



Dritel

3G Series 7

Loud Speaking Telephone

Installation Manual

3G-S7-LS-12A10W-FS

Manufactured with pride by

KJ Precision Engineering PTY LTD

Brisbane Australia.

Serial Number; 3G-S7-LS-_____



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INTRODUCTION

Thank you for selecting the Dritel Series 7 3G Solar Powered Telephone. Each unit is thoroughly tested and inspected at our factory before delivery. We take particular pride in producing one of the finest quality products available today. Please take a few minutes to familiarize yourself with this step by step manual before commissioning the unit.

This phone is designed to meet all relevant specifications set out for safe and correct operation regarding its application. We strongly advise against modifying or changing the method of installation as this may render the phone unsuitable for its application. Incorrect installation procedure may render the warranty null and void.

Dritel believes service and backup of our products is paramount. Any questions or problems not covered in the manual can be referred directly to the manufacturer, or to your local distributor for a quick resolution.

Please use the following contacts for assistance:

Manufacturer

KJ Precision Engineering, 16/388 Newman Rd Geebung, Brisbane, Australia, 4034,

Tel: +61 (7) 3265 3240 Email sales@kjeng.com.au for technical information regarding phones

info@kjeng.com.au for general inquiries



FEATURES

- Australian designed and manufactured
- Designed to maximize vandal resistance and weather proof characteristics
- Automatic time out or hang-up when the call is terminated
- Self diagnostics and automatic reporting
- Manufactured from Marine grade stainless and Marine grade aluminium
- UV rated powder coating
- Modular construction
- One person installation and ease of servicing
- Can be customized to suit the customer's requirements

APPLICATIONS

- Roadside Help Phones
- Railways (Signal Post and Siding Telephones)
- Public area security, parking lots, malls, sporting events, beaches
- Parklands and recreation areas including national parks, trails, walks, and forestry's.
- Remote situations
- Airports
- National Parks
- Universities
- Mining



SPECIFICATIONS

Technical Specifications

Working Frequency Range – WCDMA850/1900/2100MHz GSM850/900/1800/1900MHz

Operating voltage – 7.4V-12V

Idle current - 75mA off hook current - 160mA

Each unit can be simply reprogrammed from any location. The Unit will send a confirmation “SMS” to the sender showing the new numbers programmed.

Automatic Diagnostic reporting

The Unit will automatically send a message when one or more of the following conditions occur.

- 1). Battery state below 9V
- 2). Faulty switch or keypad
- 3). Led indicator condition

Manual Fault diagnosis

Upon requesting a Fault Diagnosis from the phone, the following information will be sent in the form of an SMS”

- 1). Signal status
- 2). Battery status
- 4). Keypad/Switch status
- 5). Indicator light condition
- 6). Preprogrammed Call number
- 7). Preprogrammed SMS reporting number

Power Specifications

10W Solar panel

Battery – SLA 12V, 12A battery



Engineering Specifications

Casing material – Marine grade extruded aluminium, Marine grade die cast aluminium, 316 stainless steel.

Finish – UV rated powder coat, standard colour blue

Fittings – Minimum 316 grade stainless steel

Standard overall height – 3m (Height optional)

Weight -20 kg (Including 12 Ah battery)

Phone Case outside dimensions – 460mm high x 230mm wide x 160mm deep

Pole diameter- 100mm

Built in three sections - Lower Pole, Phone Unit, and Upper Pole

IP 55 Rating

Options

User location lighting

CCTV Monitoring and recording

Mast height to customer specifications

Increased solar panel capacity and battery capacity or remote 12V power source

Range of colours

Hotline (Single call) or Automatic (Keypad)

Ground, wall, barrier or custom mounting

Customized construction

Security screws



INSTALLATION

Careful consideration of the positioning for each unit must be made before installation. User safety should be maximized along with ease of access to the phone. The solar panel should be adjusted to achieve maximum charge. In general terms, face the solar panel to the North in the Southern Hemisphere and South in the Northern Hemisphere. There should not be any shadows cast upon the panel throughout the middle 5 hours of daylight.

All dimensions shown in the Installation Drawings are in millimeters

Tools required

Multi Meter

Spirit Level

10mm Spanner

19mm Spanner

21mm Spanner

5mm Allen Key

6mm Allen Key

Cleaning rag



STEP 1

In Ground Footing

| | | | | |
|---|----------------------------|--------------|---------------------------|----------|
| PROPRIETARY AND CONFIDENTIAL | Revision | Date | Name | DATE |
| | 1 | 9/5/2013 | Drawn P. Thompson | 9/5/2013 |
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| | Drawing Number : 3G-LS-001 | | Supplier Code | N 3410 |
| COMMENTS: | | Manufacturer | KJ. Precision Engineering | |

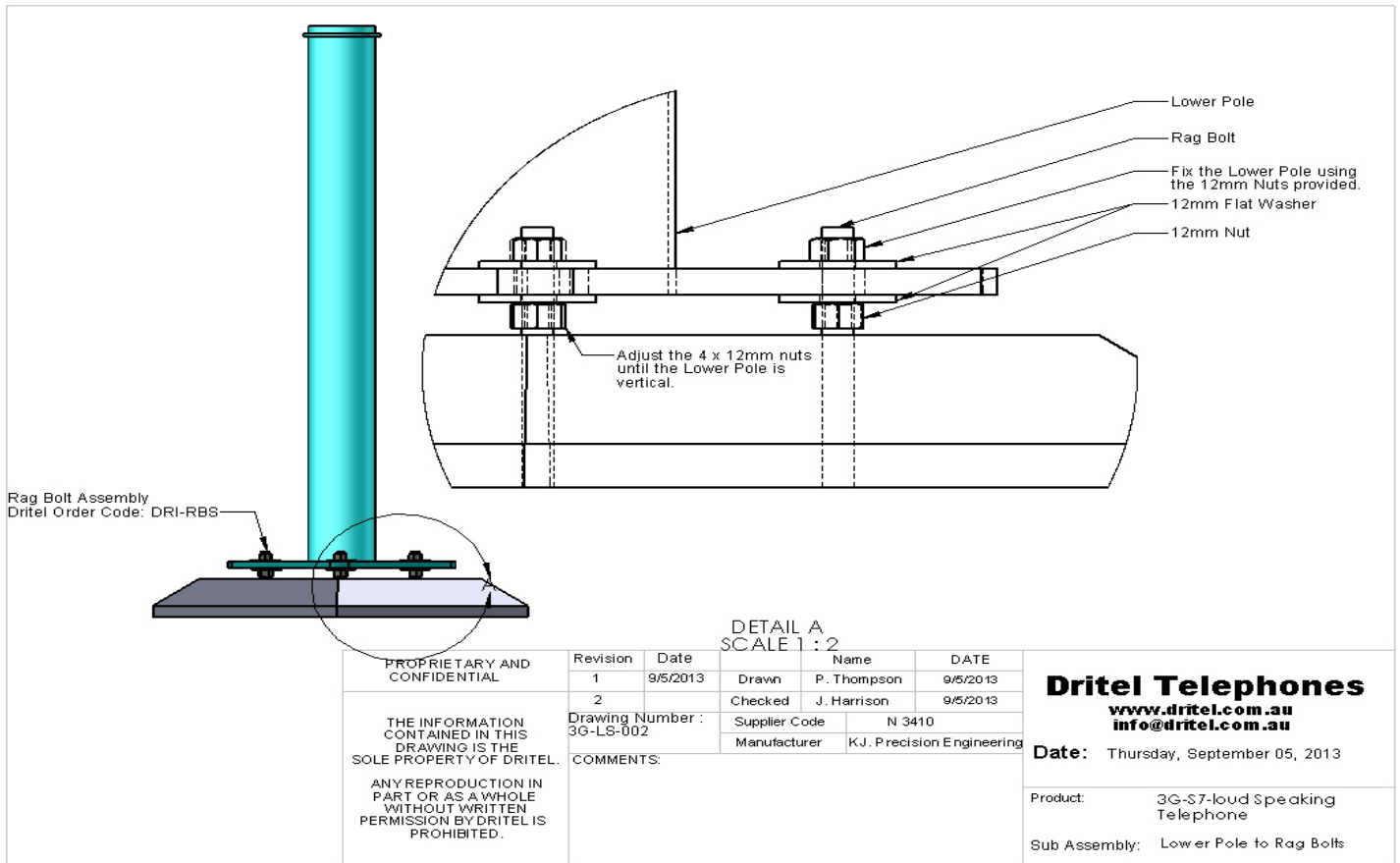
| | |
|--------------------------|-------------------------------|
| Dritel Telephones | |
| www.dritel.com.au | |
| info@dritel.com.au | |
| Date: | Thursday, September 05, 2013 |
| Product: | 3G S7 Loud Speaking Telephone |
| Sub Assembly: | Footing and Rag Bolts |

