



What is the Tow Truck Radio Communication Monitoring Solution ?



What are the advantage for using Unication Tow Truck Radio Communication Monitoring Solution ?

- Suitable for Northern America traffic all communication system (Trunking : P25 Phase 1 / 2, P25(C), DMR & Analog.
- Cost effective (Low cost).
- Compact size ! Provide minimum space requirement.
- Once you leave the truck, it can be take out to put inside the pocket, and keep the business opportunity during the break time.
- Excellent performance than radio !
- Has more useful function than general radio.
- Available decryption capabilities as radio.



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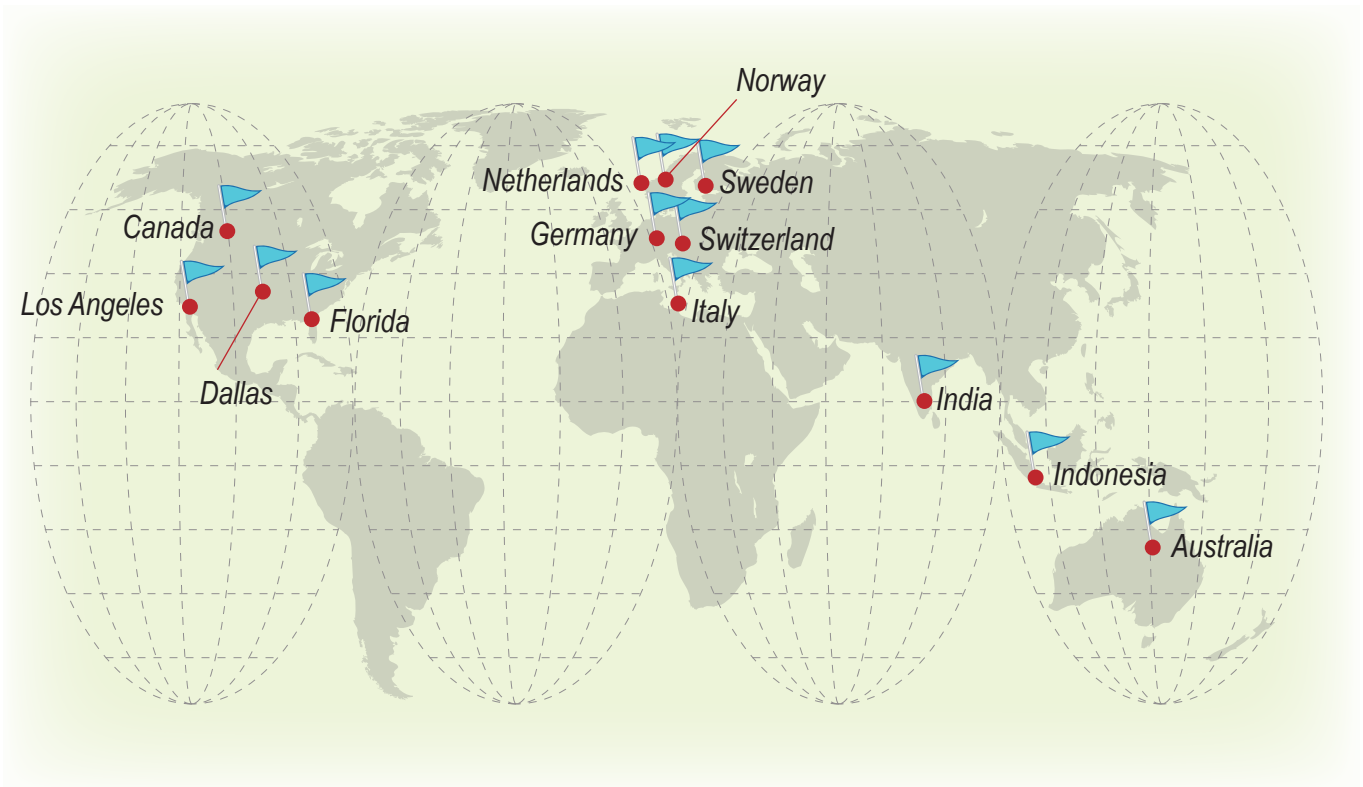
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Radio Communication Monitoring Solution?

■ What is Unication ?

