



**PARADISE  
DATACOM**

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## Compact Outdoor SSPA Wireless M&C Unit Operations Manual



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## Introduction

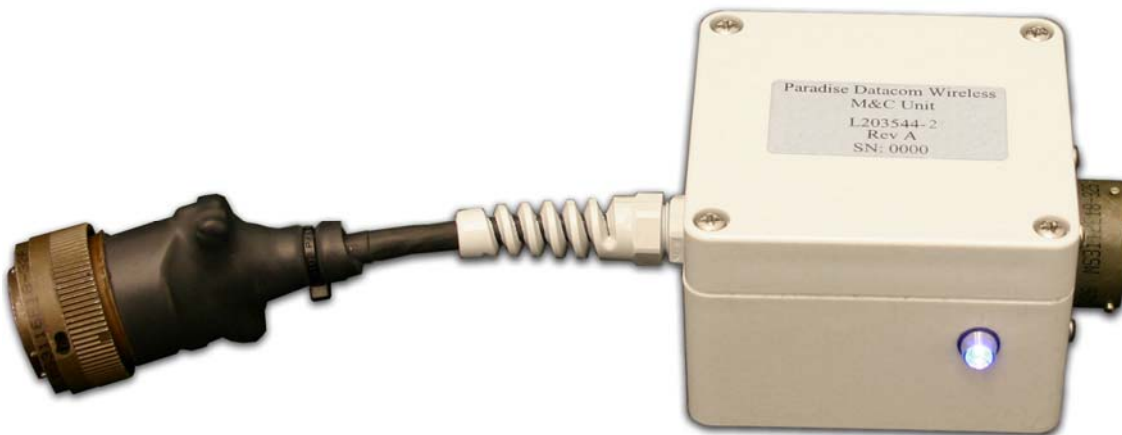
This section provides the general information for the Paradise Datacom Wireless M&C Unit for the Compact Outdoor SSPA.

## Device Description

The Wireless M&C Unit is a small, low power consuming add-on option for the Compact Outdoor SSPA. The unit utilizes *Bluetooth™* wireless technology that allows the control of the Compact Outdoor through a handheld device up to 10 meters away. When used in combination with the Paradise Mobile M&C Software for the Microsoft Pocket PC™ platform, the Compact Outdoor SSPA can be fully operated and monitored by the use of any Bluetooth enabled device.

Its NEMA 4x outdoor enclosure allows the device to withstand various environmental conditions including rain, snow, and direct UV exposure.

A second port on the device allows the system's M&C cable to remain attached to the SSPA. When the Wireless M&C Unit is not connected to a handheld device, this port acts as a feed-through, allowing control of the amplifier through the RS232/485 interface.



**Figure 1-1: Paradise Datacom Wireless M&C Unit**

A status indicator on the side of the unit notifies the operator that the module is enabled and ready for use. If the device needs to be disabled for any reason, an internal enable/disable switch can be used.

## **Mechanical Specifications**

***Figure 1-2: Mechanical Specifications***

## Electrical Specifications

Parameter	Conditions	Limits			Units
		Min	Typ	Max	
<b>Electrical</b>					
Output Frequency		2.402		2.480	GHz
Output Power	2.402 to 2.480 GHz	-3	0	4	dBm
Rx Sensitivity	2.402 to 2.480 GHz		-77		dBm
Operational Distance			10		m
<b>Environmental</b>					
Operational Temperature	Ambient	-40		60	°C
Storage Temperature	Ambient	-60		120	°C
Relative Humidity	Condensing		100		%
<b>Mechanical</b>					
Size	L x W x H	234.39 x 80.1 x 55.14			mm
		9.23 x 3.15 x 2.17			inches
Weight		0.2812(0.6199)			kg (lbs)
Enclosure Material	Molded Polycarbonate Plastic, UV Stabilized, UL94V-2 Flammability Rating, Meets Nema 4x and IP65 Specifications				
Connectors	M&C (Male)				MS3116F18-32P
	M&C (Female)				MS3112E18-32S
<b>Software Requirement</b>					
Operating System	Microsoft Pocket PC™				
Bluetooth Protocol Stack	WIDCOMM				

***Section 1: General Information***

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## Introduction

This section provides information on installation of the device and the accompanying Paradise Mobile M&C software.