A footing for the phone of 600mm deep by 400 square is required. Using the recommended Rag Bolts, install them with at least 50mm of clear thread above the concrete footing. **Care should be taken to ensure the Rag Bolts will fit the Base Plate of the Lower Pole before the concrete sets.** Directional orientation of the Rag Bolts is not critical as the Phone Case can be rotated on the Lower Pole to achieve the desired position. Allow sufficient time for the concrete to cure before Step 2.



STEP 2

Lower Pole to in-ground footing.

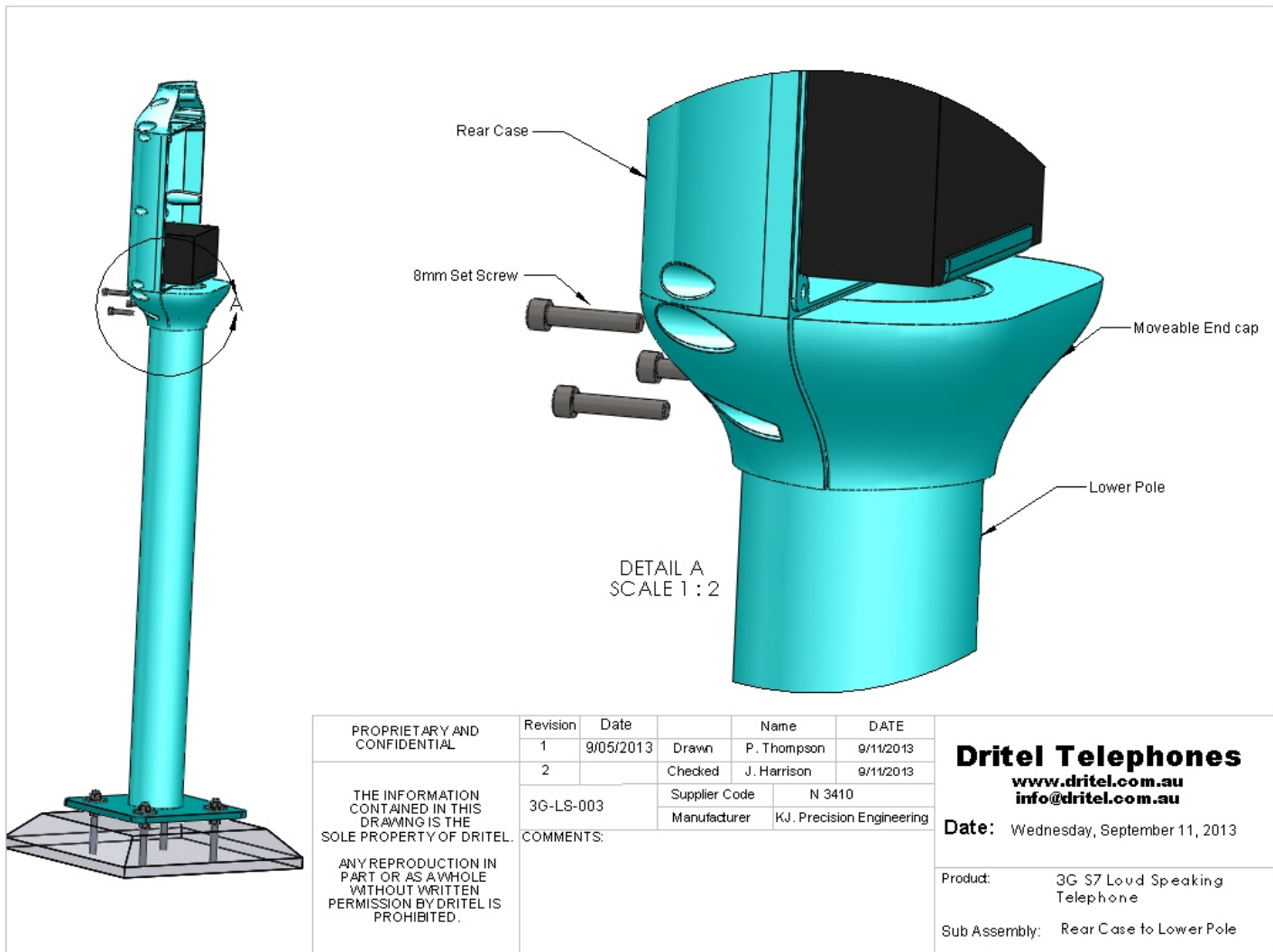


Screw 1 x 12mm nut on to each leg of the Rag Bolt as far down as possible. Place a 12mm flat washer on top of each nut. Fit the Lower Pole on to the Rag Bolts. Using the Spirit Level, set the Lower Pole to vertical by turning each of the 12mm nuts. Placing another 12mm washer and nut on each rag bolt thread, lock the Lower Pole down.



