



# SmartPTT Tutorial

## Telemetry Settings

# Steps to implement telemetry control

- **Connect accessory devices to MotoTRBO Radio GPIO contacts**
- **Program the Radio by using CPS**
- **Do corresponding settings in SmartPTT**

# Common recommendations on accessory device connection

Developing the interface between accessory devices and MotoTRBO radio GPIO contacts take into account that GPIO contacts have TTL level and output capability up to 0.1 Ampere. On this reason it is necessary to use intermediate control keys or optrons. Using of optrons provides galvanic isolation and increase noise immunity. Type of control key or optron depends on the output and specific of connected load.

# Radio telemetry settings in CPS

MotoTRBO radio telemetry settings are programmed in CPS. Make sure to specify appropriate values under following codeplug item:

- **General Settings / Accessories**
- **General Settings / Telemetry**

Detailed description of all options under these items are provided in CPS

# SmartPTT Settings

Telemetry settings in SmartPTT are done by means of Dispatcher Console. Steps to do telemetry settings:

- Specify list of all actions applicable to accessories connected to radios controlled by dispatching system. Menu: **Settings / Telemetry**
- Assign corresponding actions to subscribers having connected accessories. Subscriber property window.

Incoming telemetry event is displayed in the subscriber's Call Window and saved to event log.

Outgoing telemetry command can be send from subscriber's Call Window. Assigned commands are displayed in the actions menu at the right-bottom corner of the Call Window.

# SmartPTT Telemetry Example

This example shows basic telemetry actions made in SmartPTT.

## Example description

Toy car is connected to subscriber MotoTRBO mobile radio by means of USB cable. The circuit implemented in the car allows:

- Controlling of the door open/closed state
- Turn on/off the light in the car
- Send command to play music in the car

# SmartPTT Telemetry Example



# SmartPTT Telemetry Example

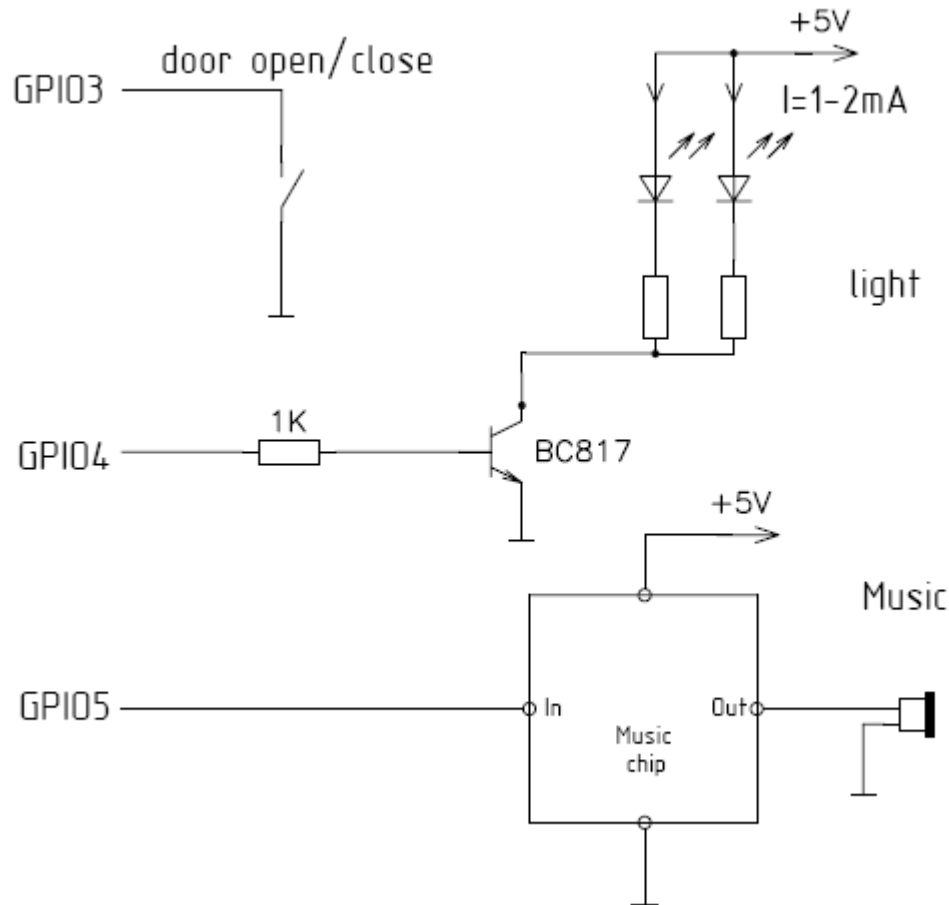
**Telemetry actions have following configuration:**