- Unication Co., Ltd was originally founded in 1992 and has 27 years' experience with designing and manufacturing advanced critical communication solutions and systems. The innovation and advancement of Uniction's professional radio communications products is the main spindle of the brand's development.
- Unication currently has independent design centers or sales companies in Los Angeles, Dallas, Florida, Poca Reyton, Canada, Australia, and Germany.
- As of now, Unication radio products have been sold to the United States / Canada, the Netherlands, Norway, Sweden, Switzerland, Australia, Italy, India, Indonesia and Middle East countries



■ Why Unication design and Provided Tow Truck Radio Communication Monitoring Solution to Tow Truck industry?

The G-Series Radio Communication Monitoring Solution is designed for tow truck drivers and tow truck service companies, to allow them to listen to police radio traffic and rapidly arrive at the location where towing service is needed. The solution is designed to help increase the income of tow truck drivers/service companies as they assist to solve the traffic jams caused by accidents. Unication understands that towing service is a great contribution for people and society, which is why police and traffic officials allow tow truck drivers to listen to their radio traffic. From a survey, we found that the tow truck drivers or companies usually buy used mobile radios due to budget. The quality of the used mobile radio is unstable and there is no warranty or repair service included. Additionally, the radio products large bulky size makes it difficult to carry when off duty. This can lead to missed business opportunities when on lunch or rest breaks. Traditional analog systems or digital Radio (P25C, DMR) remain the better choice because the radio systems have been around for some time and more replacement products are available at lower prices. However, more recent Federal Government policies have affected traditional Analog or Digital Radio Communication Systems in that they are gradually switching over to the P25 Phase 1 or Phase 2 system, which has negatively impacted the Tow service industry:

1. Because the equipment price of P25 Phase 1 or Phase 2 Trunk Radio System is much higher than traditional analog or digital radio equipment, and the start time of the system is relative late, the number of used radio products in the market is small and the price is high. That impacts the tow service industry. If they do not install monitoring equipment you run the chance of losing business opportunities, but it is difficult to find used radio equipment in this newer technology in addition to reluctance to install new products.
2. P25 trunking radio (Phase 1 or 2) requires programming the TGID you want to monitor. When turned on, the radio will register on the P25 trunking system. Because all tow truck radios work this same way, it can cause the number of radios monitoring the TGID group to exceed the regulations of the trunking radio system, and the control center then replaces it with a new the TGID to avoid the interference caused by too many tow truck mobile radios registering on the system. However, due to the characteristics of our G4 and G5, you can program and listen to any TGID without registering into the P25 trunking network. The G4/G5 avoids system interference because it does not register or affiliate with the system. This eliminates the control center from having to replace the TGID, and tow truck drivers can continue to listen to the information on the same TGID without the effort and expense of constant reprogramming.

Upon understanding these two issues facing the towing service industry, Unication designed the Radio Communication Monitoring System Solution; supporting Analog, Conventional Communication and Digital (DMR, P25C, P25 Trunking Phase 1 & 2) Systems. Not only that, but also these features below:

1. Radio designed for towing service industry
2. Affordable price and perfect product warranty and repair service
3. Let you listen to the radio call in the tow truck or outside the car (because the size is small, designed to be portable), so the tow truck driver will not lose business opportunities when eating at the restaurant.
4. The system is small in size and does not take up install space in tow truck.
5. Reduce the chances of re-programming TGID.



■ What features and provided by Unication's Tow Truck Radio Communication Monitoring Solution?

The solution includes the Unication G-Series Voice pager and the Tow Truck charging cradle designed specifically for Tow Trucks to listen to radio communications. The specialties are:

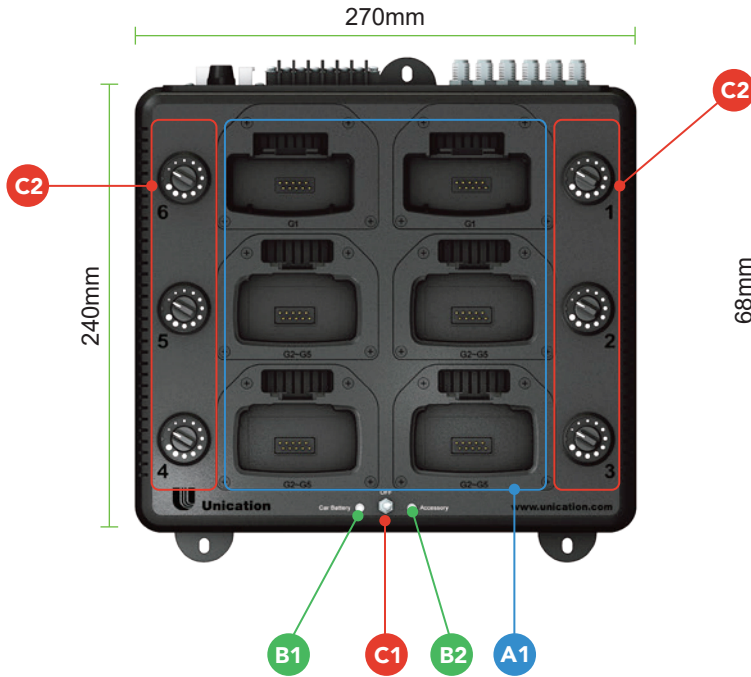
1. Unication's Tow Truck charging cradle contains speaker amplifiers and the size of the cradle is much smaller than the general mobile radio. This means that installing the Unication Tow Truck solution is simple and easy, saving installation time and costs.
2. Unication's Tow Truck Solution utilizes the G-series Voice pager as radio monitor, and the G-series Voice pager does not need to perform TGID / SUID registration over the radio network to listen to radio messages. Therefore, the G-Series Voice pager does not interfere with the radio network and keeps the TGID stable. Public Safety departments do not need to change TGIDs frequently to avoid interference. Therefore, tow truck drivers do not need to frequently change the TGID that they want to listen to.
3. If you need to modify the TGID, you only need to modify the TGID by Unication's APP. Which allow you to easily modify it and no need to pay the additional cost for reprogramming TGID.
4. Unication's Tow Truck Solution utilizes the G-series Voice pager as radio monitor, and the G-series Voice pager can be placed in the Unication Tow Truck charging cradle installed in the tow truck. When the tow truck driver needs to leave the towing truck to have lunch, the tow truck driver only needs to take the G-series Voice pager from the Unication Tow Truck charging cradle and listen to the radio message at any time and will not miss any business opportunity.



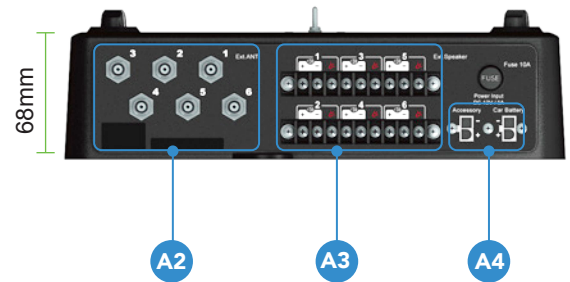
What are the Functions and Specification of Tow Truck Radio Communication Monitoring Solution?

Traffic Monitoring Receiver Charging Cradle Appearance :

● **Top View**



● **Back View**



● **Side View**



A : Port	
A1	G1/G4/G5 Charging Slots
A2	Antenna Connector
A3	External Speaker Connector
A4	Power Input

B : LED Indicator	
B1	Power Indicator (Car Battery)
B2	Power Indicator (Accessory)

