saved readings.

You have to enter a File Name and a location for this file. It is recommended to use the Storage location to have enough memory space for all your files.

	🏄 GDD	SCIP - III No SCIP III	🐚 🚅 ┥€ 11:56
	Save As		
File name 🗕	Name:	core1	
	Folder:	None	•
	Type:	Text Files (*.gdd)	-
File —	Location:	Storage	•
location		Save	Cancel

Click on Save to create your file.

You can now clear the readings of the memory (Clear Mem Option) before starting a new measurement process.

## 9 Transferring data

If you run Vista or Windows 7 on your computer, download and install Windows Mobile Device Center 6.1 for free from Microsoft website to sync content between your PDA and your computer. Use ActiveSync if you run Windows XP or earlier.

#### 9.1 ActiveSync installation and settings

- 1. In order to establish communication between the Archer and a desktop PC, you need to install the ActiveSync software, which is available on the CD supplied by GDD.
- 2. Once ActiveSync is installed, a gray icon will appear in the bottom right corner of your desktop PC screen.



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



4. Check Allow USB connection with this desktop computer.

2.	Click Get Connected to connect your m computer.	obile device to this
	Status: Waiting for device to connect	Get Connected
Allov	v serial cable or infrared connection to th	is COM port:
CO	M1	]
Stat	us: COM port is not available	
_		
<ul> <li>Allos</li> </ul>	v USB connection with this desktop com	puter.
✓ Allov Stat	v USB connection with this desktop com us: USB is available	puter.
✓ Allou Stat ✓ Allou	v USB connection with this desktop com us: USB is available v network (Ethemet) and Hemote Acces:	puter. s Service (RAS)
<ul> <li>Allov</li> <li>Stat</li> <li>Allov</li> <li>Serv</li> </ul>	v USB connection with this desktop com us: USB is available w network (Ethernet) and Remote Access er connection with this desktop compute	puter. s Service (RAS) r.
<ul> <li>Allow</li> <li>Stat</li> <li>Allow</li> <li>serv</li> <li>Stat</li> </ul>	w USB connection with this desktop com us: USB is available w network (Ethernet) and Remote Access er connection with this desktop compute us: Network is available	s Service (RAS)
<ul> <li>Allou</li> <li>Stat</li> <li>Allou</li> <li>Stat</li> <li>Stat</li> </ul>	v USB connection with this desktop com us: USB is available v network [Ethernet] and Remote Acces er connection with this desktop compute us: Network is available icon	puter. s Service (RAS) r.

## 9.2 Connecting the Archer with a desktop PC

1. Turn *ON* the PDA



- 2. Connect the USB cable between the Archer PDA and your desktop computer.
- 3. The desktop *ActiveSync* icon is now green.



4. A small *PCLink* icon appears on the Archer taskbar.



## 9.3 Transferring file(s) from the Archer PDA to a desktop PC

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



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

3 My Computer	
File Edit View Favorites Tools	Help
🔇 Back - 🌍 - 🏂 🔎 Se	earch 😥 Folders 🛄 -
Address 😼 My Computer	
	Files Stored on This Computer
View system information	Shared Documents
Change a setting	Hard Disk Drives
Other Places	$\sim$
My Network Places	Local Disk (C:)
Control Panel	Devices with Removable Storage
Consorrance	315 Elonov (At)
Details 🙁	
Mobile Device System Folder	Network Drives
	Base_donnees on 'Simon  C Simon Roger GDD' (2:)
	Other
(	
	Mobile Device Mes dossiers de partage

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

File Edit View Favorites Tools Help Back · O · D · D Search · Folders · · · · · · · · · · · · · · · · · · ·
Address       Mobile Device         Address       Mobile Device         Wy Conputer       Wy Conputer         My Documents       GDD Rx         My hetwork Places       My Network Places
Address Mobile Device
Other Places       Image: Computer My Bandheid My Docs       Image: Computer General Sector S

4. Double click on the Storage folder (if it is the location you chose for your saved files).

#### 🚞 Storage

5. Use the drag and drop or cut, copy paste functions to move file(s) between your Archer and your desktop PC.

The data file is named: File\_Name.gdd

Storage	
Fichier Edition Affichage Favoris Outils ?	a 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997
📀 Précédente 🝷 💿 🚽 🏂 Rechercher 🎼 Dossiers 📰 -	
Adresse 🛅 \Storage	💌 🄁 ок
Autres emplacements       Image: Complex compl	

6. Open the saved files with Notepad or Excel.

## 10 GDD SCIP software update

- 1. Connect the USB cable between the Archer Field PDA and your desktop computer.
- 2. Double click on the *My Computer* icon on the desktop of your PC.



