Leica RX1250 & TPS 1200 Robot

Total Station Extended GeoCOM & Firmware Check

For FieldGenius to work correctly with your Total Station, Smart Rover and RX1250, Extended GeoCOM must be enabled. This mode will usually have been turned on by your dealer. You can confirm if it is enabled on your Total Station by using the following steps:

1. From the Main Keyboard press the USER key.



2. On the User Menu, press the F3 (STAT)



3. From the Status Menu, highlight "System Information" then press F1 (CONT)



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CONT			

4. On the System Information Menu, on the Instrument page scroll down until you see Extd GeoCOM. This must be enabled (YES) for FieldGenius to work correctly.

07:37 pm STATUS	+	ź 🐐 🖌		07:38 pm - STATUS -	+ ♀ ir st	□ I ``; *	°- 83	
System Infor	rmation		\times	System Info	rmation			\times
Instrument Fi	irmware A	pplication		Instrument F	irmware	Applicatio	n	
Instr Type	:	TCRP1203		ATR	:		Yes	
Serial No.	:	235339		PowerSearch	:		Yes	
Eqpmnt No.	:	2539492		GUS74	:		No	
Instrmnt ID	:	6483		Extd GeoCOM	:		Yes	
				L2C tracking	1:		No	
Sys Lnguage	:	ENGLISH		ММТ	:		No	
Reflectless	:	R300		GLONASS read	ly:		Yes	
ATR	:	Yes	-	GLONASS perm	1.:		Yes	•
			Αû					Αû
CONT		PA	\GE	CONT			PA	\GE

- 5. To check the firmware on the Total Station, press F6 (Page)
- 6. On the Firmware page you will see the firmware versions currently installed on the Total Station.

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System Information		×	System Informati	on		X
Instrument Firmware	Application		Instrument Firmwar	re Applicati	ion	
Firmware :	V 5.50		BUILL FLOCESSU.	·	1730	
Maintenance End :	Demo Licence		AIR	:	V 1.72	
			EDM	:	V 1.47	
Build User Iface:	3042		PS	:	V 1.01	
Build Processb. :	1736		Boot	: '	V 2.01	
ATR :	V 1.72		API	: '	V 5.50	
EDM :	V 1.47		EF Interface	: '	V 2.00	
PS :	V 1.01	-	Keyboard/Display	: '	V 2.02	-
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CONT	P/	AGE	CONT		PA	GE

Press F1 (Cont) to return back to the Main Menu.

RX1250 – Extended OWI & Firmware Check

**Please Note: This check is only necessary if you also plan to work with GPS.

For FieldGenius to work correctly with your Total Station, Smart Rover and RX1250, Extended GeoCOM must be enabled. This mode will usually have been turned on by your dealer. You can confirm if it is enabled on your RX1250 by using the following steps:

1. From the Windows desktop, start SmartWorxs



2. From the Main Menu press the USER key.



3. On the User Menu, press the F3 (STAT)



4. From the Status Menu, highlight "System Information" then press F1 (CONT)

-	23:24 STATUS	4% – G= 0 R= 0	\$ <u>]</u> *	ಿ 子 🎫 ಜ 🥪 🍹
S	tatus Men	J		\times
1	Survey			
2	Battery a	& Memory		
3	System In	formation		
4	Interface	es		
5	Bluetoot	1		

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CONT			

 On the System Information Menu, on the Instrument page scroll down until you see Extd OWI. This must be enabled (YES) for FieldGenius to work correctly with GPS equipment. If this setting is not enabled, contact your Leica dealer.

23:31 STATUS	% µ G= R=	0 0 Å∱	* *	2 (2		23:31 STATUS	% y G= R=	o ∦¶*	``_' "L" ->	
System Info	rmation				\mathbf{X}	System Inf	ormation			X
Instrument Fi	irmware	Applica	ation			Instrument	Firmware	Applicati	on	
Instr Type	:		RX1250	TC		PPS	:		No	*
Serial No.	:		3078	74		Event Inpu	t :		No	
Eqpmnt No.	:		26445	38		Ethernet	:		No	
Instrmnt ID	:		78	74		Extd OWI	:		Yes	
						L2C tracki	ng :		Yes	
Sys Lnguage	:		ENGLI	SH		MMT	- :		Yes	
ME Serl No.	:					GLONASS re	ady:		Yes	
PPS	:			No	•	GLONASS pe	rm.:		Yes	-
				a	۱Û					аû
CONT				PAG	E	CONT			PA	GE

- 6. To check the firmware on the Total Station, press F6 (Page)
- 7. On the Firmware page you will see the firmware versions currently installed on the Total Station.