C : Switch Knob	
C1	Power Switch
C2	Volume Knob

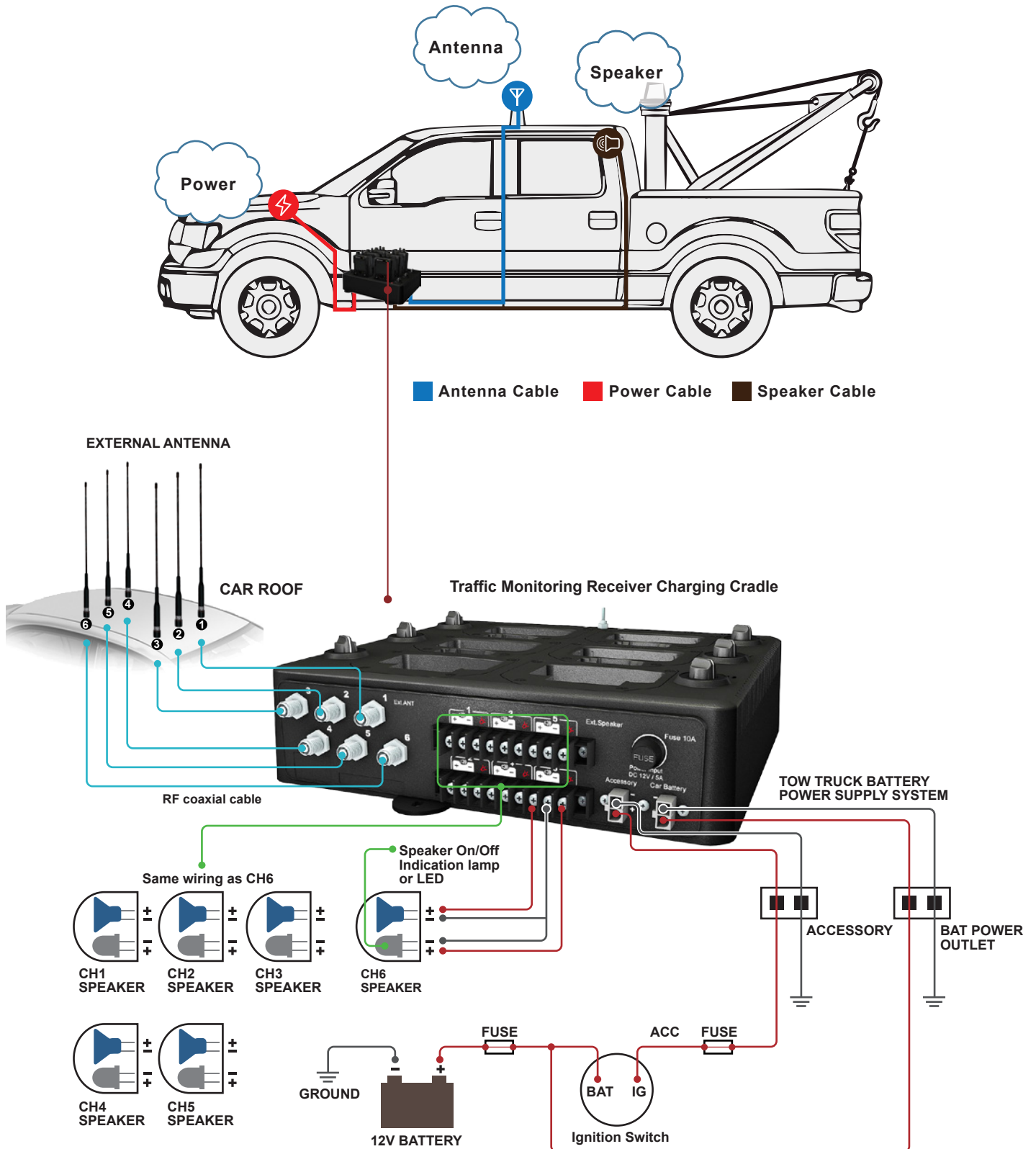
■ Product Name				Traffic Monitoring Receiver Charging Cradle					
■ Model Number Supported by this Product				GT(B)XXXXSSXUNIAXXX1X					
A G Series Voice Pager's Frequency Performance in this Product				G1	G2	G3	G4	G5	
A1	Frequency Range Supported by Voice Pager (For more detail of the frequency information, please refer to G1 Brochure and G Series Brochure)	• VHF	Digital	5% BER	—	7.98 μV/m	14.2 μV/m	—	14.2 μV/m
			Analog	12 dB SINAD	≤ 8 μV/m	7.98 μV/m	14.2 μV/m	—	14.2 μV/m
		• UHF	Digital	5% BER	—	4.3 μV/m	4.3 μV/m	—	10.62 μV/m
			Analog	12 dB SINAD	≤ 9 μV/m	4.3 μV/m	4.3 μV/m	—	10.62 μV/m
		• 700/800	Digital	5% BER	—	—	—	3.2 μV/m	3.2 μV/m
			Analog	12 dB SINAD	—	—	—	3.2 μV/m	3.2 μV/m
A2	The Voice Pager's reception mode supports Analog and Digital Protocol mixed.			—	●	●	●	●	
B Operating Environment									
B1	Tow Truck Operating Environment	Range of Operating Temperature		-20°C ~ +60°C					
		Range of Operating humidity		<90%					
C Hardware Specifications of Equipment									
C1	Appearance of Device			Please refer page 4					
C2	Dimensions	Thick (T) (mm)		270 mm					
		Height (H) (mm)		68mm					
		Height (H) (mm)		240mm					
C3	Texture			industrial plastic + iron					
C4	Weight			2.35 kg					
C5	Operating Interface Hardware	Power Switch		●					
		G1/G4/G5 Charging Slots		6					
		Power Input		DC 12V / 5A					
		Audio output		2.5W (8 ohms), 5.5W (4 ohms)					
		Antenna Connector		Mini UHF Connector x 6					
		External Speaker Connector		Terminal Block (6 Sets)					
D Feature and Specification				G1	G2	G3	G4	G5	
D1	Band Width	The band width can be set in each frequency: ·12.5KMz / ·25KMz / ·20KMz		12.5kHz 25kHz 20kHz	12.5kHz 25kHz 20kHz	12.5kHz 25kHz 20kHz	12.5kHz 25kHz 20kHz	12.5kHz 25kHz 20kHz	
D2	RF Performance	Sensitivity		4μV(LB) 3μV(VHF) 4μV(UHF)	-122 dBm	-122 dBm	-122 dBm	-122 dBm	
		Sensitivity # TIA Standard (12dB SINAD / 5% BER)		4.0 μV/m @25kHz/ 20kHz 7.0 μV/m @12.5kHz	7.98 μ V/M (VHF) 6.4 μ V/M (UHF)	14.2 μ V/M (VHF) 6.4 μ V/M (UHF)	4.02 μ V/M	8.79 μ 7.06 μ V/M V/M 4.02 μ 4.02 μ V/M V/M (VHF) (UHF)	
		Frequency Stability		+ / - 5 ppm	+1-1 ppm	+1-1 ppm	+1-1 ppm	+1-1 ppm	