3. Double click on the Mobile Device icon.



4. Double click on the MyHandheld PC icon.

Fichier     Edition     Affichage     Favoris     Outils     ?       Oracle Précédente     Image: State S			
Adresse Device	Size	Туре	Modified
Autres emplacements       My Handheld PC         My Computer       Copy of GDD Rx         Mes documents       GDD Rx         Documents partagés       My Coursents         Favoris réseau       PCLink         PTab       PTab	22 bytes 32 bytes 28 bytes 18 bytes 25 bytes 38 bytes	System Folder Raccourci Raccourci Raccourci Raccourci Raccourci Raccourci	2007-01-11 05:13: 2007-02-08 16:46: 2007-02-06 11:35: 2007-01-11 05:13: 2007-01-11 05:13: 2007-01-11 05:13:

5. Double click on the Storage icon.



6. Double click on the GDD icon.

se 🛅 (C_Drive	-		
estion du dossier Renommer ce dossier Déplacer ce dossier Copier ce dossier Supprimer ce dossier	Name Batt_Patch C_MyDocs C_Program Files GDD	Dossier de fichiers Dossier de fichiers Dossier de fichiers Dossier de fichiers Dossier de fichiers	Mounea
My Handheld PC My Handheld PC Mes documents Documents partagés Favoris réseau			

7. Rename the old version of the software to keep a backup on your Archer PDA. Right click on the GDD SCIP.exe icon and click on the Rename option.



8. Rename the software (example: GDD\_SCIP\_Old\_Version.exe)



9. Use the drag and drop or the copy and paste functions to move the new GDD SCIP.exe software from your computer to the GDD folder of your Archer PDA.



## 11 Troubleshooting

#### 11.1 Problems

This section explains some problems that could occur when using the SCIP tester as well as proposed solutions.

For any issues regarding the Archer Field pocket PC other than these related to the GDD program, please refer to the user manual of the Archer PDA available on the Archer User Documentation CD sent by GDD.

#### > <u>Problem</u> :

The SCIP tester does not turn on when the On-Off switch is at 'On'.

#### ✓ <u>Answer</u> :

- If the SCIP tester's battery power rating is below the critical threshold, the SCIP tester will not come on line. (See the Power section for more details.)
- > <u>Problem</u> :

The message "Battery Error" appears on the main screen of the SCIP program on the Archer PDA.

#### ✓ <u>Answer</u>:

- A problem occurs during the SCIP battery charging : over voltage, charging under 0°C or over 45°C, charging time too long, defective battery, etc.
- Try to disconnect and connect the AC charger.

#### > <u>Problem</u> :

The message: 'NO SCIP' is shown in the program bar of the SCIP program. It stays on the bar even if the SCIP tester is connected to the Archer PDA.



#### ✓ <u>Answer</u>

- Check that the SCIP tester's On-Off switch is at On and that the LED is on.
- Verify that the SCIP tester's battery is powered enough and not within the critical threshold limit.
- In Cable mode, verify that the cable is plugged correctly on the SCIP tester and on the Archer pocket PC.
- > <u>Problem</u>:

In **Bluetooth** mode, a **COM Error** message appears:



✓ Answer

• Look at the Bluetooth icon:



If it is Off, click on it and click on the Bluetooth bar.

🏄 Wireless Manager	🕒 🖓	<b>4</b> € 3:37 🛛 🗙	🏄 Wireless Manager	🖳 🚑 📢 3:37 🛛 🗙
Bluetooth		8	Bluetooth	(8)
	Off			On
Bluetooth	bar			
Done		Menu	Done	📟 Menu

Try again to start the SCIP software in Bluetooth mode.

- The Cable / Wireless switch of the SCIP tester must be in Wireless position and the SCIP tester must be ON.
- Check if the SCIP's battery is sufficiently charged. The Bluetooth mode requires more power than the Cable mode.
- Check if a Bluetooth Partnership has been established between the Archer PDA and the SCIP tester (see Section 11.2 Bluetooth Partnership).

#### 11.2 Bluetooth Partnership

To avoid wasting time on searching for Bluetooth devices, a Bluetooth partnership must be established between the Archer PDA and the SCIP tester before connecting. **This partnership was set up by GDD before the unit was sent out**. However, it is possible that you might have to reconfigure it and here are the instructions:

- 1. Turn on the SCIP tester and place the **Cable/Wireless** switch in Wireless position.
- 2. Turn on the Archer Field PC.



