



TORQUE HUB

Installation, Operating and Troubleshooting Manual





**PAGE INTENTIONALLY
LEFT BLANK**



PREFACE

Please read and follow this Operations Manual carefully, before installation and operation of the Product. Not following the individual points and recommendation in the operations manual can lead to personnel accident or damaged to the product and equipment.

Operation of the system is only permitted with equipment and spare parts supplied by Digga or listed in the spare parts and its consumables lists. Using other peripherals or alternative parts may void the warranty of the product.

The specifications and descriptions in this manual are subject to change without prior notice. Digga reserves the right to improve the product in order to sustain the highest quality, delivered to our customers.

Some product improvements may have been in place after this manual was printed. For the updates and information about the product, please contact Digga or your local Digga Dealer.

PRODUCT INTRODUCTION

The Torque Hub utilises the same technology as our Torque Logic, it delivers over 99% accurate torque readings. Data is sent over a robust 2.4 GHz RF FHSS signal to the hand held display / data logger. The Torque Hub measures not only torque, but also inclination.

TECHNOLOGY

Utilising strain gauges, internal CPU, RAM and other electronics, the Torque Hub can guarantee highly accurate, real time torque readings. An inclinometer built into the Torque Hub ensures that you maintain a consistent angle of insertion. The Torque Hub software records important data such as pile number, final torque, peak torque and elapsed time. This data can be exported to an Excel spread- sheet and transferred by e-mail or memory stick to your engineer/customer.

SAFETY

Consistent and real time monitoring of torque will prevent over-torque which can often result in pile failures (piles sheared or buckled). The inclinometer also removes the need (and associated risk) for personnel to stand beneath the drive head to assist the operator in maintaining a proper insertion

TABLE OF CONTENTS

Preface/Product Introduction.....	3
Table of Contents	4
Safety Symbol and Statements	5
General Safety and Precautions	6
Product Waste Disposal	8

INSTALLATION MANUAL

Torque Hub Installation.....	9
------------------------------	---

7" PR3820 DISPLAY OPERATING MANUAL

Main Screen Functions.....	13
Connect to Hub	14
Job Creation and Selection.....	16
Setting Target/Optimum Torque/Torque Range.....	18
Inclinometer Bull's Eye Resolution Selector.....	19
Add a Joint.....	20
Setting Units of Measurement and Language.....	21
Exporting Piling Jobs.....	22

TROUBLESHOOTING/ MAINTENANCE/ GENERAL POLICIES

Troubleshooting Guide.....	26
Warranty Policies.....	28
Return Goods Policy	29
Spare Parts	30

SAFETY SYMBOLS AND STATEMENTS

DANGER



THIS STATEMENT IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

WARNING



THIS STATEMENT IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.

CAUTION



THIS STATEMENT IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.



THIS STATEMENT REPRESENTS TO CALL YOUR ATTENTION INVOLVING USERS SAFETY AND PRODUCT PERFORMANCE REQUIREMENTS. FAILURE TO FOLLOW THE INSTRUCTIONS CAN RESULT TO INJURY, DEATH OR PRODUCT PERFORMANCE DEGRADATION.

GENERAL SAFETY PRECAUTIONS

WARNING



Always wear the proper personal protective equipment for the job you're doing.

WARNING



When working on or near heavy equipment, approved hard hat and steel toe boots are recommended.

WARNING



Lower the boom of the machine on to solid footing before attempting to attach the hub.

WARNING



Turn off the power and apply the parking brake.

WARNING



Use your knees not your back when picking up and placing heavy Torque Hub.

CAUTION



Inspect tools, be sure proper guards are in place.

WARNING



Safety is the responsibility of the individual. Observe all safety procedures as outlined by your employer.

GENERAL SAFETY PRECAUTIONS

WARNING



Inspect the product prior use for any defects such as cracks, chipped, open wirings, deformation, etc.

WARNING



Inspect all parts, be sure all parts are installed properly and in a safe condition.

WARNING



Follow decal labels on the product and safety signs in the work area.

WARNING



Emergency preparedness is necessary and be sure to follow all instructions from the safety officer during evacuation.

WARNING



Remove all tools and unused parts from equipment before beginning the operations.

PRODUCT WASTE DISPOSAL



Disposal of Product

Do not dispose the torque hub, screens and harnesses in the domestic waste!

Electronics devices and batteries have to be dispose according to the regional directives on electronic and electrical waste disposal.

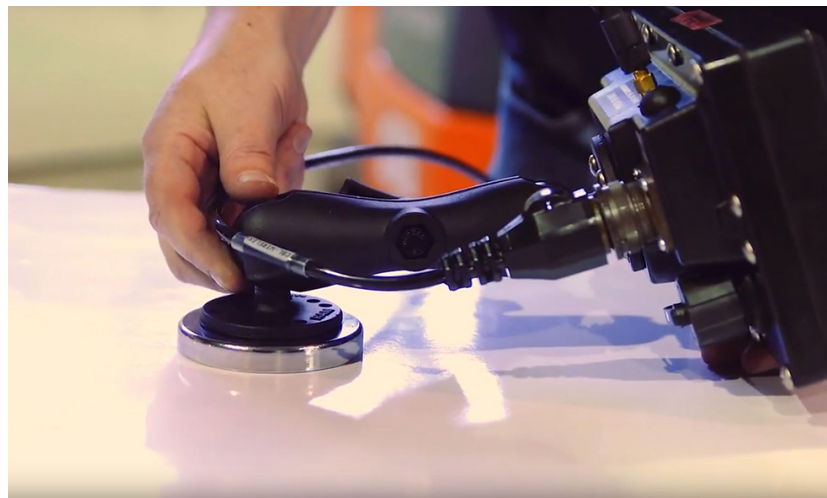
In case of further questions, please ask your local waste management authorities.

TORQUE HUB INSTALLATION

1. *Attach the harness to the back of the display, making sure the male and female pins line up and the connectors are tight.*



2. *Securely mount the display using the magnet or suction cup assembly. Try to point the back of the display so it's facing the hub.*

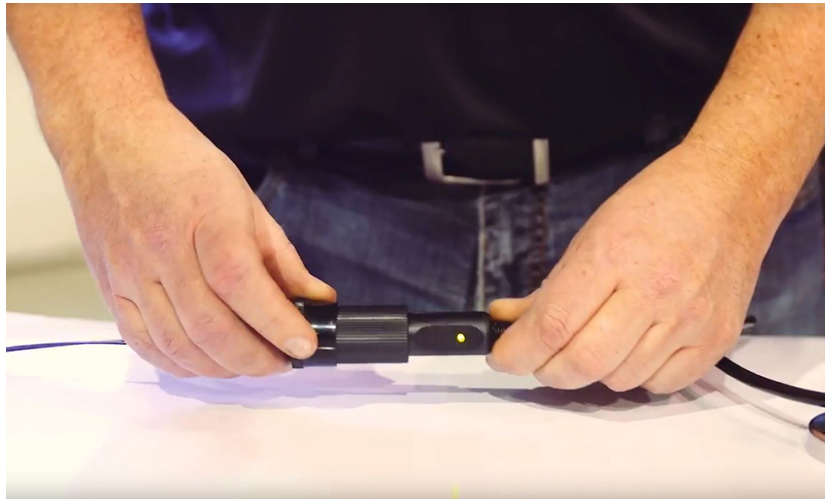


3. *If your unit comes with an antenna. Make sure it is not adjusted and laying down in the horizontal position. Also make sure the antenna is not damaged, crushed or covered in clay or grease.*