## Hardware Installation

To install the device, simply attach the male circular connector to the Compact Outdoor's M&C Port. If desired, a Quick Connect cable can be connected to the female connector of the Wireless M&C Unit. A blue LED indicator on the side of the device will indicate if the unit is enabled and ready to use. If the LED is not illuminated, see **Enable/Disable** in Section 3 of this manual.

## M&C Connector

The female M&C connector is an extension of the Compact Outdoor's M&C Port. It is a 32 pin circular connector, MS3112E18-32S. If used, it requires a MS3116F18-32P mating connector, which is supplied with the Compact Outdoor. Since the Wireless M&C Unit is a stand-alone module, this connector can be left unused. See Appendix A for a detailed drawing of the M&C connector

## Software Installation

Before the Paradise Datacom Wireless M&C Unit can be used, the Mobile M&C must be installed on a Pocket PC device. To do this:

1. Download the latest software from the Paradise Datacom website at:  
<http://www.paradisedata.com>.
2. Synchronize the Pocket PC device to the computer using ActiveSync™. Refer to the device manual for help.
3. From the computer, double click the installer file: ParadiseMobileMC

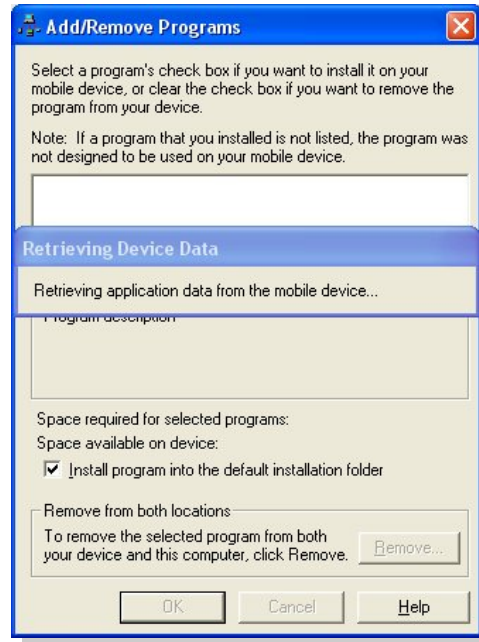


**Figure 2-1: Installation Wizard Window**

## Section 2: Installation

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3. Follow the installer instructions.
4. The wizard will activate the ActiveSync installer to update the Pocket PC device. Follow the instructions on the screen



**Figure 2-2: ActiveSync™ Installing Paradise Mobile M&C onto Mobile Device**

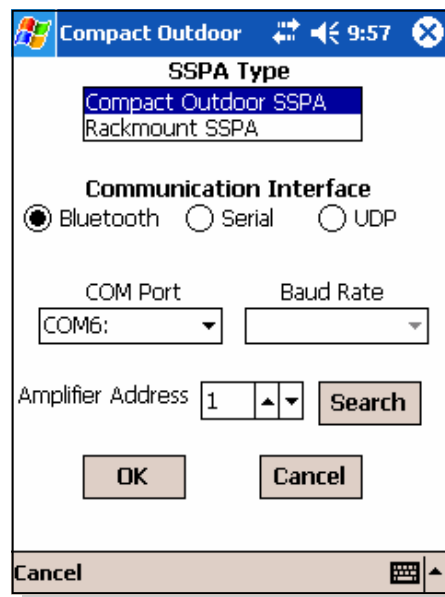
## Introduction

This section provides instructions on how to operate the Wireless M&C Unit and its accompanying software.

## Getting Started

Once the Wireless M&C Unit is attached to the Compact Outdoor SSPA (refer to section 2), initiate the Paradise Mobile M&C program: tap **Start> Programs> ParadiseMobileM&C** icon.

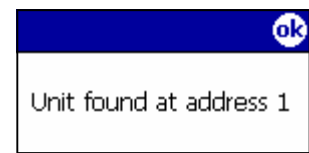
The first step is to identify the type of amplifier, communication interface, and amplifier address. Select **Compact Outdoor SSPA** as the SSPA Type and **Bluetooth** as the Communication Interface. The COM Port will automatically fill in with the appropriate port. Enter the amplifier address and tap **OK**.



**Figure 3-1: Paradise Mobile M&C Setup Screen**

If the amplifier address is unknown, tap the **Search** button to initiate an address lookup. Before the address can be obtained, the correct unit must be selected using the Bluetooth Browser window. See next section, **Identifying Unit**, for details on selecting the correct device.

If the amplifier address is found, it will appear in a pop-up window. Tap **OK**. The amplifier address parameter will automatically be filled with the correct address.