🎢 Wireless Manager 🛛 🕒 🗱 📢 3:37 🛛 🗙		
Bluetooth On On Bluetooth Settings Done  Menu	6.	Click on Bluetooth Settings
Settings       Image: Settings         Bluetooth         ✓ Turn on Bluetooth         Make this device visible to other devices         To connect to a device, click on the Devices tab below.	7.	Select Devices.
Settings	8.	Click on Add new device
Settings       Image: Cancel       Image: Setting for Bluetooth Devices         Searching for Bluetooth Devices       Image: Cancel       Image: Cancel	9.	The program will search for Bluetooth Devices. This step may take few seconds.

7  Settings 🛛 🔮 💭 4€ 3:43		
Select a Bluetooth Device		
Select a device to connect with and tap Next.		
?NC1301	10.	Select the S
		click on <b>Nex</b>
■ SPH-M320		
Refresh		
Cancel 🔤 Next		
🏄 Settings 🛛 🕒 🗮 🖏		
Enter Passcode		
Enter a passcode to establish a secure		
connection with SC2002.	11.	Enter the pa If the keybo
		the keyboar
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		window.
$\begin{array}{c c} x & 0 \\ \hline x & 0 \\ \hline \end{array} \\ \begin{array}{c} \cdot \\ \cdot $		
\$ ¢ € £ ¥ ( 0 ) Tab space ←		
Back 🔤 Next		
🏄 Settings 🛛 🕒 🗮 👫 3:44		
Partnership Settings 🛛 💕		
Partnership Settings 😵 Display Name: SC2002		
Partnership Settings       Display Name:       Sc2002       Select services to use from this device.		
Partnership Settings       Display Name:       Sc2002       Select services to use from this device.       Serial Port	12	Check Seria
Partnership Settings       Display Name:       Sc2002       Select services to use from this device.       Serial Port	12.	Check Seria
Partnership Settings         Display Name:       SC2002         Select services to use from this device.         Serial Port	12.	Check Seria
Partnership Settings Display Name: SC2002 Select services to use from this device. Serial Port Refresh	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Serial Port  Refresh Back  Finish	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Serial Port Refresh Back Finish	12.	Check Seria
Partnership Settings	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Select Services to use from this device.  Select Services to use from this device.  Refresh Back  Finish  Settings Setting Setting Setting Setting Setting Setting Setting Setting	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Select services to use from this device.  Select services to use from this device.  Refresh Back  Refresh Back  Settings  Settings Settings  Settings  Settings  Settings  Settings  Settings  Settings  Settings  Settings  Settings  Settings  Settings	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Select services to use from this device.  Select Port  Refresh Back  Refresh Back  Finish  Settings Setting	12.	Check Seria
Partnership Settings  Display Name: SC2002 Select services to use from this device.  Select services to use from this device.  Select Port  Refresh Back  Refresh Back  Finish  Settings Settings  S	12.	Check Seria Select COM
Partnership Settings	12.	Check Seria Select COM
Partnership Settings	12.	Check Seria Select COM
Partnership Settings   Display Name:   Scient services to use from this device.   Select services to use from this device.   Select services to use from this device.   Setings   Back   Eluetooth    To connect to a device, tap New Outgoing Port. To allow other devices to connect, tap New Incoming Port. New Incoming Port	12.	Check Seria Select COM

SCIP's name (SCXXXX) and xt.

asscode **1234** and click **Next**. bard does not appear, click on rd icon at the bottom of the

al Port and click Finish.

Ports.

f Settings	🐚 😂 📢 3:45 🛛 ok		
Bluetooth			
To connect to a device, tap New Outgo Port. To allow other devices to connect New Incoming Port. For other options, and hold an existing port.	bing :, tap tap		
New Outgoing Port		14.	Click on New Outgoing Port.
Mode Devices COM Ports			
Not the settings	- 🔮 🗱 ┥€ 3:45		
Add a Device	0		
Select the device you want to add			
5C2002		15.	Select your SCIP's name and click on
			Next.
Cancel 📟	Next		
Nettings	動 🗱 📢 3:46		
Bluetooth	0		
Port:			
COM4		16	Onen the part many
COM5 COM6		10.	Open the port menu.
COM7 COM8			
Back 🗮	Finish		
🟄 Settings	ा कि 🗱 ब€ 3:47		
Bluetooth	9		
Port:			
Secure Connection		17.	Select COM8 and click Finish.
Back 🚟	Finish		

Settings	<b>4€ 34 € I</b> 8.	The name of your SCIP tester should appear with the COM8 tag. Click on Ok button to close the window.
Wireless Manager           Bluetooth       On         Done       Image: Constraint of the second	<b>€ 3:7 ×</b> 19.	Click on the X button to close the Bluetooth Settings.