PART D. what are the Functions and Specification of Tow Truck Radio Communication Monitoring Solution?

■ Product Name		Traffic Monitoring Receiver Charging Cradle					
■ Model Number Supported by this Product		GT(B)XXXSSXUNIAXX1X					
D Feature and Specification		G1	G2	G3	G4	G5	
D3	RF Performance	Adjacent Channel Selectivity	65μV(LB) 65μV(VHF) 60μV(UHF)	760 dB	760 dB	760 dB	760 dB
		Intermodulation Rejection	> 65dB	> 65dB > 55dB (Analog) (Analog) > 60dB > 50dB (Digital) (Digital)	> 65dB > 75dB (Analog) (Analog) > 60dB > 75dB (Digital) (Digital)	> 65dB (Analog)	> 65dB (Analog)
		Blocking	> 70dB	> 80dB	> 80dB	> 80dB	> 80dB
		Spurious	> 70dB	> 70dB	> 70dB	> 70dB	> 70dB
		Image Rejection	> 70dB	> 65dB > 60dB (Analog) (Analog) > 60dB > 55dB (Digital) (Digital)	> 65dB > 60dB (Analog) (Analog) > 60dB > 55dB (Digital) (Digital)	> 65dB (Analog) > 60dB (Digital)	> 65dB (Analog) > 60dB (Digital)
		Audio Distortion	< 4 % (Electrical) < 5 % (Acoustic)	< 2%	< 2%	< 2%	< 2%
		Speech SPL (at 12 inches)	94 dB SPL	96dB +3/-2dB	96dB +3/-2dB	96dB +3/-2dB	96dB +3/-2dB
		Alert SPL (at 12 inches)	96 dB SPL	96dB +3/-2dB	96dB +3/-2dB	96dB +3/-2dB	96dB +3/-2dB
E Function							
D1	Save Installation Time and t Cost	1. The size is smaller than the regular mobile radio on the tow truck. 2. Easy to install, convenient and save installation time and the cost.			●		
D2	The Voice Pager Can Be Pulled Out of Charging Cradle and Carry It for Monitoring at Any Time.	1. When the tow truck driver needs to leave the tow truck to eat, the driver only needs to take the G series Voice Pager out from the Unication Traffic Monitoring Receiver Charging Cradle and listen to the radio message at any time without missing business opportunities.			●		
D3	Reduce the Frequency of Changing TGID.	1. Listen to (Police) radio messages without TGID / SUID registration via radio network. 2. The G-Series Voice Pager does not interfere with the (Police) radio network and keeps the (Police) TGID stable. 3. The tow truck driver does not need to frequently change the TGID that he wants to listen.			●		
D4	Easy to change the TGID and reduce the cost of changing the TGID.	1. TGID can be easily modified via the APP provided by Unication.			●		

How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution?

- Install a new Tow Truck Charging Mount to your tow truck:



■ How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution?