**Figure 3-2: Unit Found Pop-up Window**

### Identifying Unit

The device name that appears in the Bluetooth Browser depends on the serial number of the Wireless M&C Unit. This can be found on the device itself. See the figures below for an example.



Figure 3-3: Serial Number on Mobile M&C



Figure 3-4: Serial Number on Wireless M&C Unit

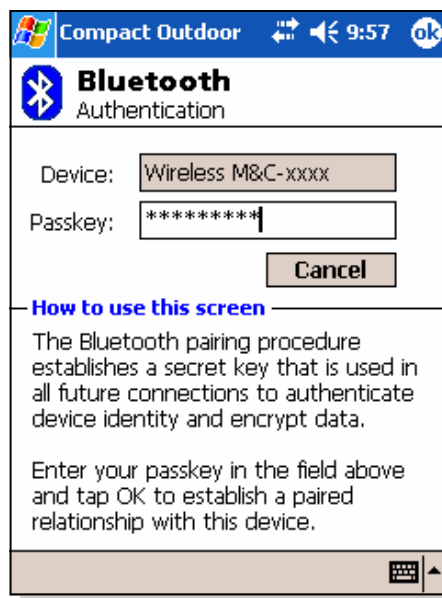
### Authentication Passkey

Before a connection can be established, an authentication passkey must be entered.

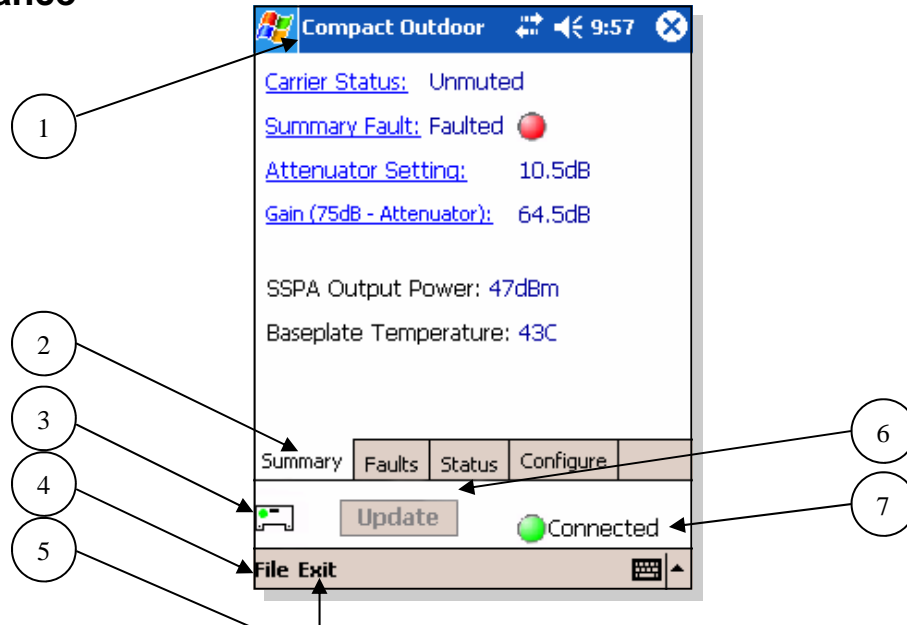
Passkey: **Paradise0**

This passkey is for any Paradise Datacom Wireless M&C Unit. Since the passkey is case sensitive, be sure to enter it exactly as above.

Figure 3-5: Bluetooth Authentication Screen



## At a Glance



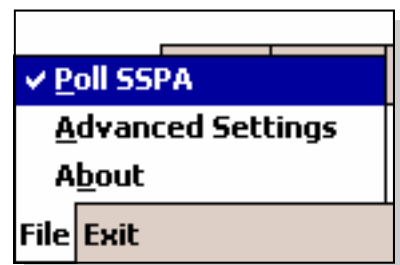
**Figure 3-6: Common Functions of the Mobile M&C Software**

1. **Title:** Indicates the type of amplifier being monitored.
2. **Tabs:** Every section has its own tab for easy accessibility.
3. **Icon:** Icon indicating what type of amplifier being monitored.
4. **File Menu:** Tap to access user settings.
5. **Exit:** Tap to exit program.
6. **Update Button:** When operating in manual poll mode, this button forces an update to all parameters.
7. **Connection Status:** Indicates if the device is still connected to the Wireless M&C Unit.