20. The connection between the Archer PDA and the SCIP tester is now possible via Bluetooth operating mode.

## 12 Technical help

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

Tel.:	(418) 877-4249
Fax:	(418) 877-4054
Toll free line	1 877 977-4249
e-mail:	gdd@gddinstrumentation.com

Emergency out of business hours:

Pierre Gaucher:	Home phone:	(418) 657-5870
	Cell phone:	(418) 261-5552
Régis Desbiens:	Home phone:	(418) 658-8539
	Cell phone:	(418) 570-3408

Any GDD SCIP tester 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

VER0-1.01

## Annex 1 – Example Dump File

Version	PPC:	1.1.1.19	Version	SCIP:	0.2.1.3	SCIP	SN:	2011	]									
Project:	Quality	Test																
Windows:	20	Setting:	Arith.	Delay	(ms):	240	Timing	(ms):	80	80	80	80	80	80	80	80	80	80
	Mem	CoreID	S(mm2)	D(mm)	l(mm)	Half	Date	Time	Contact(kOhm)	Rho(Ohm*m)	Vp(mV)	ErrVp	м	ErrM	l(uA)	Time	Stack	M01
	1	100k-1u		10	100	No	12-01-10	16:02:14	38.457	78.553	2967.219	0.028	8.242	0.001	29.667	2000	5	76.189
	2	100k-1u		10	100	No	12-01-10	16:03:04	36.998	78.589	5926.151	0.031	10.792	0.002	59.224	2000	5	95.818
	3	100k-1u		10	100	No	12-01-10	16:04:12	36.531	78.303	8882.237	0.198	11.246	0.002	89.091	2000	5	96.617
	4	100k-1u		10	100	No	12-01-10	16:05:11	36.833	78.265	11835.915	0.164	11.455	0.005	118.775	2000	5	96.434
	5	100k-1u		10	100	No	12-01-10	16:06:05	36.435	78.141	49.429	0.003	6.328	0.111	0.497	2000	5	59.905
	6	100k-1u		10	100	No	12-01-10	16:07:14	37.178	78.761	496.353	0.037	7.149	0.002	4.950	2000	5	67.922
	7	100k-1u		10	100	No	12-01-10	16:09:30	37.301	78.546	4968.129	0.078	10.290	0.008	49.677	2000	5	92.456
	8	100k-1u		10	100	No	12-01-10	16:10:56	37.090	78.265	12856.770	0.222	11.092	0.005	129.019	2000	5	92.690
	9	10k-10u		10	100	No	12-01-10	16:12:43	4.421	7.768	2721.214	0.025	6.507	0.018	275.150	2000	5	65.262
	10	10k-10u		10	100	No	12-01-10	16:13:48	4.364	7.761	5434.796	0.091	5.477	0.006	549.970	2000	5	52.437

## <u>Header :</u>

Version PPC :	Version of the SCIP program on the PDA
Version SCIP :	Version of the SCIP tester software
SN :	Serial number of the SCIP tester

Project : Name of your project

Windows :	Number of windows (depending on the selected mode)
Settings :	Selected mode (Section 8)
Delay :	Delay in ms before the first window (depending on the selected mode)
Timing :	Timing of each window (depending on the selected mode)

Readings:

Mem:	Memory number
Core ID:	Sample name or number
S(mm²):	Cross-sectional area of the none core sample in mm <sup>2</sup>
D(mm):	Diameter of the core sample in mm
l(mm):	Length of the sample in mm
Half :	Half or full core sample
Contact(kOhm):	Sample resistance in kOhm
Rho(Ohm*m):	Resistivity of the sample in Ohm*m
Vp(mV):	Voltage at the edges of the sample (must be under 13V)
Err Vp:	Error in % of the Vp
M:	Chargeability of the sample in mV/V
Err M:	Error in % of M
l(uA):	Current sent by SCIP in uA
Time:	Transmitter timing in ms
Stack:	Number of stack
M01 – M20:	Windows of chargeability