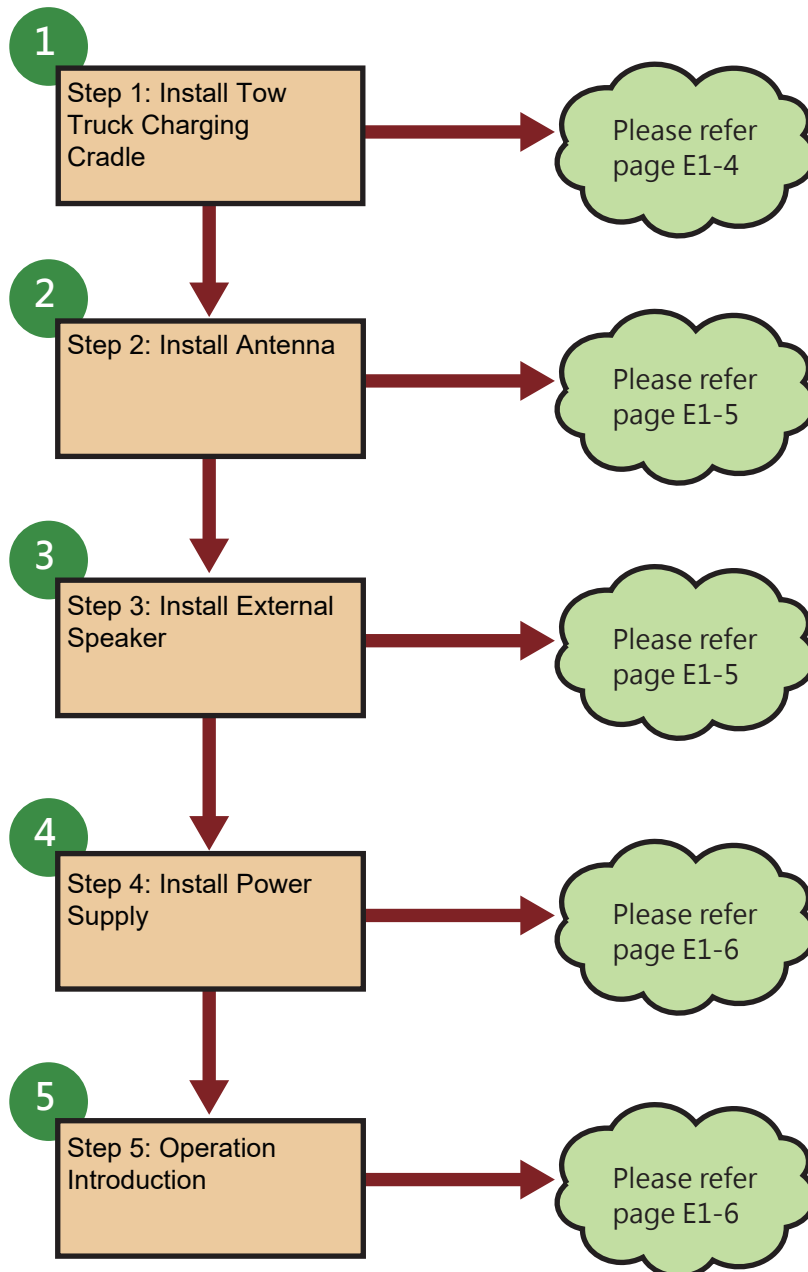
- When you purchase the Traffic Monitoring Receiver Charging Cradle, you need to install it on your truck, connect the power supply and install the antenna & external speaker on the truck. Next, we will guide you step by step and please follow the instructions below to install the Traffic Monitoring Receiver Charging Cradle.
- First, please check the items in your hand. We have provided a list for you to check. The items and quantity are as below. If there is any missing, please contact the dealer or inform us, and we will immediately send you the missing items.
- After you have finished checking the objects, please go to the next page to continue the installation process of Traffic Monitoring Receiver Charging Cradle.
- The following discription will guide you how to install the Tow Truck Charging Mount

Notice: Please make sure the power of the Tow Truck Charging Mount is OFF before you start the installation (Switch the power switch to the middle position to turn OFF the power)

- Please check these items before you start the Tow Truck Charging Mount installation.
 - a. Standard Items:
 - Tow Truck Charging Mount x 1
 - Power Cable x 2
 - b. Optional Items (The quantity of the accessory depends on the user's purchase):
 - External Antenna x 1 to 6
 - External Speaker x 1 to 6
 - External Antenna Cable x 1 to 6
 - External Speaker Cable x 1 to 6
 - c. Installation Tool:
 - Electric Screwdriver x 1

E3 How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution? - 1 / 5

- The following process is a quick guide for the installation, you can follow the steps to complete the installation, or you can choose the steps that you want to learn more. On the left side are the installation steps, and their corresponding pages are indicated on the right side.

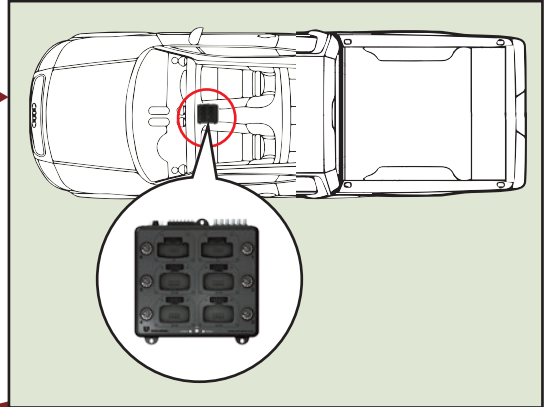


E3 How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution? - 2 / 5

● Step 1: Install Tow Truck Charging Cradle

1

Find a proper place in your truck to start the charging mount installation. (Near the console may be a good option.)