## User Settings

To access the user settings, tap **File**. By selecting **Poll SSPA**, the application will automatically poll the Compact Outdoor SSPA in intervals of 3 seconds.

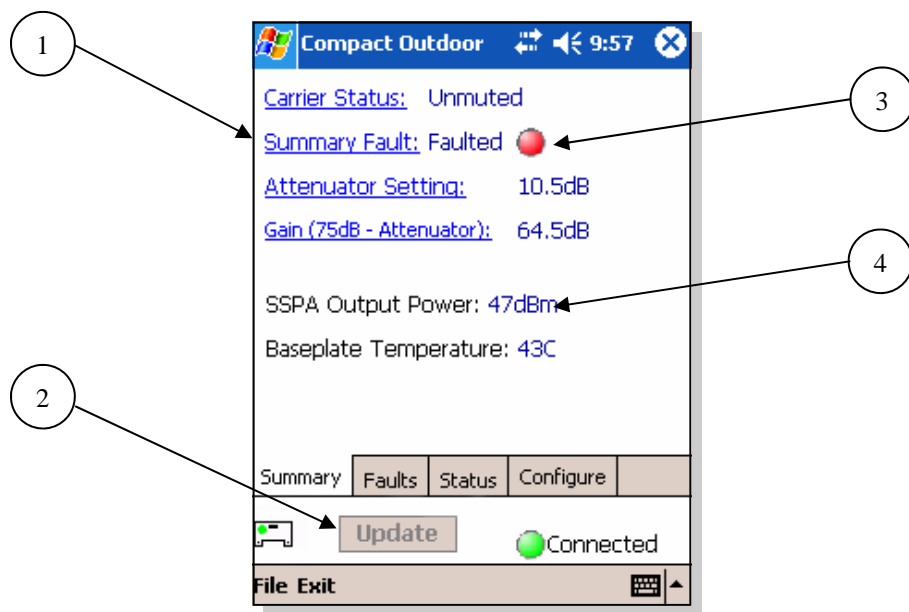
By default, the Paradise Mobile M&C will not start with advanced settings and only the commonly used parameters will be accessible. If the user wishes full control of all parameters, tap the **Advanced Settings** option.



**Figure 3-7: File Menu**

## Summary Screen

This screen gives a general synopsis of the major settings and conditions of the Compact Outdoor SSPA.

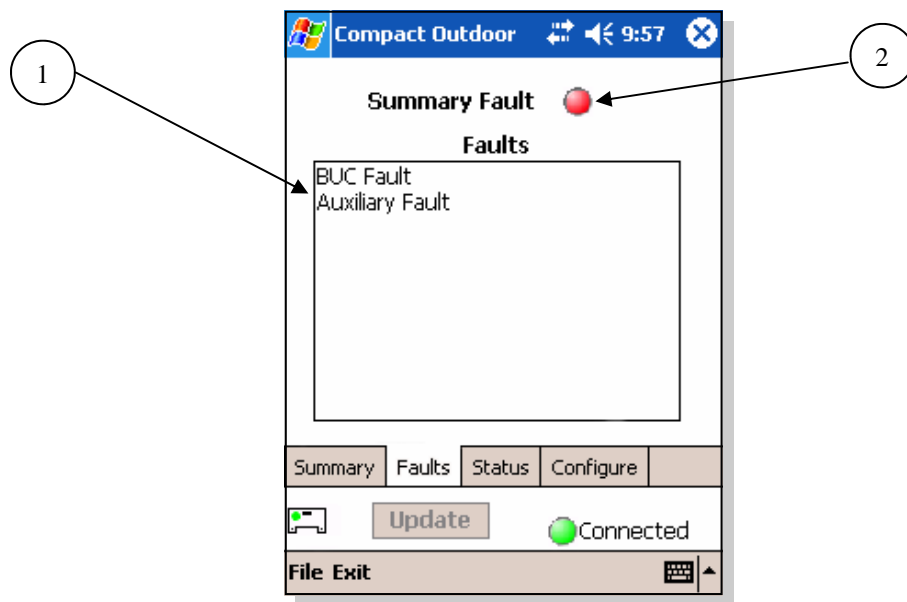


**Figure 3-8: Summary screen of the Mobile M&C Software**

1. **Linked Parameters:** Tap the parameter to access
2. **Update:** If in manual mode, this button will update the parameters.
3. **Fault Indicator:** Visual summary fault indicator.
4. **Updated Parameters:** If in Poll Mode, each parameter updates every 3 seconds. If in manual mode, each parameter updates every time the **Update** button is tapped.