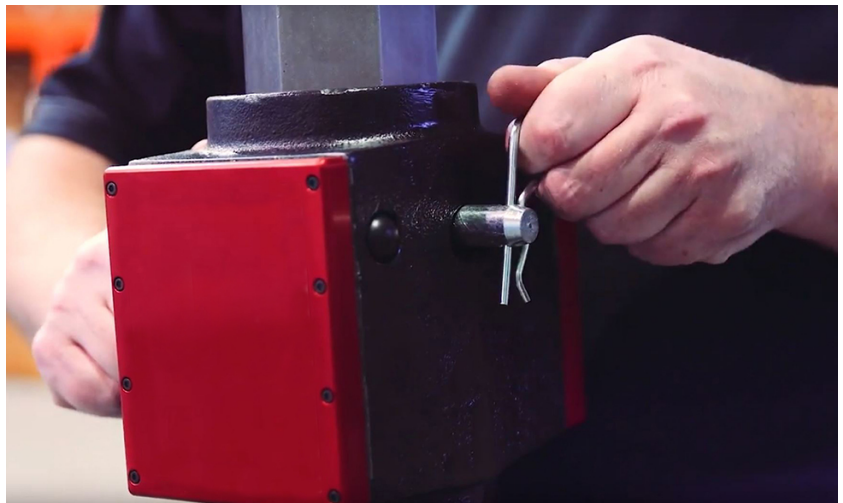
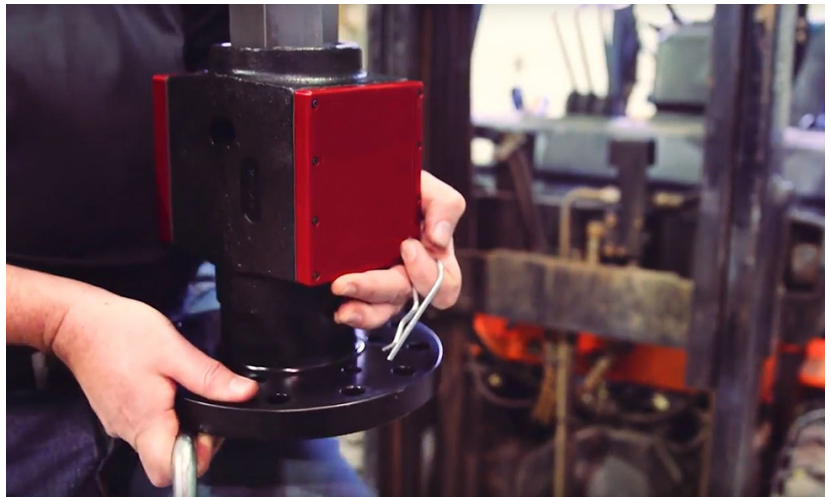


TORQUE HUB INSTALLATION

4. *Connect your power using a cigarette lighter, hard wiring or digger derrick plug adaptor.*

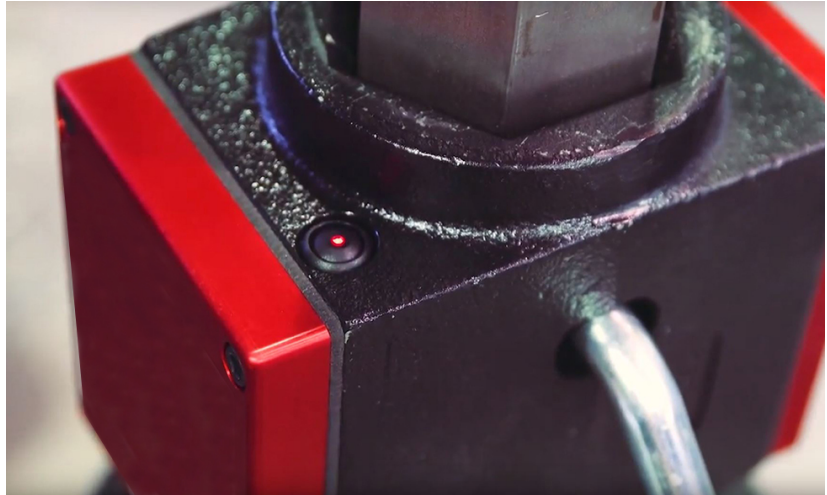


3. *Mount the hub to the drive units shaft and secure it with locking pin and R Clip.*

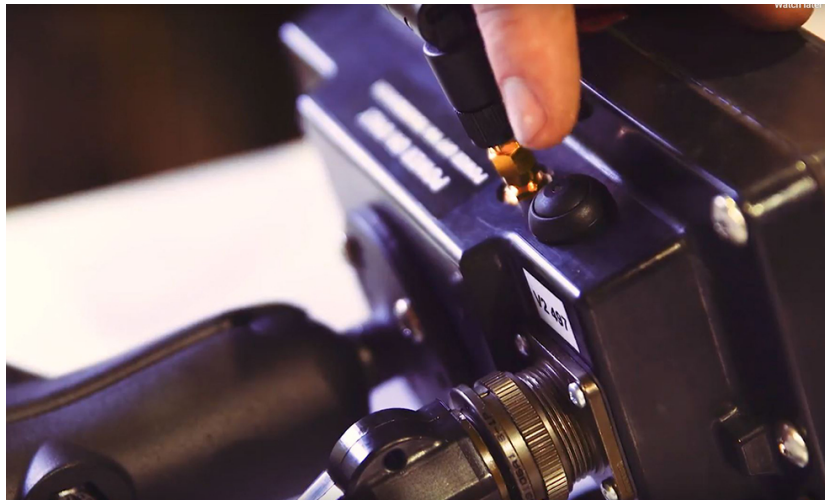


TORQUE HUB INSTALLATION

5. Turn the hubs power on. Make sure the power switch has a solid red light. If the light is flickering or does not come on there is a problem. Give the hub some movement by patting it with your hand or movement with the drive. This wakes the hub up.



6. Turn display power on. Check for solid red light on the switch.



7. Make sure the power cable is plugged securely into the power connections and the cable is not going to be caught on anything. Wait for the display to load.

8. Once the display is running go to the “menu” button, then to “connect to pin or hub” button. You will see a white screen with “please wait...” connecting may take a couple minutes.