STEP 3

Rear Case to Lower Pole

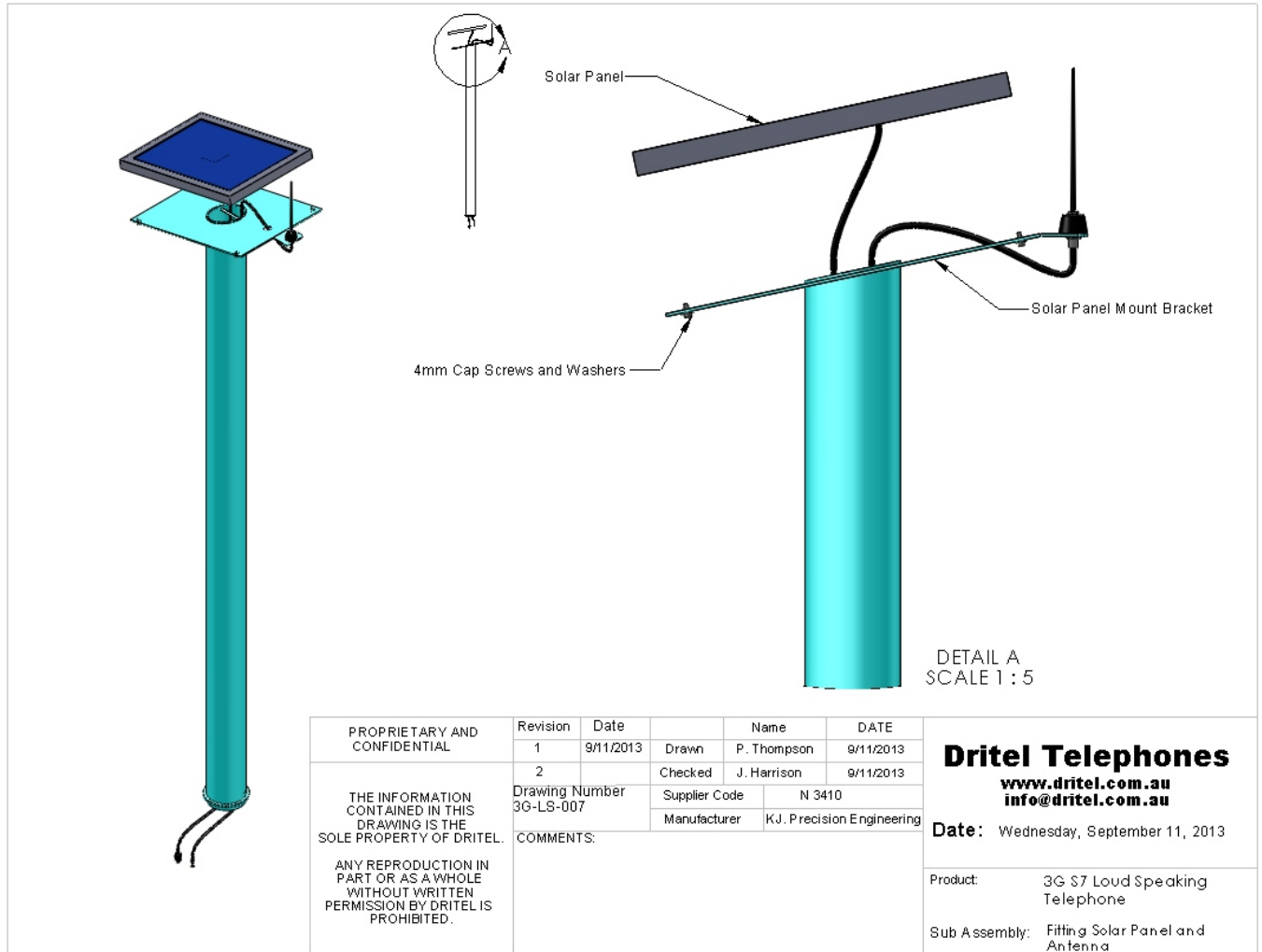


Position the Rear Case of the phone on to the top of the Lower Pole. The Locking Ring on top of the Lower Pole will locate on the recess in the Rear Case. Fit the Moveable End Cap against the Rear Case as shown in the Step 3 Dwg. Partially screw in each of the four 8mm cap screws so that the Moveable End Cap is positioned against the pole, but not held fast. Rotate the Rear Case so that phone is positioned for safe operator access. Tighten each of the four 8mm screws evenly. Ensure the Moveable End Cap does not become skewed whilst tightening the screws.



STEP 4

Fitting the Solar Panel and Antenna

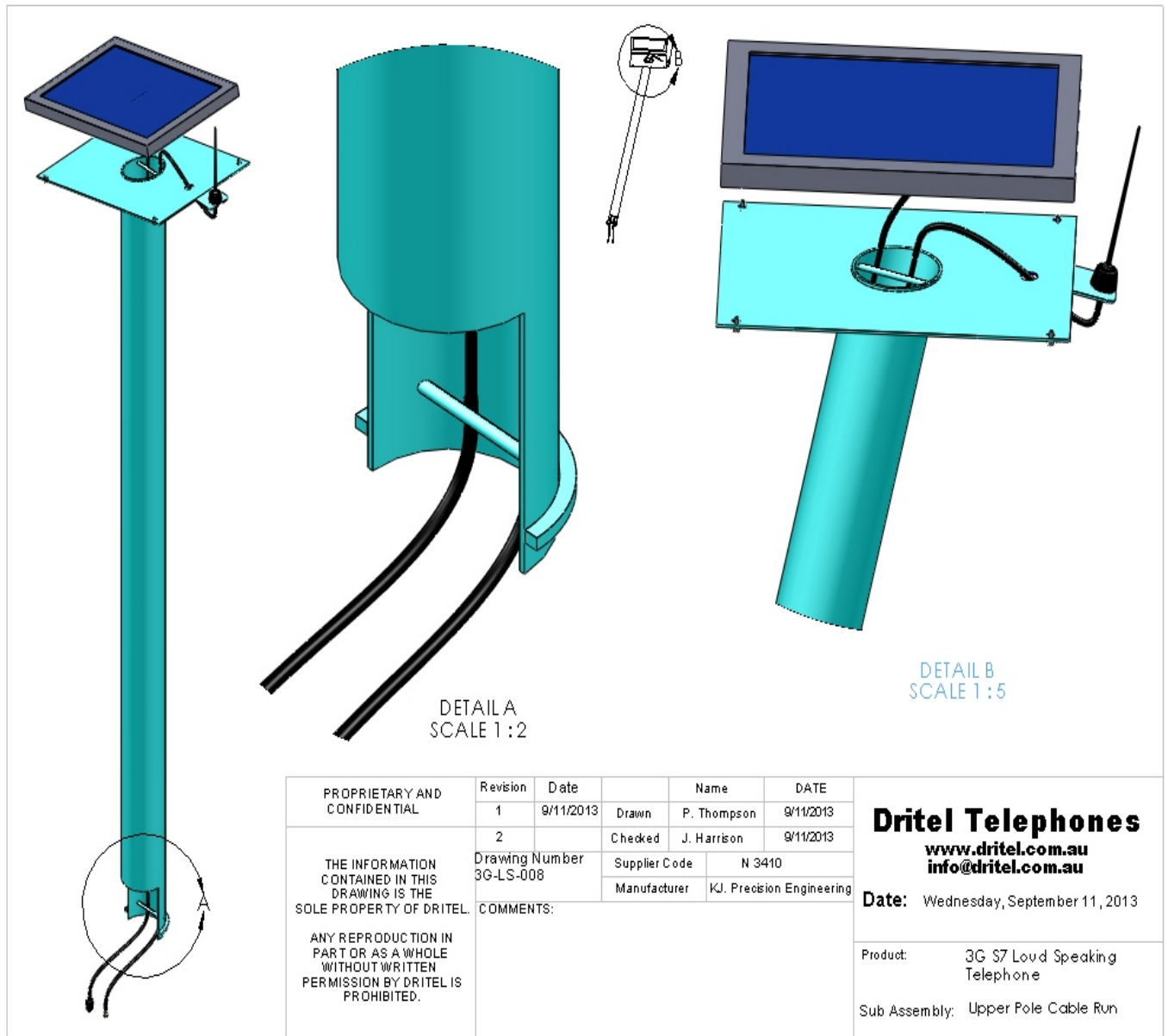


Place the antenna in the slot protruding from the top back edge of the Solar Panel Mounting Bracket, tighten the nut on the base of the antenna to fix it to the Solar Panel Mounting Bracket. Pass the antenna cable up through the hole in the Mounting Plate. Pass both the photo voltaic (PV) cable and the antenna cable down behind the rod inside the mast as shown in **PV and Antenna Cable Run Dwg**, on Page 13.