## Fault Screen

This screen lists the active faults of the Compact Outdoor SSPA. The possible faults include: summary fault, high temperature fault, low DC current fault, low DC voltage fault, BUC fault, spare fault, auxiliary fault, RF switch 1 fault, and RF switch 2 fault. For details about these faults, please refer to the Compact Outdoor SSPA manual.



**Figure 3-9: Fault screen of the Mobile M&C Software**

1. **Fault List:** Lists all active faults.
2. **Fault Indicator:** Red if summary fault is active, green if summary fault is cleared.

### Status Screen

This screen allows the user to view the available parameters for the Compact Outdoor SSPA. For non-advanced settings, the user can view the attenuation level, firmware version, amplifier ID string, output RF power, unit serial number, amplifier DC current and the SSPA base-plate temperature.

For the advanced settings, the user can access all the above parameters plus: ADC channels, DAC value, external mute state, internal mute state, low temperature threshold, power supply voltage, temperature sensor, transistor gate voltage, and unit online state. For detailed descriptions of these parameters, please refer to the Compact Outdoor SSPA Manual.

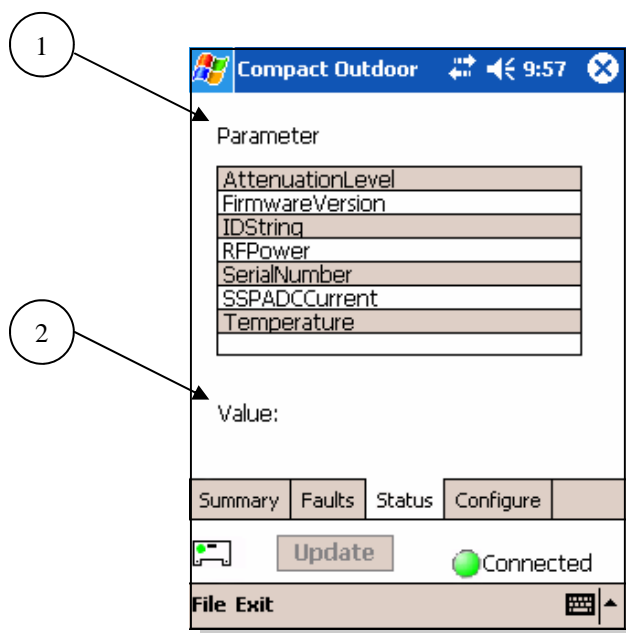


Figure 3-10: Status screen

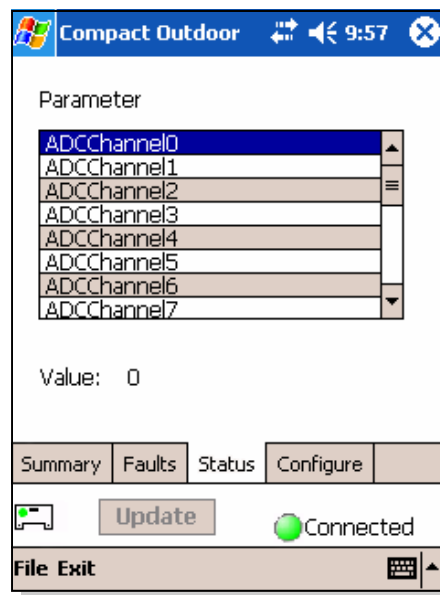


Figure 3-11: Status Screen - Advanced

1. **Parameters:** Tap the parameter to view value.
2. **Value:** Value of the selected parameter.

## Configure Screen

The Configure Screen allows the user to adjust multiple parameters of the amplifier. For non-advanced settings, the user can alter the attenuation and mute state.

For the advanced settings, the user can alter the above parameters plus: amplifier network address, auxiliary fault handling, auxiliary fault status, baud rate, BUC fault handling, gain control, hierarchal address, high temperature fault threshold, low current fault threshold, operation mode, protocol select, spare fault handling, spare fault status, spare fault window lower limit, spare fault upper limit, and start-up state. For details on these settings, please refer to the Compact Outdoor SSPA manual.