9. A screen will come up with a hubs serial number, highlight it and “connect” button. Do not select “channels” that is for multiple hub connections. Sometimes for difficult connections, removing the display from the ball mount assembly can help speed up connection. Replace it when you are connected. **Note: If a “failed to connect” message comes up go back to the main display and wait, the display and hub are exchanging data and they will connect.**

10. You will know if the hub is connected when you see the hubs serial number in the top middle of the main screen. The battery charge will appear under it. You may also see some torque fluctuation in the gauge. Some noise is normal operation. Some torque may show depending on how tight and even the adapter was installed. **Note: The process of connecting is faster if the hub and display stay together as a unit. Displays and hubs can be mix and matched but connecting may take longer when this is done.**



TORQUE HUB

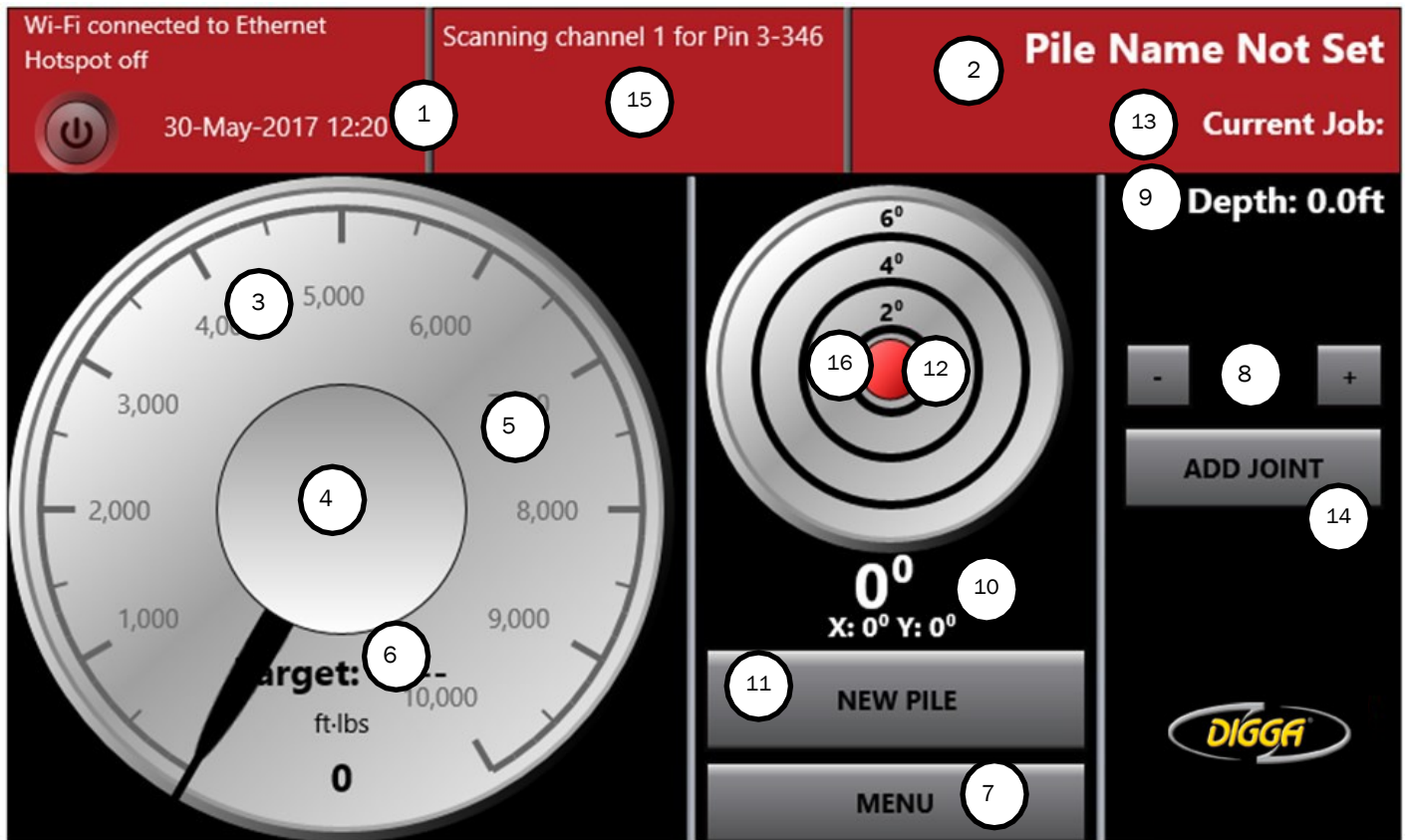
Operating Manual

DIGGA 7" MULTI TOUCH DISPLAY



MAIN SCREEN FUNCTIONS

The DIGGA PR3843 Colour Display at a Glance



- | | |
|--|--------------------------------|
| 1. Date | 8. Manually Enter Joint length |
| 2. Pile Name | 9. Depth |
| 3. Dial Indicator Live Torque | 10. X-Y |
| 4. Change dial range or Set Zero Calibration | 11. New pile |
| 5. Numeric Indicator Live Torque | 12. Inclinometer |
| 6. Target Torque for Indicator | 13. Current job |
| 7. Main Menu | 14. Add Joint |
| | 15. Serial # for wireless |
| | 16. Pin orientation |



NOTE: If you are using a Torque Hub or wireless pin be sure to fully charge the battery inside the hub or wireless box before starting your job should be 16.5V

NOTE: Letting the cell reach 0V can permanently reduce the CELL'S capacity. Most protection cells are not designed to let the CELL be recharged after the cell's voltage is below 0V.

These will not be covered under warranty.

Step 1

Attach the black harness to the back of the display and plug the other end into the cigarette lighter in the machine, it must be plugged it at all times to work.

Step 2

Turn on the display the power button is located on the top left of the display. **Be sure when turning it off you use the shutdown button located in the menu or on the top left side of the display, select shutdown. Using the power button to turn off could cause the display to corrupt.**

Be sure when turning it off that you use the shutdown button: touch menu then shutdown, wait approx. 2 mins before turning power switch off.

You must turn the switch off to be sure that when starting up again the display does not get a power surge.

Using the power button to turn off the display before following the above instructions could cause the electronics in the display to be corrupt.

Doing this will void the warranty

Connect to Hub

1. Touch on menu



1. Hardwired version will connect automatically.

DIGGA 7" DISPLAY OPERATING GUIDE

Connect to Hub

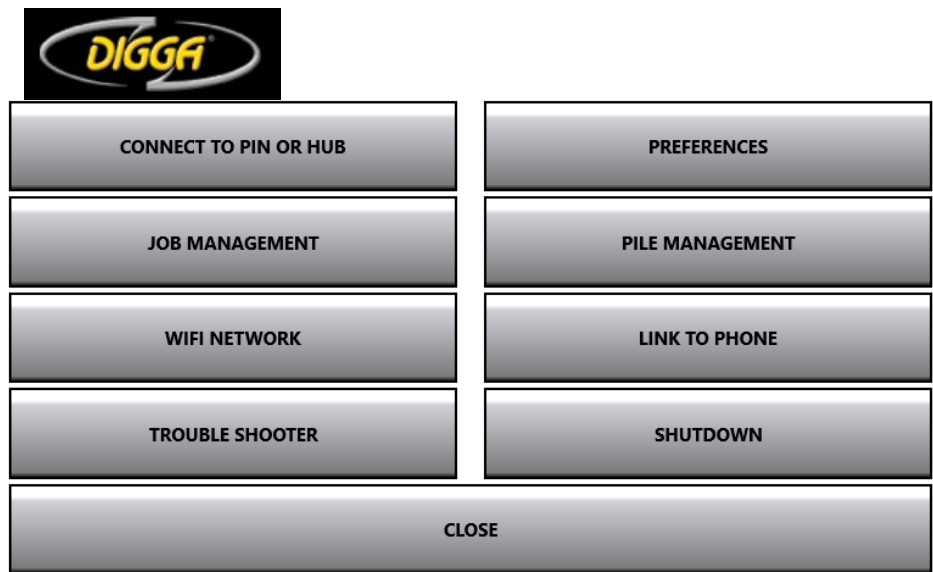
2. Touch

Connect to pin or hub.

