

## Partner Briefing: Optimizing the Man Down Worker Safety Feature



raised. Workers may not be using the feature correctly or it may not have been configured appropriately for the environment. False alarms can lead to unnecessary call-outs to remote locations, increased costs and ultimately a loss in confidence when using the Man Down function.

Your organization has operating procedures tailored around the unique characteristics of your business. These procedures should include the operation of your communications system and, as such, the Man Down feature needs to be configured to meet this protocol. Something as easy as 'when to turn on the radio' as part of your worker's tasks could make all of the difference.

### HOW TO MINIMIZE FALSE ALARMS

The TP8100 Man Down functionality is a key feature in ensuring the safety of your workforce. But in order for this feature to be efficient it should not create false alarms. There are a few important factors you should be aware of to ensure that the TP8100 Man Down functionality works for your staff and your organization. This paper explains the key processes and programmable options that will enable your staff to have true peace of mind when they are in dangerous or isolated work environments.

By detailing how the Man Down function works and when it should be used, this paper will provide clarification of this feature for you.

It is important to ensure that your organization has clearly defined operational procedures for your radios. These policies will help for educational purposes as well as align the radio's programmable options with how your workers will use the radios.

### FALSE ALARMS

It is extremely important that your workers understand the functionality of Man Down, when to use it, how to activate it, what the icons mean and what to do when an alarm sounds.

If your workers are unaware of how Man Down works it could result in a number of false alarms being

It is important your staff understand the Man Down function from a health and safety point of view, be fully trained on how to use the feature correctly, and be aware of the consequences of its misuse. False alarm call-outs can result in a lack of confidence in the technology and less peace of mind for staff completing difficult or potentially hazardous tasks.

During programming of each radio it is important to consider what staff will do when they are using the radio. Make each radio as easy as possible to use and then you are half way there to utilizing the Man Down function to its full potential.

In TP8100, Man Down functionality is delivered via a hardware options board fitted into the internal options area of the radio. By comparison, in Tait TP9100 radios, Man Down hardware is a standard feature in all models.

### PROGRAMMING OPTIONS

The Man Down option board is an addition to your TP8100 portable package and is generally used in combination with the Lone Worker functionality that is part of the standard product.

Essentially there are two key behaviours of the Man Down options board:

- No Movement (Man Down Motion Sensor) - this feature detects when a radio has been motionless for a predetermined time.

- Movement Detection (Man Down Tilt Sensor) - this feature detects when a radio is positioned beyond a predetermined angle. Taking into account the relevant operating procedures of your business, the choices that need to be made during programming of the TP8100 Man Down feature include:
- Warning Timer period
- Whether to activate Key-Press Sensing (Lone Worker)
- Inactivity Timer period (Lone Worker and No Movement)
- Whether to enable Man Down and/or No Movement function
- Tilt Timer period and angle
- Whether to activate Search Alert
- Whether these features are automatically enabled when you switch on the portable radio (Enable On Power Up)

The user can cancel the emergency call process by pressing a key on the radio within the specified time (**Warning Timer**) to indicate that they are safe. The default setting is for 30 seconds, but this is changeable (between 15 and 240 seconds) depending on your organizational requirements. Should there be no response from the user the radio automatically activates the programmed emergency features.

**Key Press Sensing** is the user interaction with the radio which resets the warning timer. This option is recommended to reset the Lone Worker function if the warning timer is sounding. Please note that this has to be a physical key press of one of the buttons and does not include turning of the channel or volume knobs.

If the radio remains motionless for a period of time, an **Inactivity Timer** will start. If any movement occurs within this time, the timer resets and the radio will revert to its normal state. You need to set this inactivity timer to a period of time dependent on your organization's health and safety requirements. If this timer expires because no movement is detected, the radio enters the warning state and emits an alarm tone. This alarm is a backup period to avoid a false emergency call. In the event that there is no key press during the warning alarm, an emergency call will be sent to dispatch.