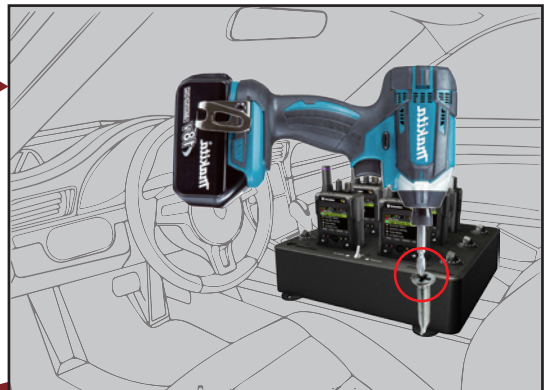
2

Get the electric screwdriver and screws.



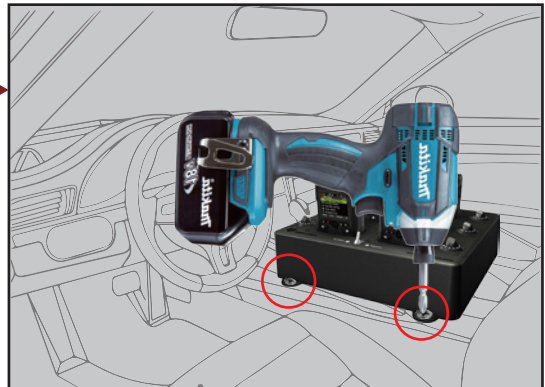
3

Fix the charging mount in the proper position with the screws slightly mounted.



4

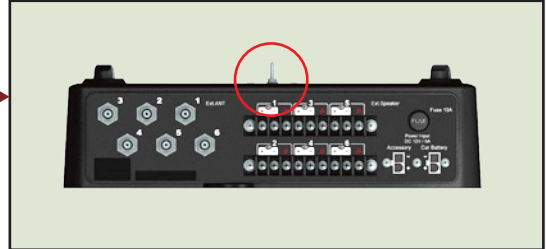
Tighten the screws with the electric screwdriver and make sure the charging mount is fixed.



E3 How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution? - 3 / 5

5

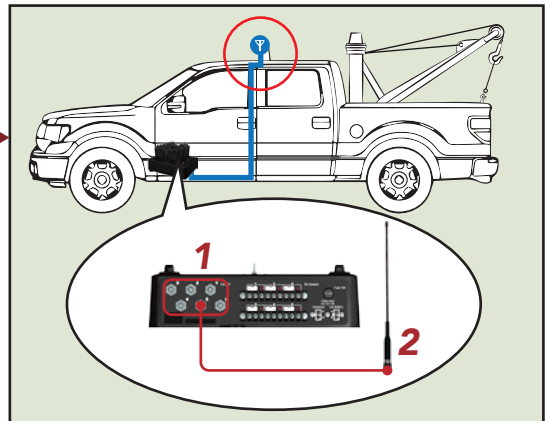
Make sure the charging mount's power switch is in the middle position (power OFF) and then you can start the antenna installation.



● Step 2: Install Antenna

1

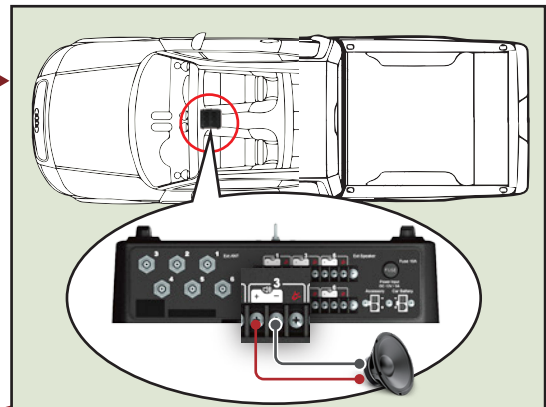
1. Connect the antenna cable to the mini UHF connector (I/O Impedance: 50 ohms)
2. Connect the other side of the antenna cable to the external antenna.