NOTE: Torque Hub or wireless pin only.



4. Highlight the on that matches either your pin or Hub serial number.

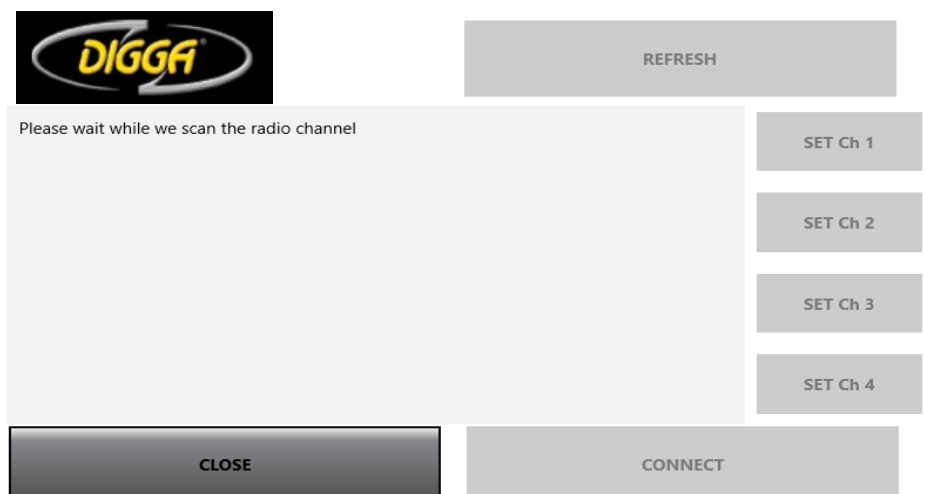


5. Touch Connect

6. Touch close

NOTE: Torque Hub or wire-less pin only

Hardwired version will connect automatically.



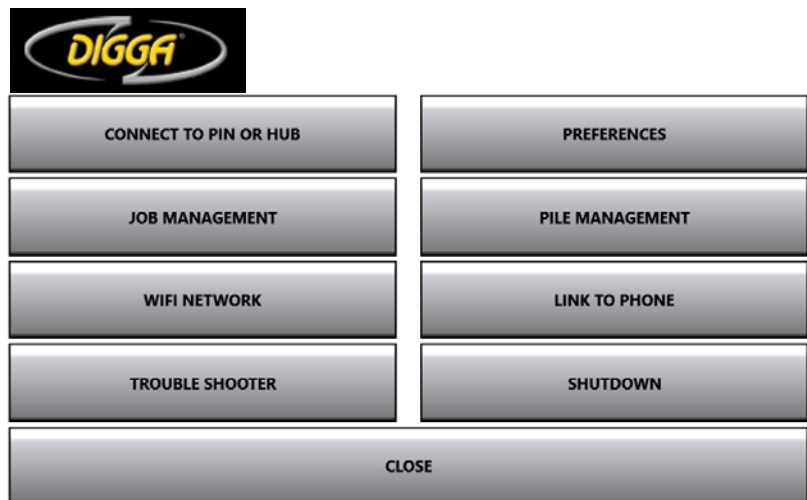
DIGGA 7" DISPLAY OPERATING GUIDE

Job Creation and selection

1. Touch the menu button.



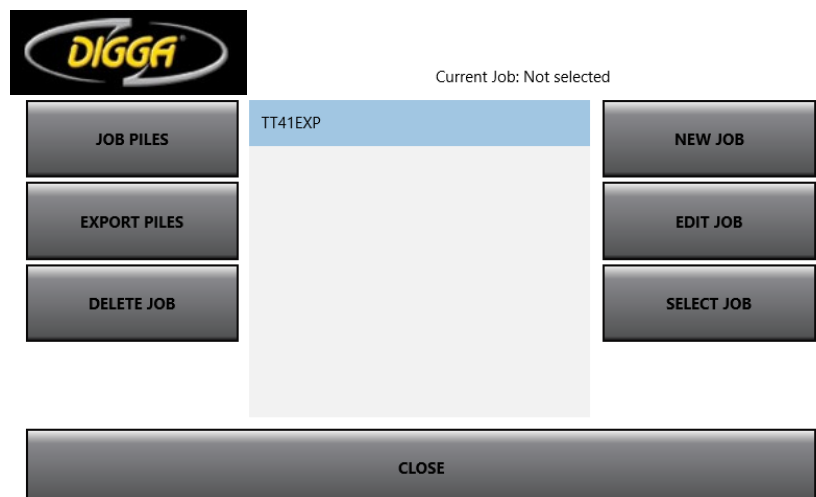
2. Touch the Job Management



3. Touch new job

Job information Screen will appear, enter job name. Touch select job.

Note: As many new jobs many be entered as required



DIGGA 7" DISPALY OPERATING GUIDE

Job Creation and Selection

5. Touch new pile from main screen.
6. Touch new pile enter pile name using the pop up keyboard.

Note: Pile name is a mandatory entry as it appears on your data report when downloaded to the Excel Report.

8. Touch Save when complete.

Note: Filling out the rest of the fields is not mandatory, but is recommended for data export to the Excel Report

After completing the Data information Input. Touch the save button

Highlight the Job that you've created.

Touch Select pile to show it on the Current Job

Note: At any time you can click on the pile name on the main screen to see the information of that pile

Note: If at any time you need to edit the pile, touch menu, job management, highlight the pile that needs edit click edit, enter the information and click save.