You need to select *Enable* to ensure both the **Man Down** and the **No Movement** functions are activated on your radio.

The Man Down Tilt Sensor (**Movement Detection**) monitors the angle of the radio. For example, if a user falls and the accelerometer reports that the radio has gone beyond a certain **angle** (this can be programmed to either 30, 45 or 60 degrees) the radio starts a **Tilt Timer**, which can be set to between 1 and 60 seconds. If the radio remains at greater than the programmed angle and the tilt timer expires, the radio enters a warning state. The warning timer (as above) will start. If the warning timer expires, an emergency call will automatically be placed. To avoid false emergency response, the worker (if they are safe) needs to press a key to revert the radio to its normal state. Alternatively, the radio can be repositioned to an angle that is less than the one programmed.

You can choose how Man Down (and Lone Worker) are enabled on the radio, whether it be enabled automatically as the radio is switched on, or whether the user needs to toggle Man Down on or off via a designated function key (either long or short press and remember to make this process as intuitive as possible). NOTE: You need to enable Lone Worker first to automatically activate Man Down – you cannot activate (or deactivate) Man Down without Lone Worker.

Benefits of enabling Man Down and Lone Worker on Power-Up:

- There is confidence that the worker safety features will be enabled and active in the event of an emergency situation.
- There is one less step for staff to carry out when preparing for a task.

If the organizational protocol is to have your radio on at all times when in the field, users will need to enable the Man Down (Lone Worker) feature by using a pre-programmed function key prior to carrying out their task. In the same way, users will need to deactivate the function on completion.

Both Movement and No Movement features include a selectable Search Alert feature. When the radio has placed an emergency call, it emits a loud alert tone through the speaker to help locate the person in distress. This alert tone is a series of three long, three high-pitched and then three long beeps at full volume (regardless of the volume control) repeating until the radio is manually reset. Search alerts are not unique to Tait; however they may work and sound differently to those of other manufacturers.

## USING MAN DOWN

The most important part of Man Down functionality is the training of its users. All users should be aware of the safety feature and how to operate it; this means knowing how to turn it on and off, knowing how to recognise when it is active, and being aware of the different audio tones and alarms associated with Man Down.

Once Man Down is activated there will be an icon visible in the display screen on the radio (not available on the TP8110). This icon is recognizable as a triangle and a circle positioned near the bottom of the screen area (shown below). If this icon does not appear, then Man Down is not active. Upon deactivating Man Down this icon will no longer be visible.

*Man Down 'Active' icon:* 

It is recommended that workers check their radio for this icon and to check their volume knobs are at an audible level before commencing tasks away from their vehicle. Ensuring that the radio is in an upright position (if utilising the tilt sensor function) and easily reachable means the radio will not activate the tilt timer unnecessarily. If it is activated, the worker can easily press a key to revert the radio to its normal state.

In the event of an accident or emergency where the worker either does not move the radio for the pre-programmable amount of time or the radio is resting above the pre-programmed angle, a warning timer will start. If the radio remains in this state (either at a greater angle or without movement) then an alarm will start. This alarm will sound even if the volume is below an audible level. If

the worker is okay and not injured during this alarm they are able to reset the radio by pressing a key to revert the radio to its normal state.

Note – if an injured worker accidentally presses a key and the radio is back to its normal state then they can simply press the emergency key to activate the emergency call this in this alternative way – they do not need to wait for the warning timer to expire again).

## IN SUMMARY

Man Down should be configured in alignment with organisational procedures and work team environments. Combining this with appropriate staff training the result will be a system that provides reassurance to workers and management alike that the right systems are in place if required.

Man Down Feature: The TP8100 series of hand portables supports Man Down functionality by way of a hardware options board. This is an important safety feature for users who work in isolated and hazardous environments within the utilities industry.

In conjunction with Lone Worker (which comes standard in all models of TP8100) and the optional GPS speaker microphone for MPT systems, Man Down further enhances the ability of the TP8100. It provides general 'worker safety' to users as well as peace of mind for employers and employees alike.