23:34 STATUS	4%) G= 0 R= 0	∦t °s	2 💽 2 💡	23:35 STATUS	% y G= 0 R= 0	* * `š	2 💽 2 🖓
System Inform	ation		×	System Infor	mation		×
Instrument Firm	mware[App]	ication		Instrument Fi	rmware(App	lication	
Firmware	:	V 5	. 50 🔺	Build Proces	sb.:	12	55 🔺
Maintenance E	nd :	12.05	. 08				
				Meas Engine	:	V 0.0	00
Build User If:	ace:	11	126	Meas Eng Boo	t :	V 0.0	00
Build Process	b. :	13	255	LB2/OWI	:	V 5.	50
				Navigation	:	V4.	00
Meas Engine	:	V 0.0	000	API	:	V 5.	50
Meas Eng Boot	:	V 0.0	000 💌	EF Interface	:	V 2.	02 💌
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CONT			PAGE	CONT			PAGE

Press F1 (Cont) to return back to the Main Menu.

Configure the Total Station ATR Settings

The ATR mode set on the instrument should be confirmed.

1. From the Main Menu, highlight "Config..." and press F1 (CONT)



2. On the Configuration Menu, highlight "Instrument Settings", then press F1 (CONT)



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CONT			

3. On the Instrument Menu, highlight "EDM and ATR Settings", the press F1 (CONT)



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CONT			

4. On the EDM & ATR Settings Menu, scroll down and check that the ATR Setting is set to Normal. Depending on the conditions you are surveying in you may need to change this from time to time to one of the other ATR modes, but for most applications leaving this set to Normal will be ok.

O5:01 pm CONFIGURE	- 🍳	IR STD	**	° 23	
EDM & ATR Set	tti	ngs			×
Survey Setup					
EDM Type	:	Refle	ector	^ (I	R) 🕩
EDM Mode	:		Sta	Inda	rd 🕩
Reflector Add. Constant	:	Leica I	Circ	Pris 0.	5 m <u>↓)</u> . 0 m m
Automation	:			A	rr ∳∮
ATR Settings	:			lorma	a 1 🕩
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CONT		TES	Т		PAGE

5. Press F1 (CONT) to save the settings.

Configure the Total Station Search Settings

The Search mode set on the instrument should be confirmed.

1. From the Main Menu, highlight "Config..." and press F1 (CONT)



2. On the Configuration Menu, highlight "Instrument Settings", then press F1 (CONT)



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CONT			

3. On the Instrument Menu, highlight "Automatic Prism Search", the press F1 (CONT)



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CONT			

4. On the Automatic Prism Search Menu, make sure "After Prediction Search With" is set to No Search.

CONFIGURE		°
Automatic Prism	Search	×
After Prism is_	Lost	
Predict for :		3 s∐≱
After Predictio Search with :	n No	Search 🔶

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CONT		DEFLT		

5. Press F1 (CONT) to save the settings.

Configure the Total Station Communications Settings

- 1. Turn on the instrument
- 2. Level the instrument
- 3. On your instrument select menu item 5 (Configuration)



4. Select menu item 4 (Interfaces)



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CONT			

5. Press the down arrow to highlight "GeoCOM Mode" then press F4 (CTRL)

15:17		R т 🏷	* *	
CONFIGURE	⊤ 🝚 s	TD L	22	01
Interfaces				×
Interface	Port			Device
GSI Output	-	- []=		-
GeoCOM Mode	2			RH1200
RCS Mode	10			
Export Job	-			-
GPS RTK	3.50			-
Internet	5 5			-
			× 11	aû
CONT	EDIT	CTRL	USE	

6. Make a note of the Link Number as you will need to set this in FieldGenius. Leave the instrument setup as "Base"

15:22 CONFIGURE	- 👰 IR Std 200	Ι	**	°. 84	
Radio Type	:			RCS	
Link Number	:			0	
Set as	:			Base	♠



- 7. Press F1 (CONT) which will take you back to the Interfaces Screen.
- 8. Press the down arrow to highlight "GeoCOM Mode" then press F3 (Edit)

15:17		Rт	* %	
CONFIGURE	Τ 🗳 s	TD L	22	01
Interfaces				X
Interface	Port			Device
GSI Output	-	- () =		-
GeoCOM Mode	2	- 201		RH1200
RCS Mode	10			-
Export Job	-			-
GPS RTK	3.00			-
Internet	()			-
				a û
CONT	EDIT	CTRL	USE	