DIGGA	
Pile Name	PILE 57A
Target Torque (ft-lbs)	
Target Depth (ft)	
GPS Latitude	0
GPS Longitude	0
CLOSE	
SAVE	

DIGGA 7" DISPLAY OPERATING GUIDE

Setting Target/Optimum Torque/Torque Range

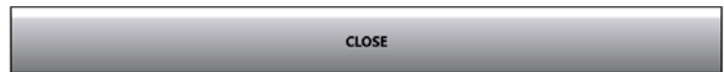
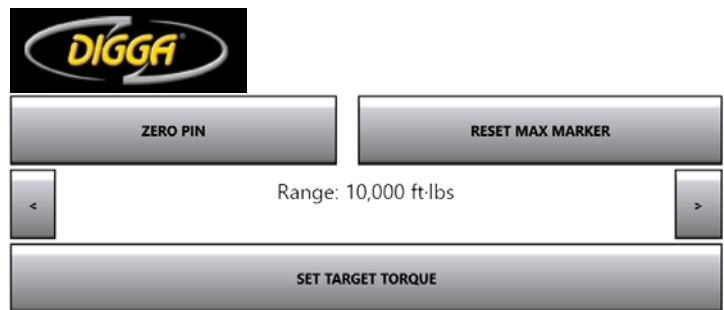
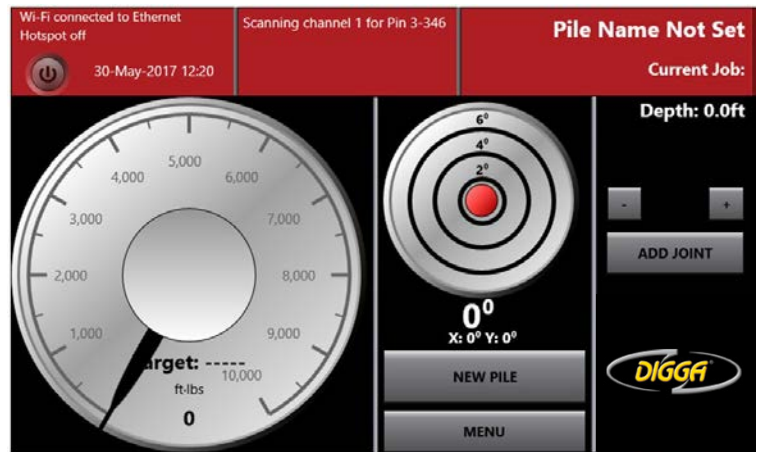
1. On the main screen, touch anywhere in the circle on left to Zero calibration, then click Zero calibration, this may take up to 20 seconds.

2. To Set the Torque Range Selector
Touch anywhere on the live torque dial indicator Main screen to bring up the Range

Use the arrow keys to set the desired range. Press close

3. To set the target Torque
On main screen touch anywhere in the circle on the left, click Set target torque, enter desired Torque.
Touch Set target torque, touch close
When target is reached the indicator will turn green.

Note: If the torque shows a non-zero value when the drive is hanging free, user may press ZERO CALIB to calibrate the display. This may take a few seconds.



DIGGA 7" DISPLAY OPERATING GUIDE

Inclinometer Bull's Eye Resolution Selector

1. To zero the Bull's Eye:

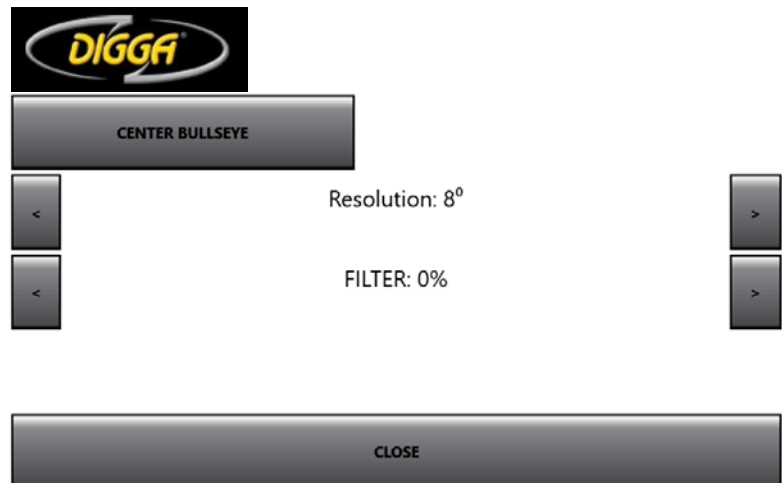
Insertion touch anywhere on the Inclinometer. (Click center bullseye)



2. To set resolution:

Use the arrow keys to set resolution. Resolution available: (degree allowance):

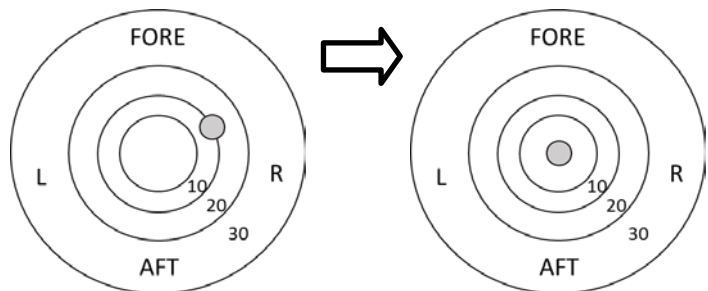
3. To set the filter, this is to increase or decrease the sensitivity of the bullseye only



Note:

For angled (battered) piles:
User can select the desired angle of insertion by centering the green dot in the Bull's Eye.

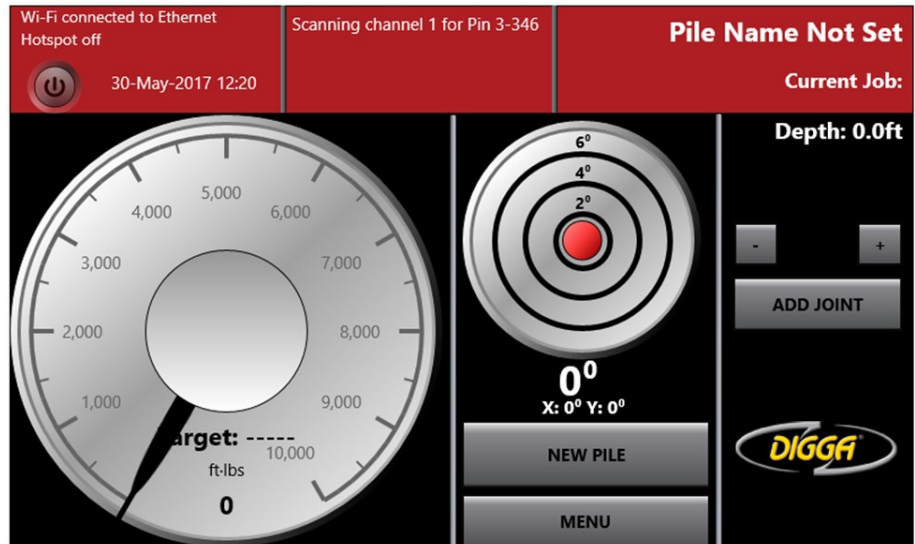
Move prime mover forward or back until the desired angle is achieved, as indicated in the upper corner of the display. Once the angle is reached, touch the Inclinometer, Center Bull's Eye & OK on pop up. This will make the chosen angle the new "center" of the bull's eye.



DIGGA 7" DISPLAY OPERATING GUIDE

Add a joint.

1. In the event you need to add Joint. Touch add joint.



2. Enter the extended joint length on the on screen keypad.

3. Click enter

Once joint is added you can use the Plus or minus to add in 1 foot increments.