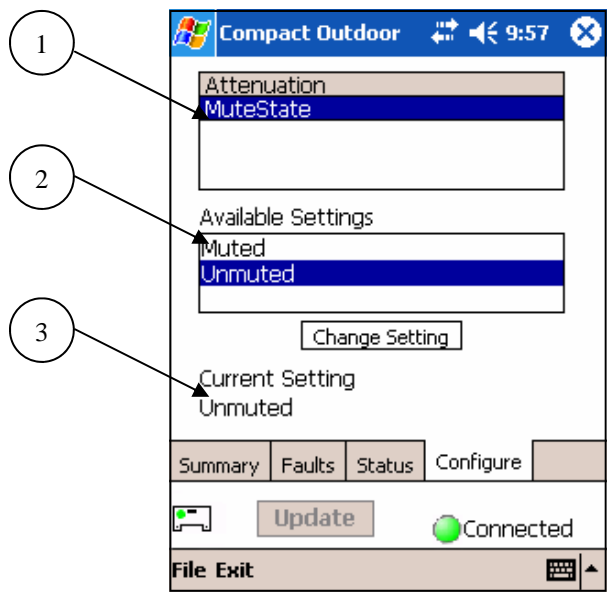


Figure 3-12: Configure Screen

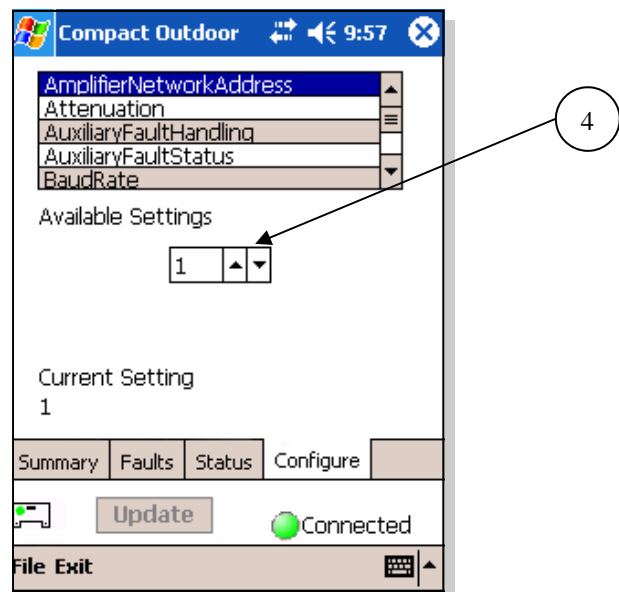
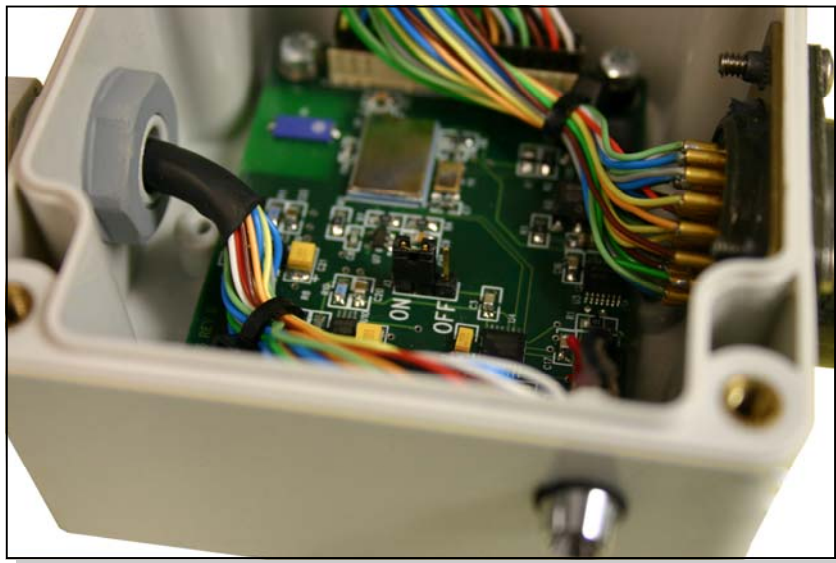


Figure 3-13: Configure Screen - Advanced

1. **Parameters:** Tap the parameter to access settings.
2. **Available Settings:** Tap setting to reconfigure parameter.
3. **Current Setting:** Displays the current setting of the selected parameter.
4. **Available Settings (numerical):** Tap the up/down arrows to step through settings, or enter the value through the keypad.