Place the solar panel on the Mount Bracket and using the four 4mm cap screws and washers provided; fix the solar panel to the Mount Bracket.



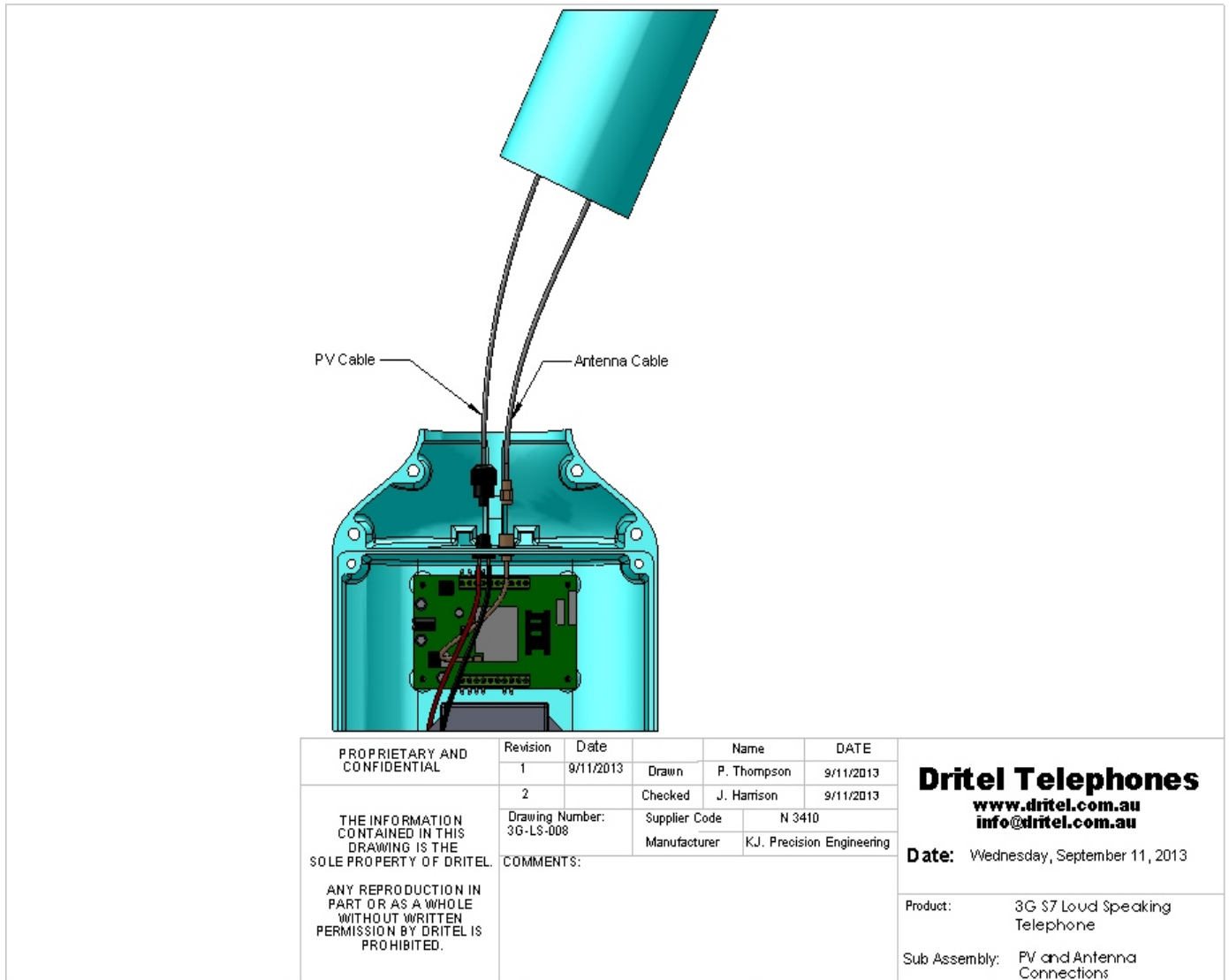
PV and Antenna Cable Run





STEP 5

Connecting PV and Antenna Cable



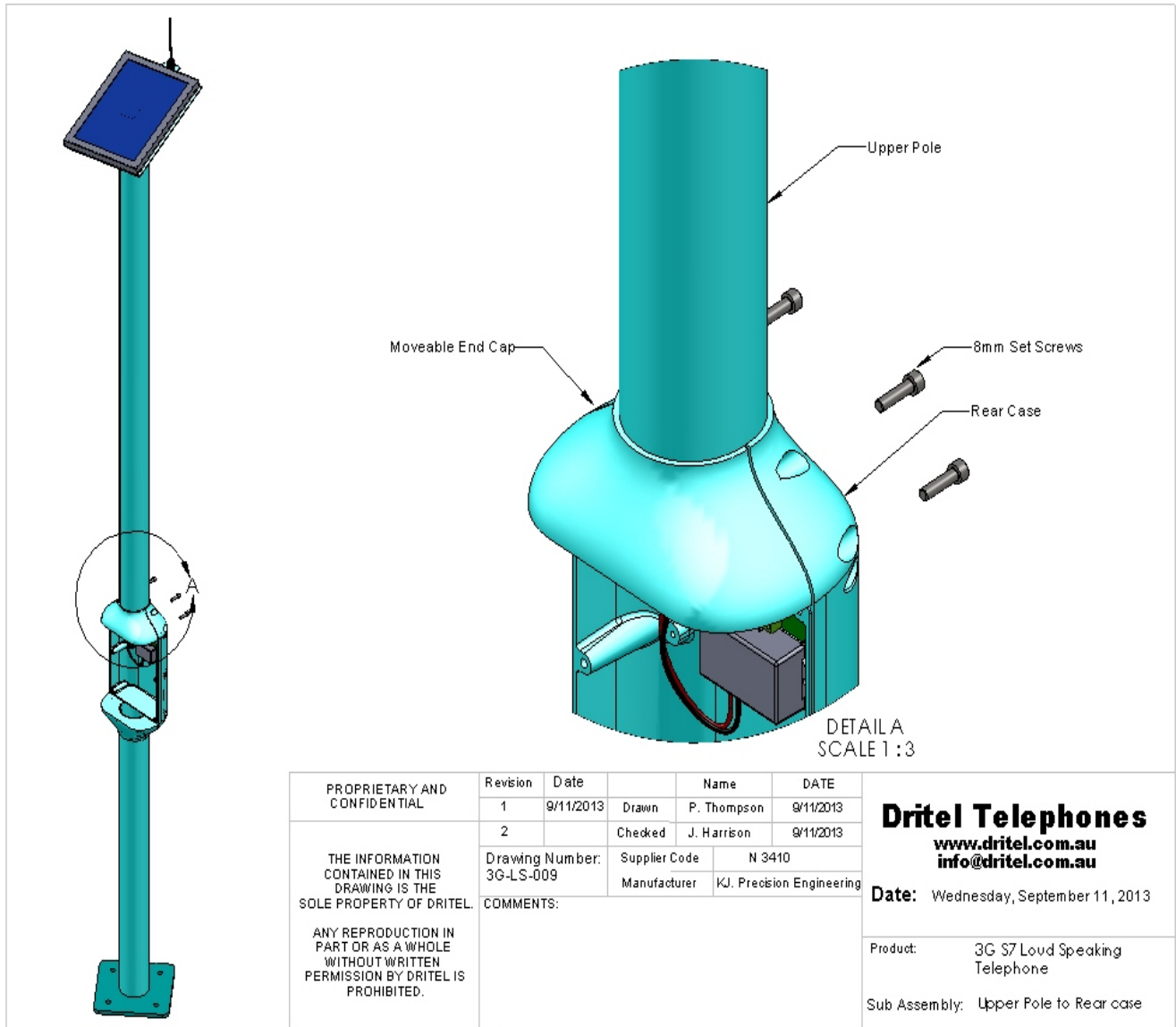
To connect the PV and Antenna cables as shown in the drawing above:

- 1) Insert PV cable aligning the key slot inside the connector, then secure the cable using the locking nut on the PV cable.
- 2) Insert the Antenna Cable carefully so as not to damage the pin inside the Antenna cable plug, then tighten the locking nut.



STEP 6

Fit Upper Pole to Rear Case

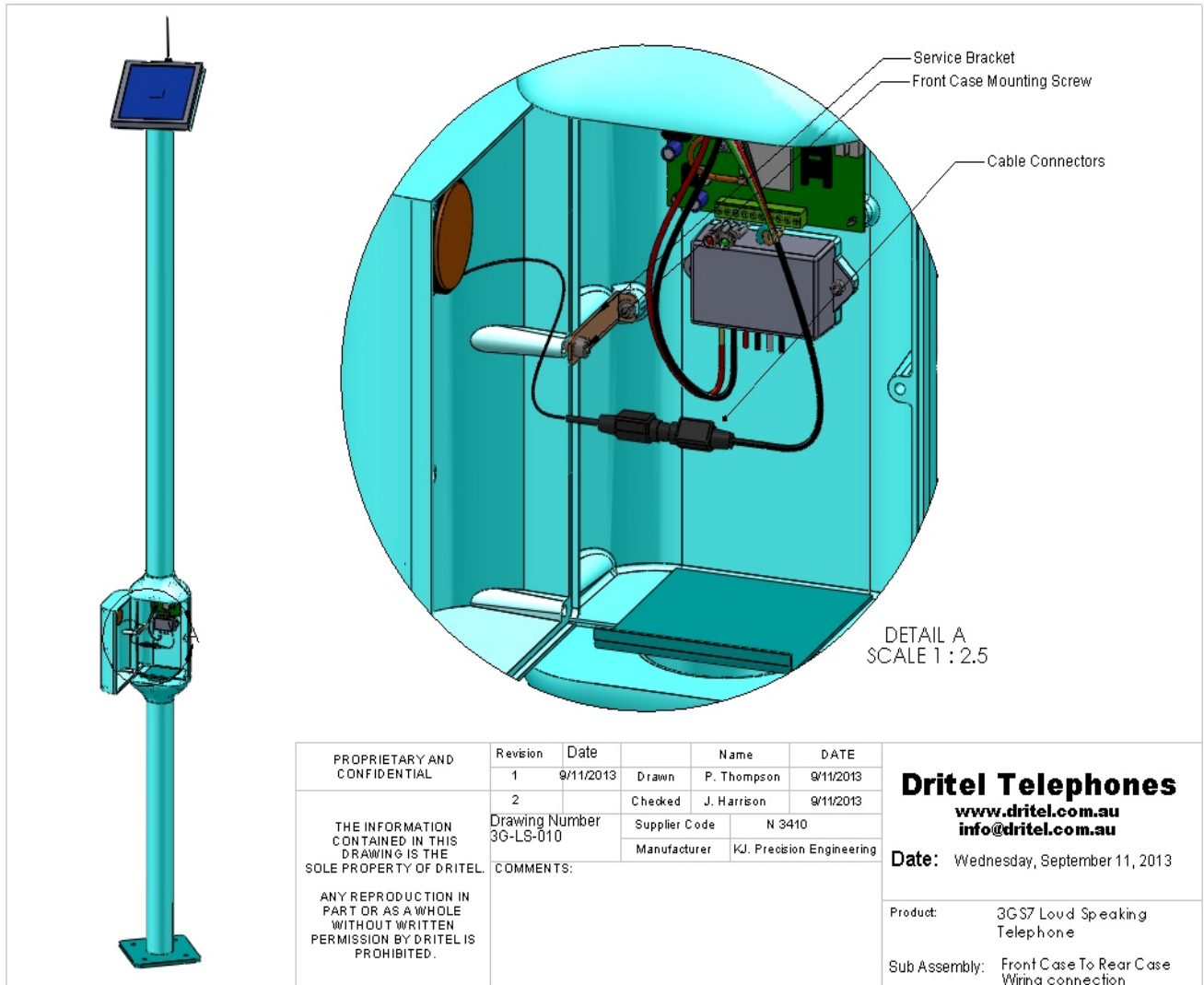


Position the Upper Pole on to the top of the Rear Case against the collar. Fit the Moveable End Cap against rear case as shown in the Step 6 Dwg. Partially screw in each of the four 8mm cap screws so that the Moveable End Cap is positioned against the pole, but not held fast. Align the solar panel so it is facing the optimum direction. Tighten the four 8mm screws evenly. Ensure the Moveable End Cap does not become skewed whilst tightening the screws.