Enter length of new joint in ft

CANCEL

0 1 2 3 4 5

6 7 8 9 . ENTER

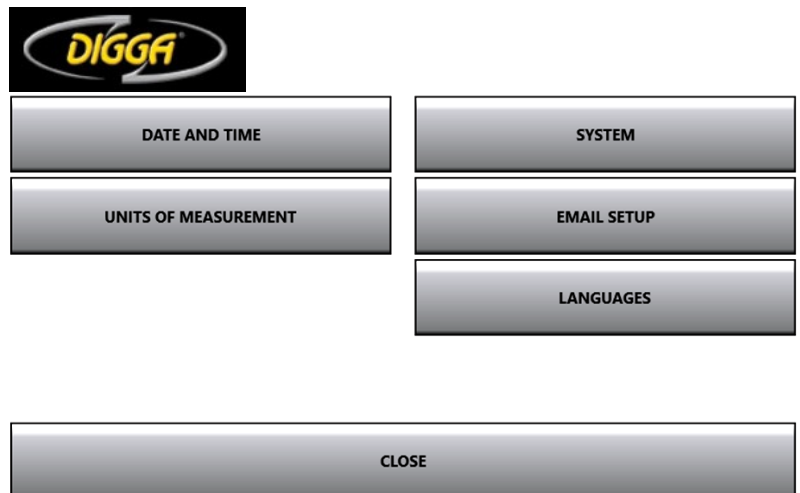
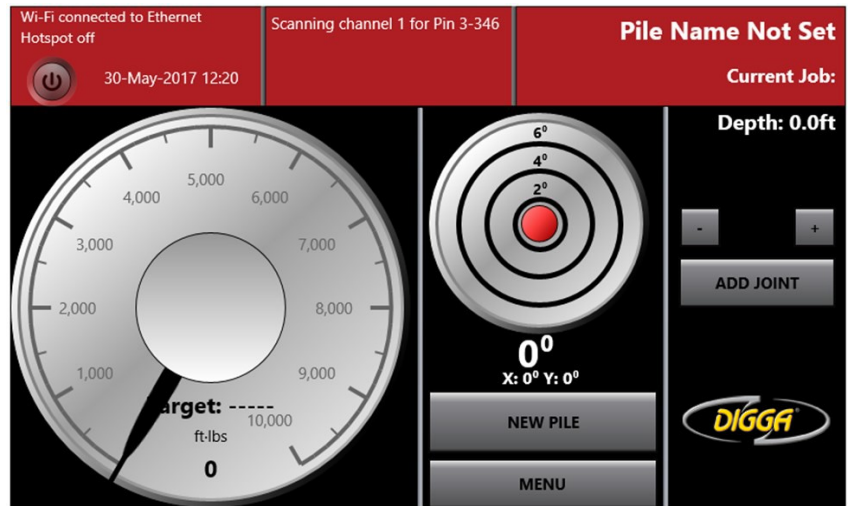
DEL CLR

DIGGA 7" DISPLAY OPERATING GUIDE

Setting Units of Measurement, and Language

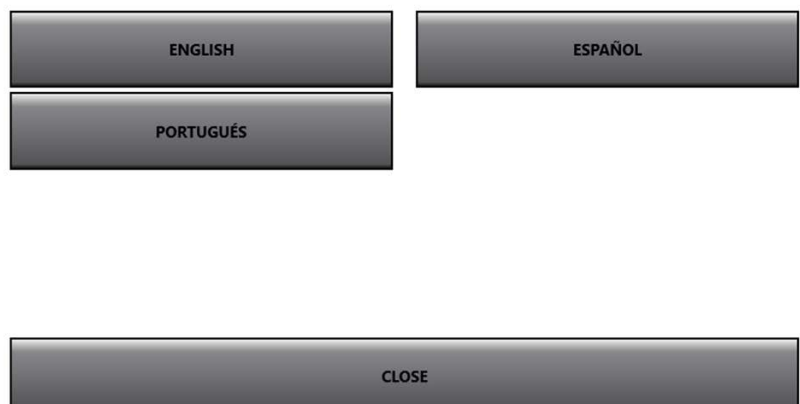
To set the unit of measurement:

1. Touch menu.
2. Preferences.
3. Set unit of measurement.
4. Touch select Torque unit and change to ft./lbs. or N.m.
5. Touch length unit select ft. or meters.
6. Touch close menu.



To set Language:

7. Touch menu, Language and choose from the following.
8. Touch Close menu.



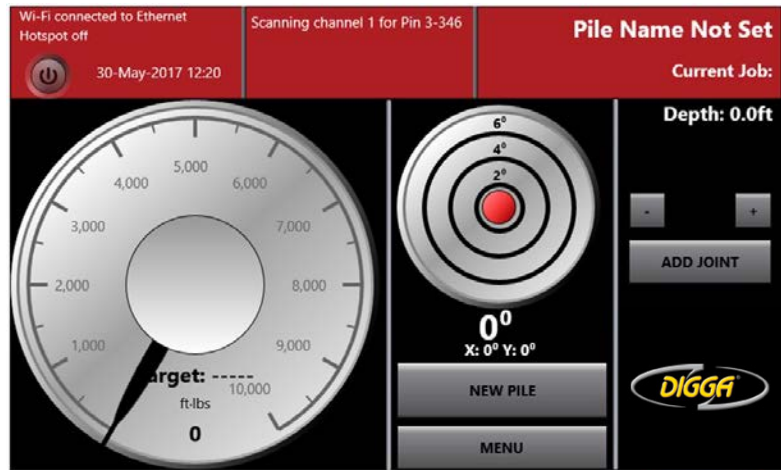
DIGGA 7" Display OPERATING GUIDE

Exporting Piling jobs

NOTE: You can export to USB or email the jobs.