- Door is closed – Contact 3, Incoming, Low level
- Door is opened – Contact 3, Incoming, High level
- Light turn On/Off – Contact 4, Outgoing, Switch level
- Turn on music – Contact 5, Outgoing - Impulse



# SmartPTT Telemetry Example

## Connection circuit



# SmartPTT Telemetry Example

## CPS Settings

### General Settings / Accessories

#### GPIO Physical Pins

	Feature	Active Level	Debounce
Pin #17	Ext Mic PTT	Low	<input checked="" type="checkbox"/>
Pin #19	Telemetry VIO 5	Low	<input checked="" type="checkbox"/>
Pin #20	Telemetry VIO 4	Low	<input checked="" type="checkbox"/>
Pin #21	Telemetry VIO 3	Low	<input checked="" type="checkbox"/>
Pin #22	Telemetry VIO 2	Low	<input checked="" type="checkbox"/>
Pin #24	Telemetry VIO 1	Low	<input checked="" type="checkbox"/>
Pin #26	Ext Alarm/Horn & Lights	High	<input checked="" type="checkbox"/>

# SmartPTT Telemetry Example

## CPS Settings

### General Settings / Telemetry

PC – PC Call contact, which ID equal to Radio ID of base radio

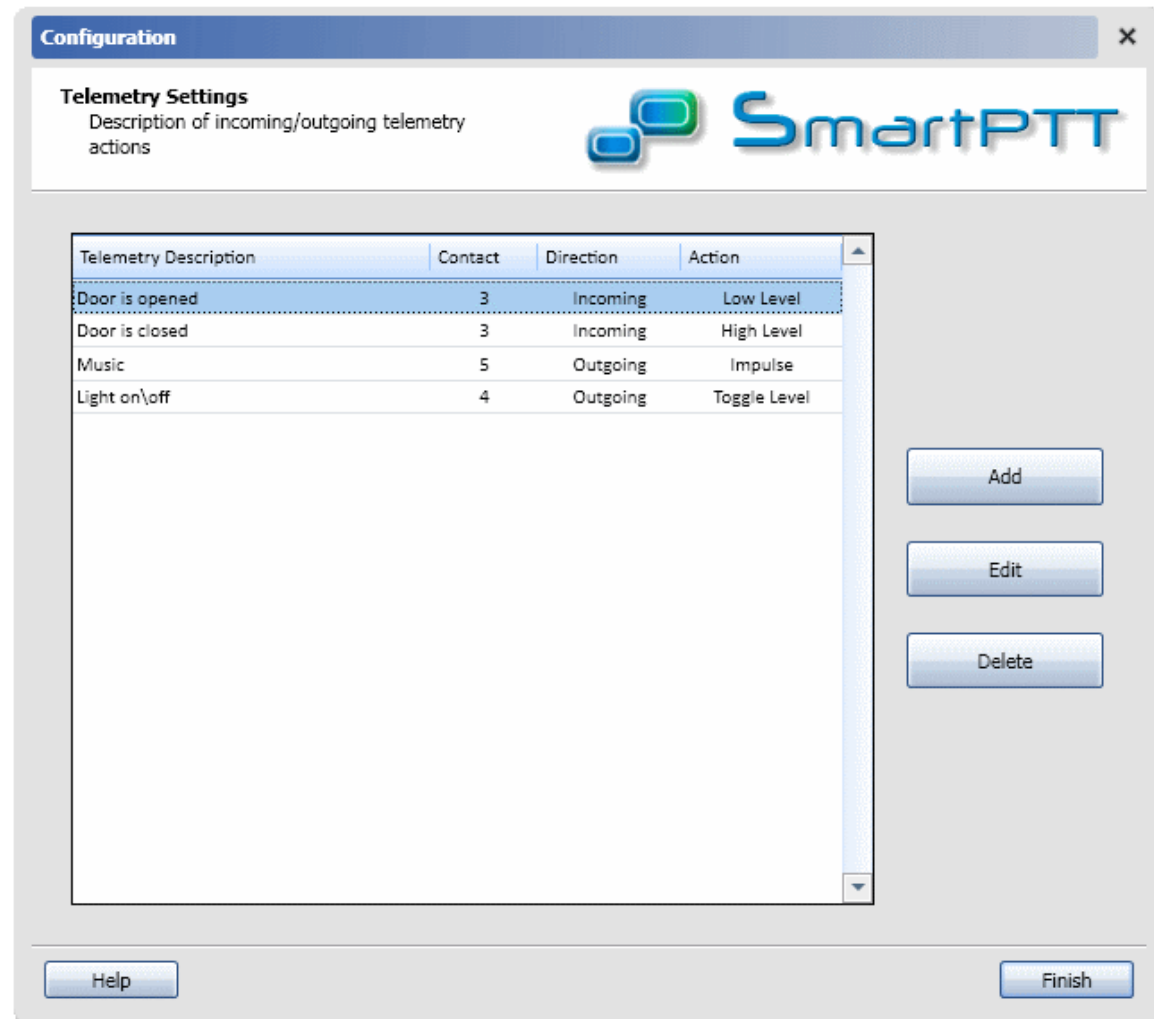
#### Telemetry

	Feature	Description	Action	Pulse Time (ms)		Call Mode	Call	Target VIO	Text Message
▶	Telemetry Button 1		None	200	▲▼	None	None	None	None
	Telemetry Button 2		None	200	▲▼	None	None	None	None
	Telemetry Button 3		None	200	▲▼	None	None	None	None
	Telemetry VIO 1		None	200	▲▼	None	None	None	None
	Telemetry VIO 2		None	200	▲▼	None	None	None	None