STEP 7

Connect the Front Case Cable to the Rear Case Cable

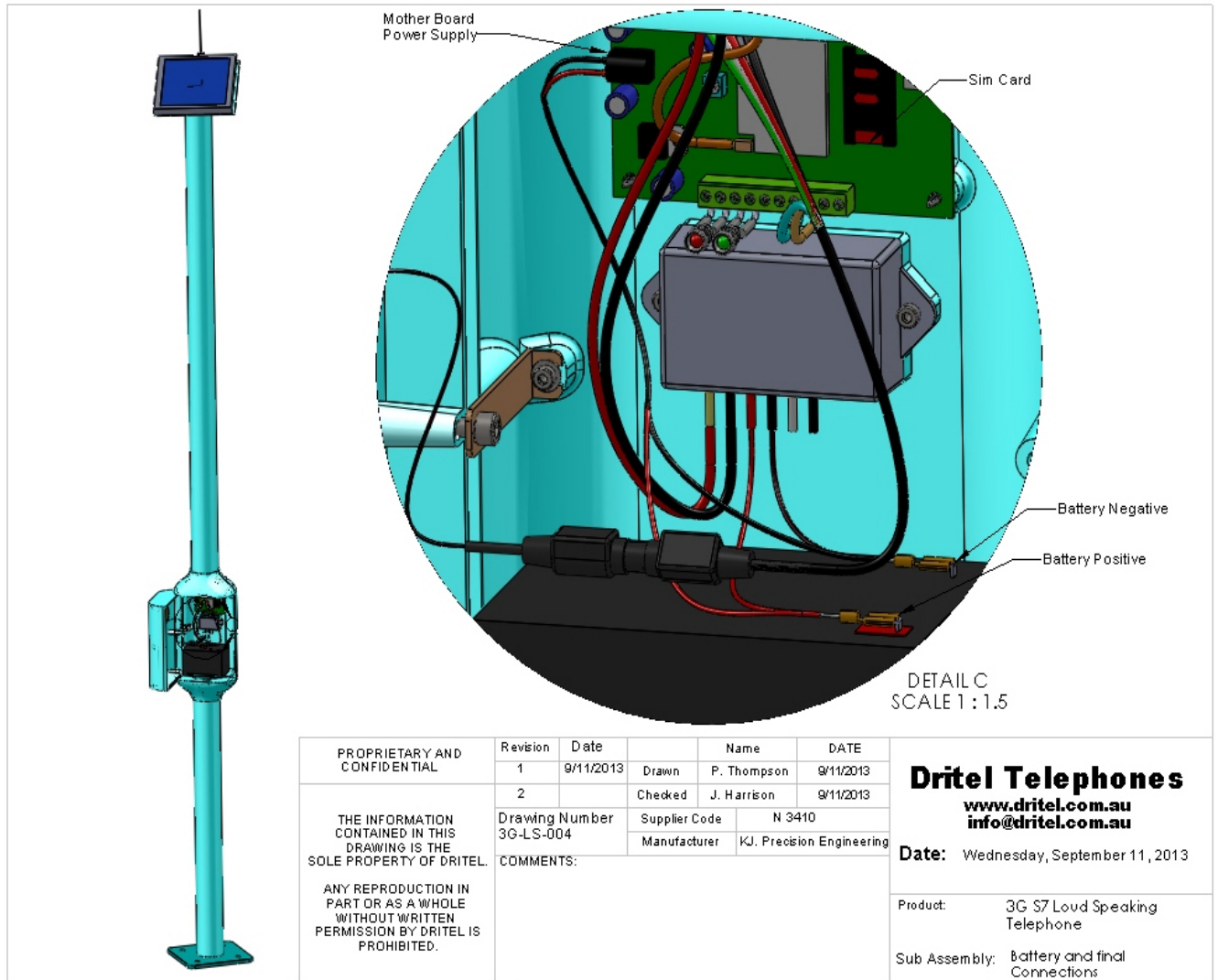


To assist in field servicing, a Service Bracket is fitted in the left hand side of the Rear Case. Place the Front Case against the Service Bracket and secure it with a 6mm cap screw as shown above. Connect the wiring loom from the Front Case to the Rear Case loom.



STEP 8

Battery Connections and final Power Up



Insert the SIM Card in to the SIM carrier.

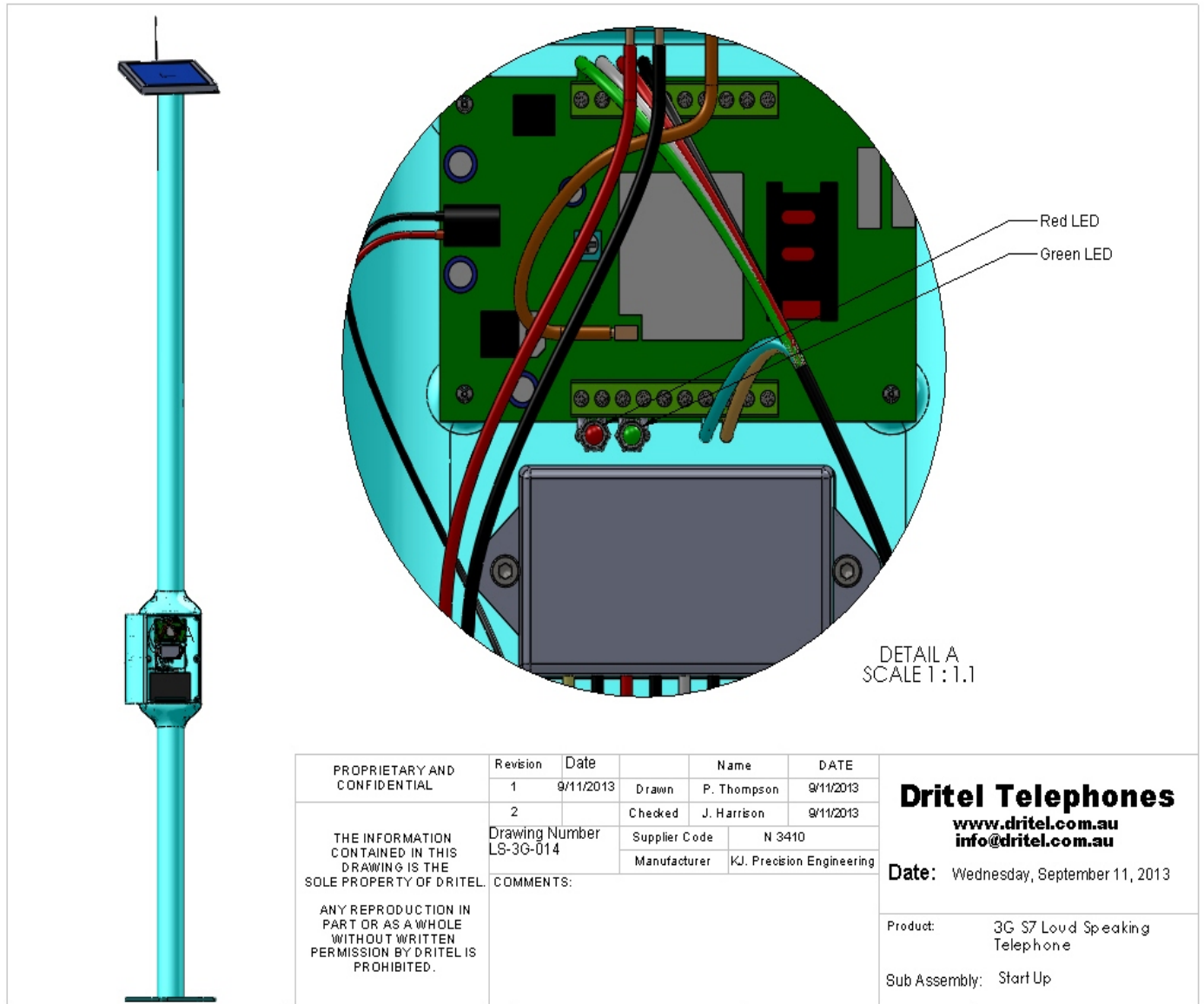
Attach the connectors on the wires named Bat + and Bat- on the PV Charge Controller to the battery. Red for positive and black for negative battery terminals.

Next plug the power supply lead in to the Mother Board as shown above.



STEP 9

Start Up and Testing.