1. Touch Menu

2. Touch job management



3. Highlight the job you wish to export, click export piles, or you can just preview.



4. Enter email address you want the report sent too. You will see the following report.



EXPORTING PILES CONTIUNED

Torque-report

TT41EXP Torque Report

Job: TT41EXP

This report covers the following piles

Pile	Date Drilled	Target Torque	Torque Achieved	Page
PILE 67A		0lb.ft 0N.m		

CLOSE

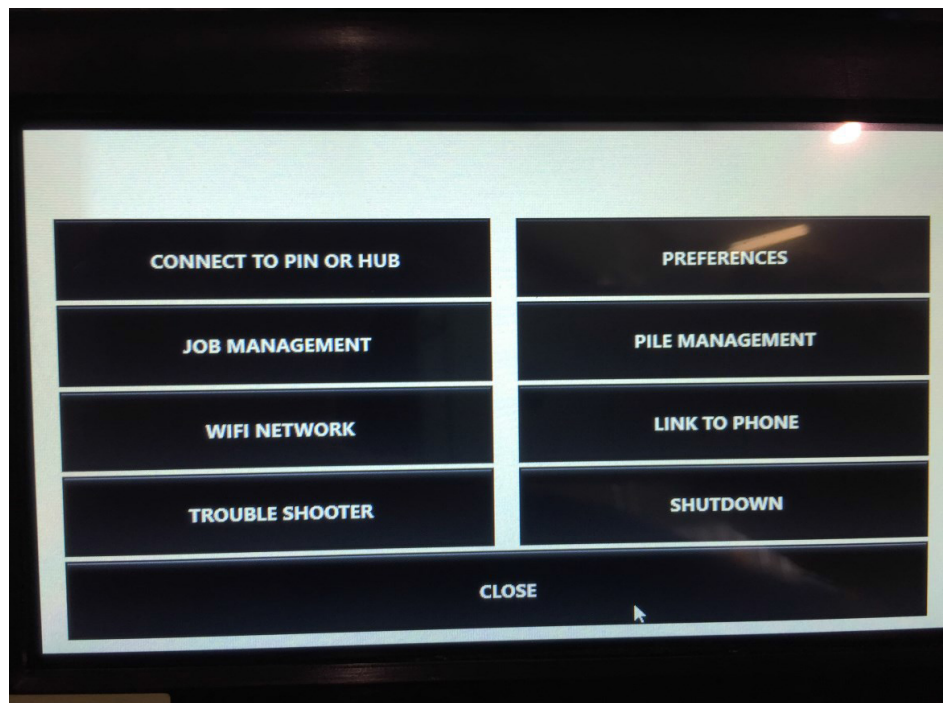
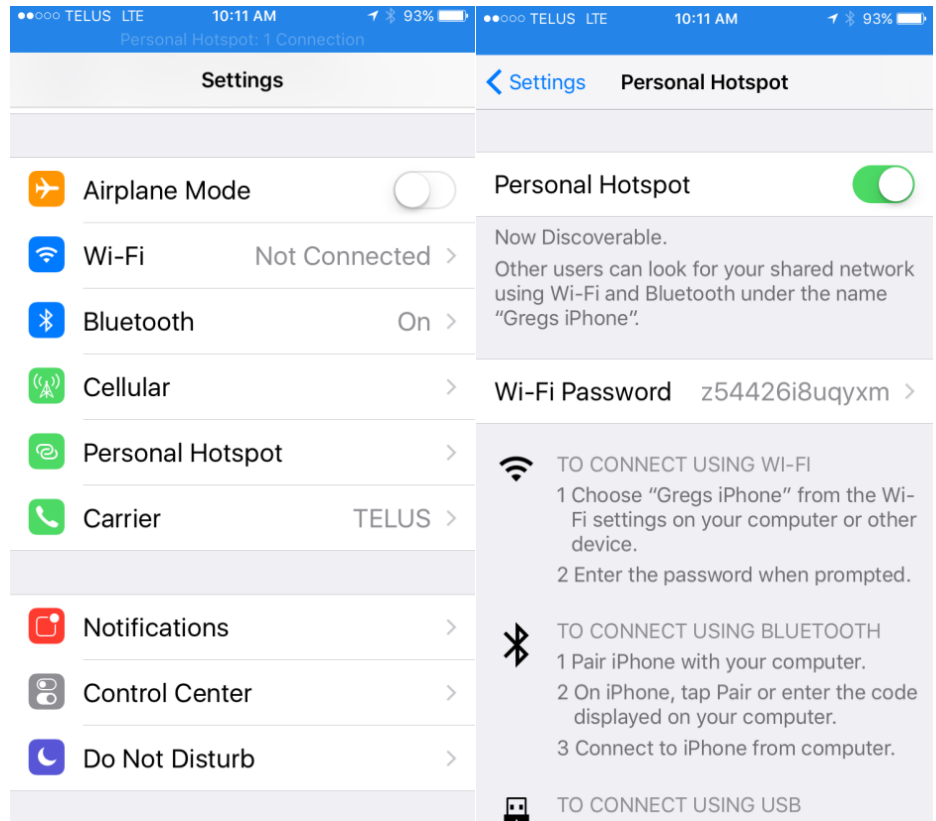
LINK TO SMARTPHONE— EMAIL REPORT

STEP 1: SET YOUR SMARTPHONE TO TURN ON PERSONAL HOTSPOT (APPLE/ iOS SHOWN). SETTING → Personal Hotspot. NOTE WiFi PASSWORD—YOU'LL NEED TO ENTER THIS INTO THE DISPLAY LATER.

2. ON THE DISPLAY—TOUCH “MENU” - THEN TOUCH “WIFI NETWORK”.

3. SELECT YOUR SMARTPHONE FROM AVAILABLE WiFi CONNECTIONS (Greg’s iPhone shown here).

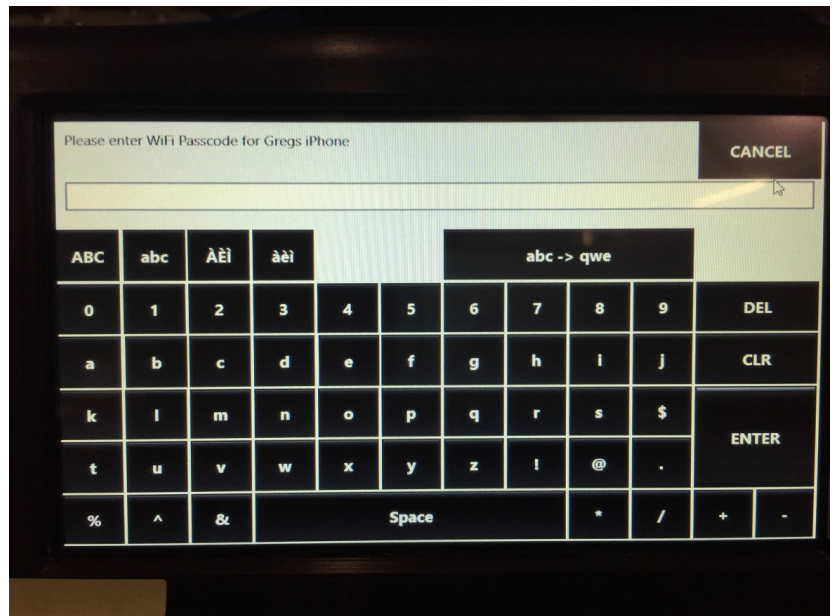
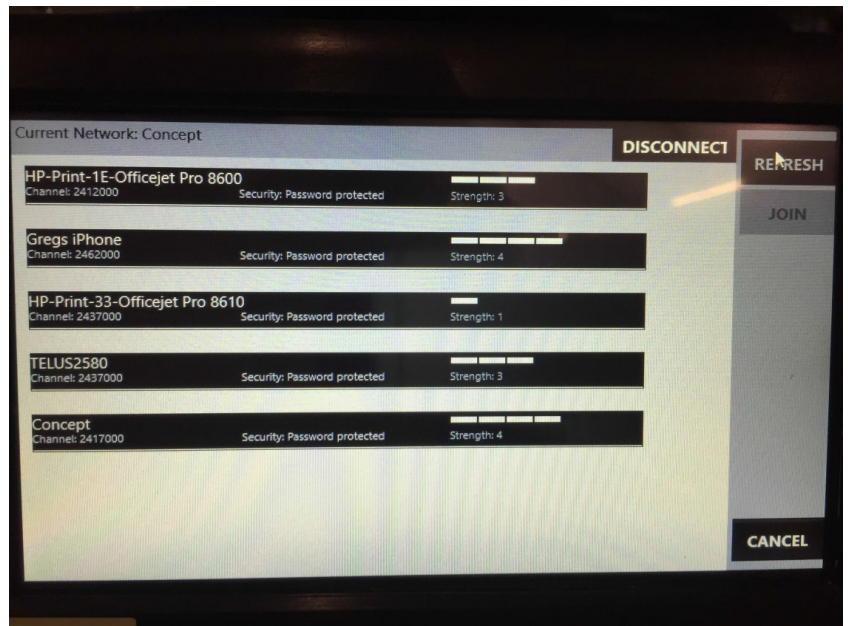
BY A NETWORK/ EMAIL ADMINISTRATOR (OR EXPORT TO FORMATTED USB DRIVE)