● Step 3: Install External Speaker

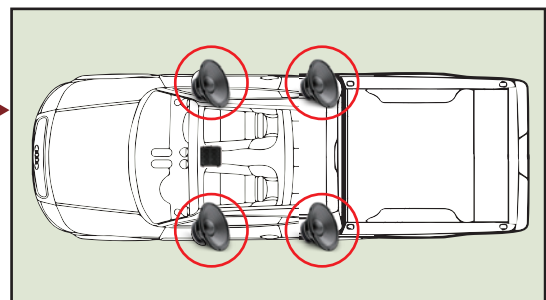
1

Connect the speaker cable to the Audio Output (+,-)



2

Install the speakers to the proper place on the truck
Note: The specification of the Audio Output is 2.5W (8 ohms) or 5.5W (4 ohms)

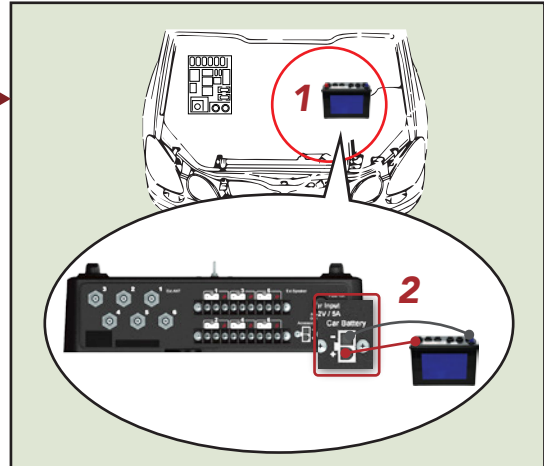


E3 How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution? - 4 / 5

● Step 4: Install Power Supply

1

1. Connect the power cable to the battery of the truck
2. Connect the the power cable to the power input on Tow Truck Charging Mount (DC 12V / 5A)



● Step 5: Operation Introduction

Notice: Before you operate the Tow Truck Radio Communication Monitoring Solution, please make sure the Installation Steps in Part.B are completed.

E1 Traffic Monitoring Receiver Charging Cradle Power On:

- Step 1. Connect the Tow Truck Charging Cradle to the car battery of the truck.
- Step 2. Switch the power switch toward the Car Battery position.
- Step 3. The Car Battery Indicator of the mount is on with the red light.

E2 Traffic Monitoring Receiver Charging Cradle Power Off:

- Step 1. Switch the power switch toward the middle position.

E3 Unication G-Series Voice Pager Charging:

- Step 1. Make sure the car battery of the truck is connected to the Tow Truck Charging Cradle.
- Step 2. Turn on the Tow Truck Charging Cradle.
- Step 3. Insert Unication Voice G-Series Pagers into the Tow Truck Charging Slots.
- Step 4. Unication G-Series Voice Pagers are charged by the Tow Truck Charging Cradle when the power switch is turn on.

E3 How to Install the Charging Kit of Tow Truck Radio Communication Monitoring Solution? - 5 / 5

E4 Play Voice Messages through External Speaker:

- Step 1. Make sure the car battery of the truck is connected to the Tow Truck Charging Cradle.
- Step 2. Turn on the Tow Truck Charging Cradle.
- Step 3. Turn on the Unication Voice G-Series Pagers and choose the channel on pagers you want to receive.
- Step 4. Insert Unication Voice G-Series Pagers into the Tow Truck Charging Slots.
- Step 5. Unication Voice G-Series Pagers play the voice messages through External Speaker.

E5 Adjust the Volume of Voice Messages through Volume Knob:

- Step 1. Make sure the car battery of the truck is connected to the Tow Truck Charging Cradle.
- Step 2. Turn on the Tow Truck Charging Cradle.
- Step 3. Insert Unication Voice G-Series Pagers into the Tow Truck Charging Slots.
- Step 4. Turn Volume Knob clockwise to increase the volume of voice messages.
- Step 5. Turn Volume Knob anti-clockwise to decrease the volume of voice messages.

E6 Receive Radio Signals from External Antenna:

- Step 1. Make sure the car battery of the truck is connected to the Tow Truck Charging Cradle.
- Step 2. Turn on the Tow Truck Charging Cradle.
- Step 3. Turn on the Unication Voice G-Series Pagers and choose the channel on pagers you want to receive.
- Step 4. Insert Unication Voice G-Series Pagers into the Tow Truck Charging Slots.
- Step 5. Unication Voice G-Series Pagers receive the radio signals from Internal Loop Antenna of the pagers and External Antenna of the Tow Truck Charging Cradle.



Tow Truck Radio Communication Monitoring Solution



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