Once the Mother Board is powered up, after approximately 15 seconds, the green LED light will begin a series of rapid flashes as it goes through its boot-up sequence. Once the boot-up sequence is complete the green LED will flash once every second. The phone is now ready to program.



Initially the Unit may be programmed with factory testing numbers so will need to be reset.

To program the Unit ready for use, carry out the following procedure. For the purposes of this example, the following numbers will apply, the destination number for the 3G Unit to call is **23232323** and the SMS reporting number is **45454545**.

- 1) From any mobile, send an SMS message to the phone as follows, ***call23232323**
- 2) A confirmation SMS will be received from the Unit showing, **Encoded call number was revised successfully! New call number is 23232323.**
- 3) Send a second SMS from the mobile as follows ***SMS45454545**
- 4) A confirmation SMS will be received from the Unit showing **Encoded SMS reporting number was revised successfully! New number is 45454545**
- 5) Press the Call Button on the Unit, it will then execute a call to **23232323**
- 6) Answer the call and check the speech paths are set correctly
- 7) Ask the other party to return the call, check the ringer level and answer the call.
- 8) From your test phone, send an SMS message ***AFD**
- 9) The Unit will respond with an SMS similar to the following:

Signal Status: -71dbm

Battery Status: 100%

Keypad OK

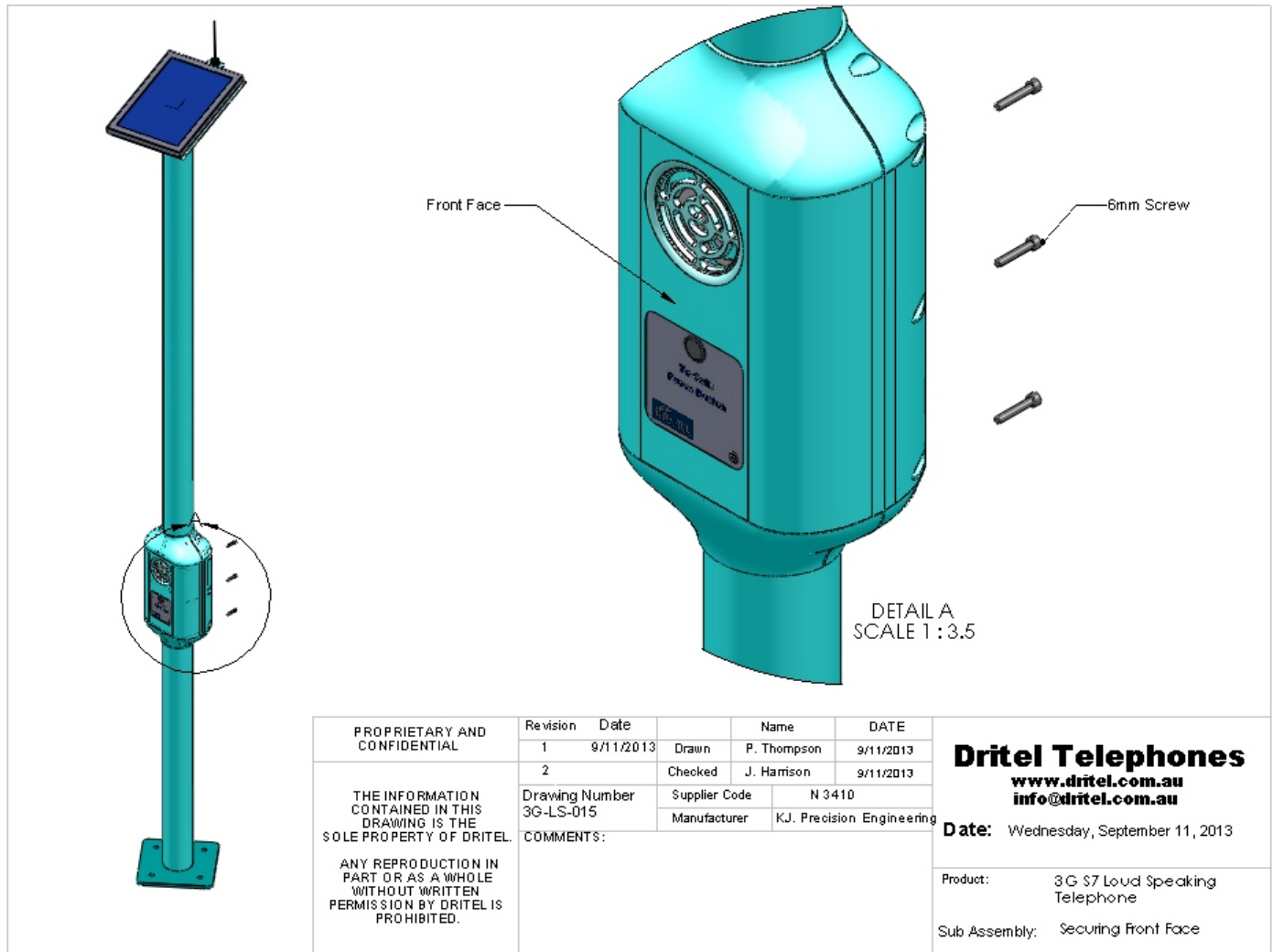
Encoded Call Number: 23232323

Encoded SMS Reporting number: 45454545

For field testing purposes, replace **Encoded Call Number** and the **Encoded SMS Reporting Number** with your own mobile number.