LINK TO SMARTPHONE— EMAIL REPORT

4. A SCREEN WILL APPEAR PROMPTING YOU TO ENTER THE ENTER THE PASS WORD FROM YOUR SMARTPHONE (NOTED ABOVE). ONCE PASSWORD IS ENTERED, CONNEC-TION IS ESTABLISHED & YOU ARE READY TO EMAIL RE-PORTS FROM THE DISPLAY.

*****NOTE: SOME EMAIL SERVERS ARE HEAVILY FIREWALLED. IF THE EMAIL DOES NOT ARRIVE, THIS IS MOST LIKELY THE CAUSE. THE QUICKEST SOLUTION IS TO SEND TO A WEB BASED EMAIL (LIKE GMAIL) - THIS WILL ALLOW THE REPORT TO SEND WITH-OUT THE NEED FOR INTERVENTION BY A NETWORK/ EMAIL AD-MINISTRATOR (OR EXPORT TO FORMATTED USB DRIVE)***





Troubleshooting Guide

///TORQUE HUB///

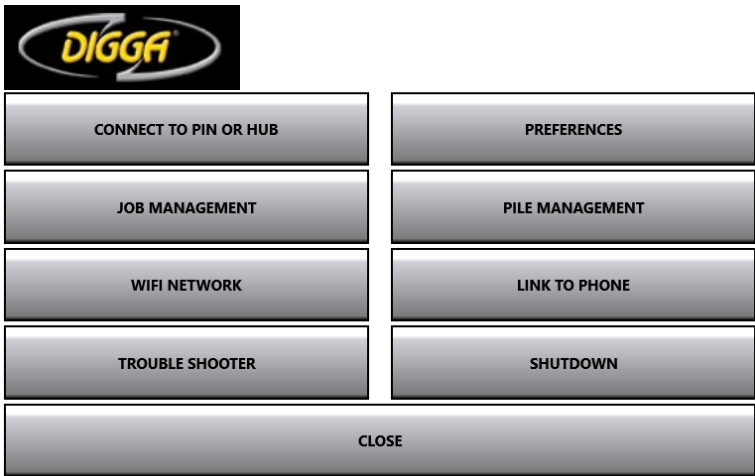


TROUBLE SHOOTING

This screen is more for Concepts use you if you require tech support, but you will be able to see your pin serial number on the right side for hardwired version as well as your display number on the left. You will be able to see total hours and calibration date.



If you are running a Torque Hub or wireless pin the serial number of the pin is located at the top of the display in the middle.



- 1.Touch Menu
- 2.Touch trouble shooter.



WARRANTY POLICY

LIMITED WARRANTY

DIGGA, warrants its product against faulty design, material, and workmanship for the periods listed below. The warranty starts on the delivery date to the retail owner and is non-transferable.

WARRANTY PERIOD From the delivery to the original user Torque Hub System: 12 months on all components.

WARRANTY SERVICE

All new DIGGA product are warranted to be free from defect in material and workmanship, which may cause failure under normal usage and service when used for the purpose intended. The DIGGA warranty covers faulty workmanship and defective parts manufactured by DIGGA. The warranty does not extend to transportation cost of parts nor does it cover consequential loss. DIGGA Equipment must be operated in accordance with the recommended procedures and within the ranges as specified in the Operating Manual.

Any claims under this warranty must be made within fourteen (14) days after the buyer learns of the facts upon which claim is based. All claims not made in writing and not received by DIGGA within the time specified above may be deemed waived. DIGGA will not be responsible for or accept any charges for work carried out by any repairs, or for any charges for any spare parts fitted to any DIGGA product without written approval from DIGGA. DIGGA'S liability for any and all losses and damages to buyer resulting from any cause whatsoever, including DIGGA

negligence irrespective of whether such defect are discoverable or latent, shall in no event exceed the purchase price of the particular parts, with respect to which losses or damages are claimed, or, at the discretion of DIGGA the repair or replacement of defective or damaged parts.

VOID WARRANTY

This warranty is void if field repairs or modifications have been made to the Torque Hub system without prior written approval. The complete unit must be available for inspection in its original but alleged failed condition. This warranty does not apply to normal wear or to damage resulting from accident, abnormal use, abuse or neglect.

DIGGA makes no other warranty. All other warranties, whether expressed or implied, such as warranties of merchantability or fitness for a particular purpose, are hereby excluded and disclaimed to the extent that they exceed the warranties expressly granted in this limited warranty. In no event shall DIGGA be liable for consequential or incidental damages.

RETURNED GOODS POLICY

DIGGA reserves the right to determine whether product claimed to be defective shall be inspected when returned to the factory. If judged by DIGGA to be defective in material or workmanship, the product will be replaced or a credit issued at the option of DIGGA.

Upon notification of defect, DIGGA'S warranty department will issue a Return Materials Authorization (RMA) number. All returns for replacement or credit **MUST** be accompanied by a RMA number. Product returned without an RMA number will be rejected and returned to the sender freight collect. All returns must be shipped prepaid. Products shipped collect will be refused. Proof of purchase such as invoice number must accompany returns.

All RMA's must be returned within 30 days of the request.

DIGGA SPARE PARTS

For further information on spare parts please contact one of the Digga sales office below your closest authorised Digga Dealer.



ASIA PACIFIC

DIGGA HEAD OFFICE

BRISBANE-AUSTRALIA

4 Octal St, Yatala QLD

4207 PH: (07) 3807 3330

FAX: (07) 3807 1499

WEB: www.digga.com

EMAIL: info@digga.com

DIGGA NORTH AMERICA

2325 Industrial Parkway SW

Dyersville IA 52040

PH: + 1 563 875 7915

WEB: www.diggausa.com

EMAIL: info@digga.com

DIGGA EUROPE

Unit 6, Smitham Bridge Road

Hungerford Trading Estate,

Hungerford, Berkshire RG17 0QU

England, United Kingdom

PH: +44 (0) 1488 688 550

WEB: www.diggaeurope.com

EMAIL: info@diggaeurope.com