	Telemetry VIO 3		Send Status	200	▲▼	Digital	PC	None	None
	Telemetry VIO 4		On Toggle Voltage Command	200	▲▼	None	None	None	None
	Telemetry VIO 5		On Pulse Command	1000	▲▼	None	None	None	None

# SmartPTT Telemetry Example Dispatcher Console Settings

To set up incoming / outgoing telemetry actions, expand the **Settings** list in the main menu and click **Telemetry**.

Add all actions applicable to accessories connected to radios controlled by dispatching system



The screenshot shows a software window titled "Configuration" with a close button (X) in the top right corner. Below the title bar, the text "Telemetry Settings" is displayed, followed by the subtitle "Description of incoming/outgoing telemetry actions". To the right of this text is the SmartPTT logo, which consists of two overlapping rounded rectangles (one blue, one green) and the text "SmartPTT".

The main content area contains a table with the following data:

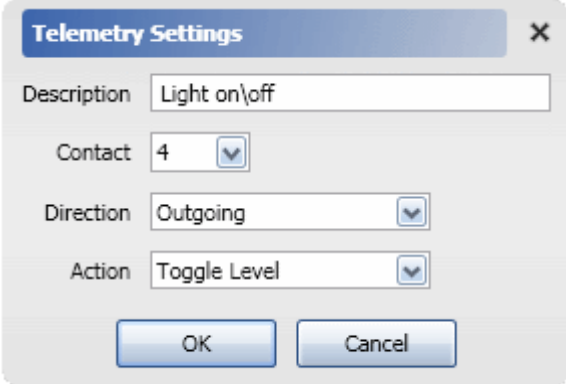
Telemetry Description	Contact	Direction	Action
Door is opened	3	Incoming	Low Level
Door is closed	3	Incoming	High Level
Music	5	Outgoing	Impulse
Light on/off	4	Outgoing	Toggle Level

Below the table, there are three buttons: "Add", "Edit", and "Delete", arranged vertically. At the bottom of the window, there are two buttons: "Help" on the left and "Finish" on the right.