Fitting the Front Face to the Phone



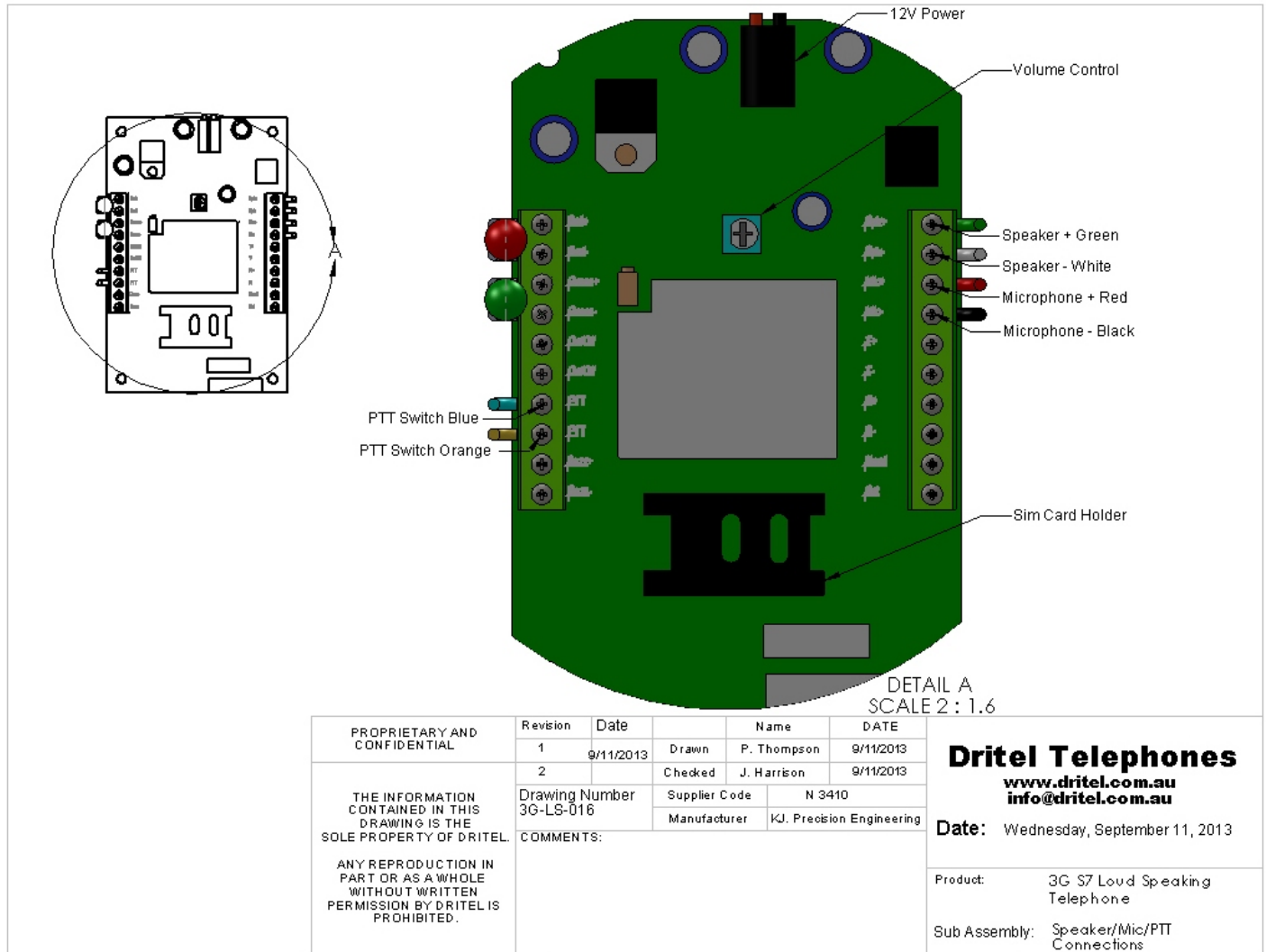
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| | Drawing Number | Supplier Code | N 3410 | |
| | 3G-LS-015 | Manufacturer | KJ. Precision Engineering | |
| COMMENTS: | | | | |
| Dritel Telephones www.dritel.com.au info@dritel.com.au | | | | |
| Date: Wednesday, September 11, 2013 | | | | |
| Product: 3G S7 Loud Speaking Telephone | | | | |
| Sub Assembly: Securing Front Face | | | | |

The final step is to secure the Front Face. First place the Front case against the Rear Case, check all wires are safely inside the phone and that there is nothing to prevent the Front Case from sealing properly against the gasket. Using the 6mm screws provided start each screw by passing it through the Rear Case and picking up the threads in the Front Case. Tighten the screws evenly, ensuring the Front Face is positioned itself around the ridge on the Rear Case. Only a firm pressure is required to seal the Front Face, **over-tightening** may damage the 6mm threads.

All threaded holes in this phone have a corrosion preventing grease on them. This ensures any future servicing can be done efficiently and easily. Remove any of the excess grease which may have found its way on to the phone surface during installation with a clean rag.



Mother Board



All 3G Phones are supplied standard with all wiring connected to the Mother Board. This Drawing is for reference purposes only. Please note, connections showing a "+" or a "-" symbol are polarity sensitive. Failure to install wiring correctly may result in permanent and total failure of the Mother Board. Dritel strongly recommends any work performed on the Mother Board is done by the manufacturer. Failure to do so may void Manufacturers Warranty.



Trouble Shooting

Phone engaged:

- 1) SIM Card has not been activated by the Service Provider. (Very common, even when the provider assures you it is activated.)
- 2) Service coverage is poor

Phone dead:

- 1) Battery is not connected properly. Check connections to battery terminals and Mother Board.
- 2) Battery has collapsed. Check that the battery shows at least 12V. If below 9V replace the battery. Check for other faults.
- 3) Check PV Charge Controller is connected and charging the battery. To check there is sufficient charge coming from the controller perform the following test. First remove connectors from the battery terminals. In day light the regulator should show at least 12V across the connectors marked Bat + and Bat – on the PV Controller.
- 4) Solar panel is faulty. Disconnect the PV connector on the top of the Rear Case. Check at least 15V in sun light is showing on a Multi Meter placed across the positive and negative wires coming from the solar panel.

Phone will not dial:

- 1) Send an SMS from your Mobile showing the request ***AFD** to the Unit to check Unit status. Check the readings sent by return SMS.
- 2) Check power levels.
- 3) Check connections on the switches and terminal blocks in the Front and Rear Case.
- 4) Make sure the phone is programmed correctly.

Low Signal:

- 1) Antenna not connected. Check all connections.
- 2) Signal is poor from the provider. Check the signal on your mobile phone to ascertain if the signal is sufficient.



Parts List

| Part number | Description |
|--------------------|---|
| DRI-S7-LS-3GPMOD3 | 3G Loud speaking phone module V3 |
| DRI-S7-BAT-12V-12A | Sealed Lead Acid Battery 12 Volt 12 Amp hour |
| DRI-S7-REG-12V-8A | PV Charge Controller 12Volt 8 Amp hour |
| DRI-S7-ANT-2.1 | Multi Band Cellular Antenna 2.1dB |
| DRI-S7-SP-10W | Solar panel 10 Watt |
| DRI-S7-LSUP-B | Upper Pole component powder coated blue |
| DRI-S7-LSLP-B | Lower Pole component powder coated blue |
| DRI-S7-LSRC-B | Rear Case component powder coated blue |
| DRI-S7-LSFC-B | Front Case component powder coated blue |
| DRI-S7-MEC-B | Moveable End Cap component powder coated blue |
| DRI-S7-PTTSW | Call Button switch assembly |
| DRI-S7-MIC | Loud speaking microphone |
| DRI-S7-SPEAK | Mylar speaker |
| DRI-S7-BAFF | Speaker baffle plate |
| DRI-S7-NP | Name plate. |
| DRI-S7-LSGASK | 3G Series 7 loud speaking gasket set |
| DRI-RB | Standard Dritel Rag Bolt set |
| | |
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| | |

As Dritel Phones are frequently modified to accommodate customer requirements, it may be the case that some of the items in our Standard Parts List are not applicable. Page 24 carries information concerning Phone modifications, if any, done to this unit. It states the new Part number and description plus the Part number which it replaces. Please consult this before you order any components.



Modification Parts List

| Original Part number | Replacement Part number | Description |
|-----------------------------|--------------------------------|--------------------|
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SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE



MAUFACTURERS WARRANTY. Issue 4 09/10/2013

KJ Precision Engineering will in a commercially reasonable time remedy defects in materials, design and workmanship free of charge by repairing or at our discretion replacing the product. This warranty is only enforceable by the person/company who is the original purchaser of the goods.

This warranty does not cover misuse, or incorrect installation.

The warranty period begins from the time of products original invoicing date and will extend for a period of 24 months.

The goods must be returned to the manufacturer for warranty repair quoting Invoice number and where applicable, Serial number.

Please note this product is designed for use in Hostile applications and as such should be maintained in accordance with the User Manual. This product has been proven over time and will give very reliable service with correct installation and servicing.