### **Enable/Disable Device**

For an added measure of security, the Paradise Datacom Wireless M&C Unit can be fully disabled. This is done by opening the cover and switching the jumper (seen below) to the OFF position.



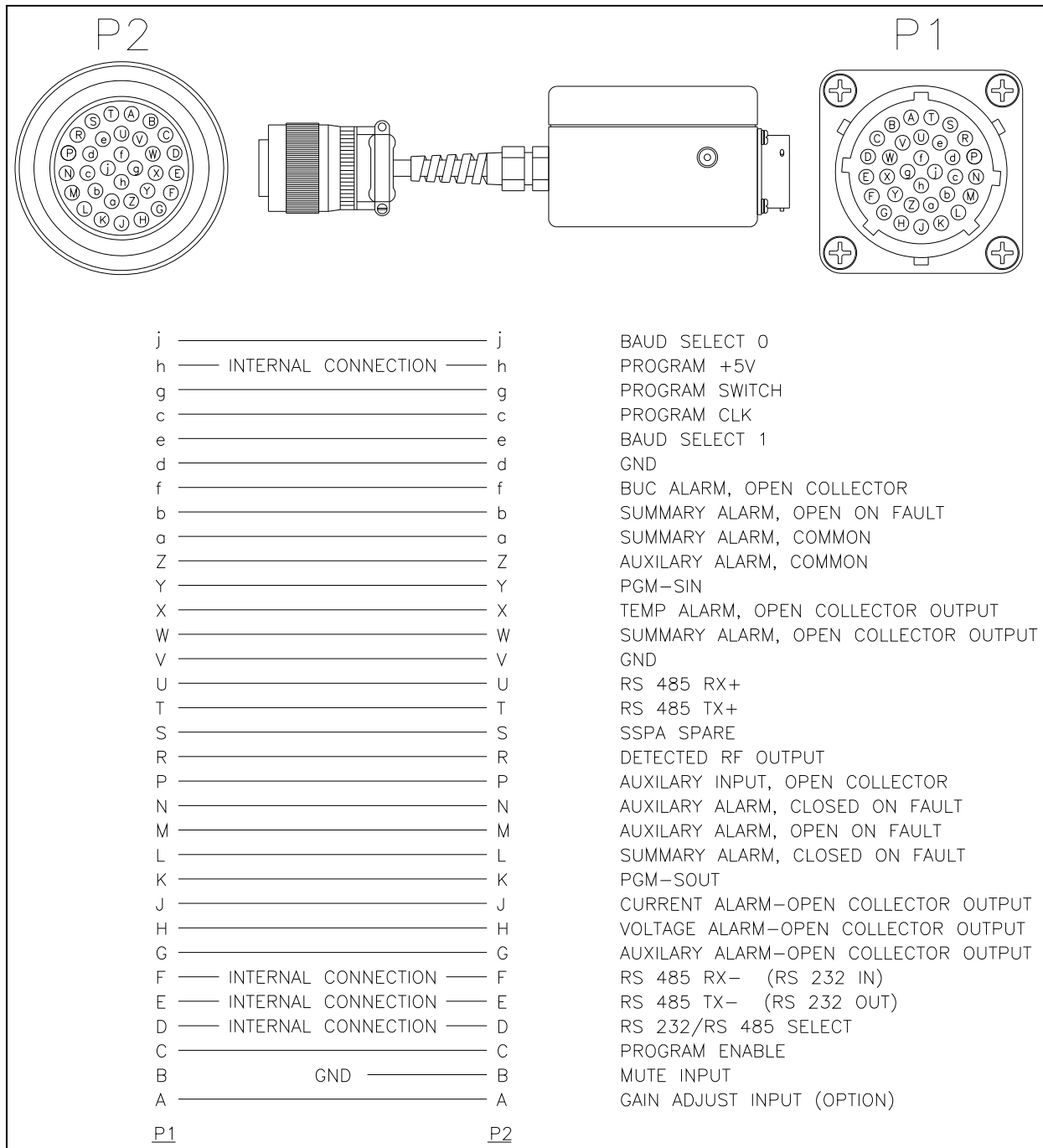
*Figure 3-18: Enable/Disable Jumper*

When disabled, the status LED on the side of the unit will not be illuminated. The only way to re-enable the unit is to change the jumper setting to the ON position.

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**NOTE:** Extra care must be given when removing and replacing the cover. The integrity of the watertight seal may be compromised.

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**Figure A-1: M&C Connector Details**

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