# SmartPTT Telemetry Example

## Dispatcher Console Settings

- To add a new telemetry action, click **Add**. The **Telemetry Settings** window is displayed



The screenshot shows a dialog box titled "Telemetry Settings" with a close button (X) in the top right corner. It contains four input fields: "Description" with the text "Light on\off", "Contact" with the value "4", "Direction" with the value "Outgoing", and "Action" with the value "Toggle Level". Each field has a dropdown arrow on its right side. At the bottom of the dialog are two buttons: "OK" and "Cancel".

- Description** – description of telemetry settings.
- Contact** – select contact number from the list.
- Direction** – select direction (incoming or outgoing).
- Action** – impulse, high level, low level, toggle level.


# SmartPTT Telemetry Example



## Dispatcher Console Settings

Use **Subscriber Property Window** to assign appropriate telemetry actions

Subscriber: Andrew Morgan

General Custom










 IP: 12.0.0.101 MDC ID: 0000  
Name: Andrew Morgan  
Status: free

Select  

Show on Map  each 60 sec.

lat.: 56,47607  External Display  
lon.: 84,98768  GPS Support  
Speed (m/sec): 0,00  Lone Worker

Coordinates Out of Date

Message: Type text and press Enter

Save Cancel


Telemetry for - Andrew Morgan

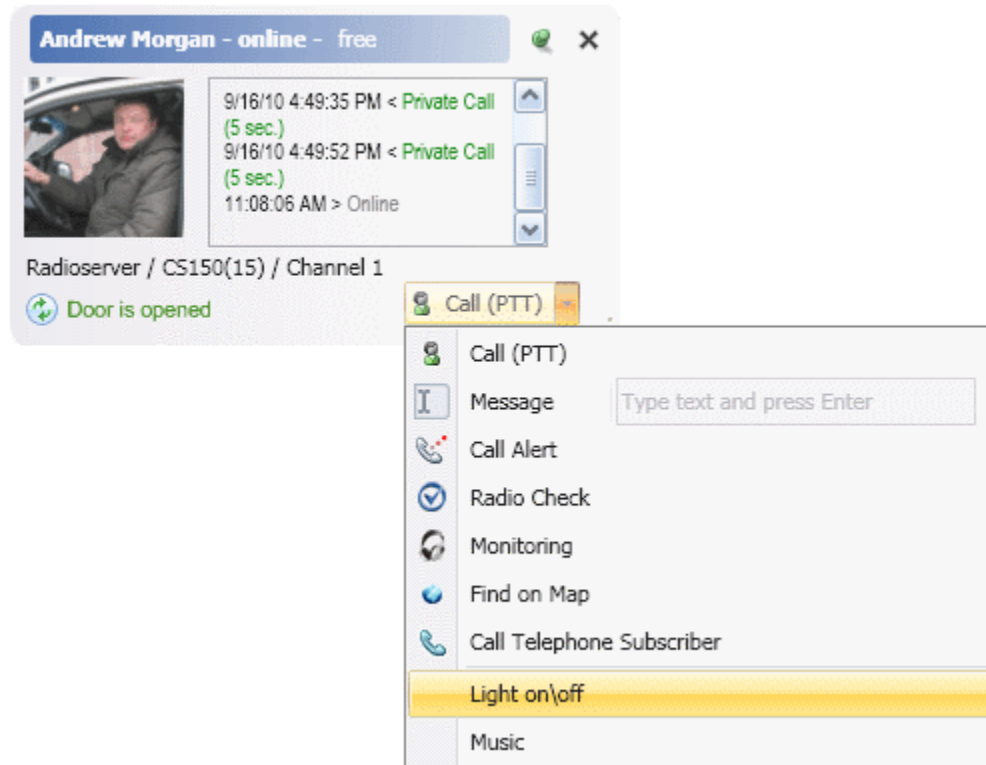
Description	Select
Door is closed (Incoming, 3, High Level)	<input checked="" type="checkbox"/>
Door is opened (Incoming, 3, Low Level)	<input checked="" type="checkbox"/>
Light on\off (Outgoing, 4, Toggle Level)	<input checked="" type="checkbox"/>
Music (Outgoing, 5, Impulse)	<input checked="" type="checkbox"/>

OK Cancel

# SmartPTT Telemetry Example

## Dispatcher Console Settings

- Telemetry action is launched from the subscriber's **Call Window**:
- To receive telemetry contact status, click 





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