9. Verify that the communication parameters match the following:

15:28 CONFIGURE	$+ \bigcirc$	IR J 🍾	° ∜ \$3	
GeoCOM Mode Use Interfa	e ace:		Ye	<u>×</u> s 아
Port	:	Port 2(Hand 1e) ••
Device	:		RH120	0
Protoco1	:	RS232	GeoC0	М

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CONT		DEVCE	

- 10. Press F5 (Device)
- 11. Use the up/down arrows to highlight RH 1200 then press F3 (Edit)



12. Verify that the communication parameters match the following:

15:29 CONFIGURE	$+ {\textcircled{O}}_{\text{std}}^{ ext{IR}} ext{I}$	*** 🚺
Edit Devic	e:RH1200	×
Name	:	RH1200
Туре	:	RCS
Baud Rate	:	115200
Parity	:	None 🕩
Data Bits	:	8 🜗
Stop Bit	:	1 🐠

			a û
STORE		DEFLT	

- 13. Press F1 (Store) to set the parameters and go back to the Devices screen.
- 14. Press F1 (Cont) to continue back to the GeoCOM Mode screen.
- 15. Press F1 (Cont) to continue back to the Interfaces screen.
- 16. Press F1 (Cont) to continue back to the Main Menu.
- 17. On the instrument handle, you should see a green power light.

Configure the Leica RX1250 Controller



Aside from installing the FieldGenius software, nothing needs to be configured on the data collector's operating system.

Run FieldGenius by double-tapping on the desktop icon.

If you do not see the FieldGenius icon, then turn the RX-1250 off then back on again.

Configure FieldGenius on the RX1250 Controller



Instrument Profile

Model and C	Communication					≡ ∎ 1 _{2;}	3 😮
[Total Static	on						_
Make Leic	:a 💌	Mod	del	TPS Robot	(Geo	СОМ	-
Status:	Not Connecte	ed .					
Connect	t to Instrument		Us	se Default (Set	Iomm tings	iunicatio	n
Port	Radio	-		Data Bits	8		•
Baud Rate	115200	-]	Stop Bits	1		•
Parity	None	-]				
×			Clos	se			

Model and Communication

Create a profile for your Leica 1200, and

Edit it to access the instrument settings.

Make: Leica

Model: TPS Robot (GeoCOM)

Port: Radio

Baud Rate: 115200

Data Bits: 8

Stop Bits: 1

Parity: None

EDM Settings

Enable the Set Instrument to Zero option, and enter the Prism Offsets as follows: if you are using a Leica 360° prism you would put a +23.1mm offset in FieldGenius; a Leica Circular prism offset would be 0mm in FieldGenius, a Leica mini prism would be +17.5mm in FieldGenius, and for the RL reflectorless offset leave it set to 0mm.

For more information, please refer to our "Leica RX-1250 & TPS 1200 Prism Offsets" document.

EDM Settings	📰 ¹ 2 ₃ 💡
EDM Settings	Prism Offsets (mm)
Mode IR Standard 🗨	Foresight 23.1
Time Out(s) 10	Backsight 23.1
🔽 Use default time	RL 0.0
Minimum 0'	Set instrument
Maximum 32767'	Reflectorless Settings
Guide Light High	Std Dev
X Close	,

Measurement Tolerance		🎟 1 ₂₃ ?
Horizontal Angle Tolerance (sec)		
30.0		
Vertical Angle Tolerance (sec)		
30.0		
Distance Tolerance		
0.03'		
X	Close	
**		
Search Settings		🎟 ¹ 2 ₃ 💡

Search Settings			23 💙	
Search Mode	PS Next (CCW)	-		
[Search Windov	v Range			
Horizontal	30°00'00"			
Vertical	30°00'00"	Measure		
∣∟ ⊧Search Windov	v Center			
Horizontal				
Vertical	90°00'00"	Measure		
Auto search for prism				
X	Close			

Radio Configuration		📰 ¹ 2 ₃ 🕐
Connection Method Internal Radio Clip-On Radio		
Mode Link Number	Remote	
×	Close	

Tolerance Settings

Specify your desired multiset tolerances, or leave the default values.

Search Settings

Search Mode: PS Next (CCW or CW)

Enable the Auto search for prism option.

Radio Settings

Select Internal Radio.

Set the controller to Remote mode (since the instrument is in Base mode).

Set the same Link Number as specified in the instrument (see step 6 in first section).