



Pager Status Report & Message Receiving ACK / Text Message Dispatch via Radio System (Trunking & Conventional), Pager Receiving Text Message Response Solution.



Please contact us with our Toll Free phone number : 888-657-2963
Leave a message on the Unication Website : <http://www.unication.com> or <http://www.unicationusa.com>

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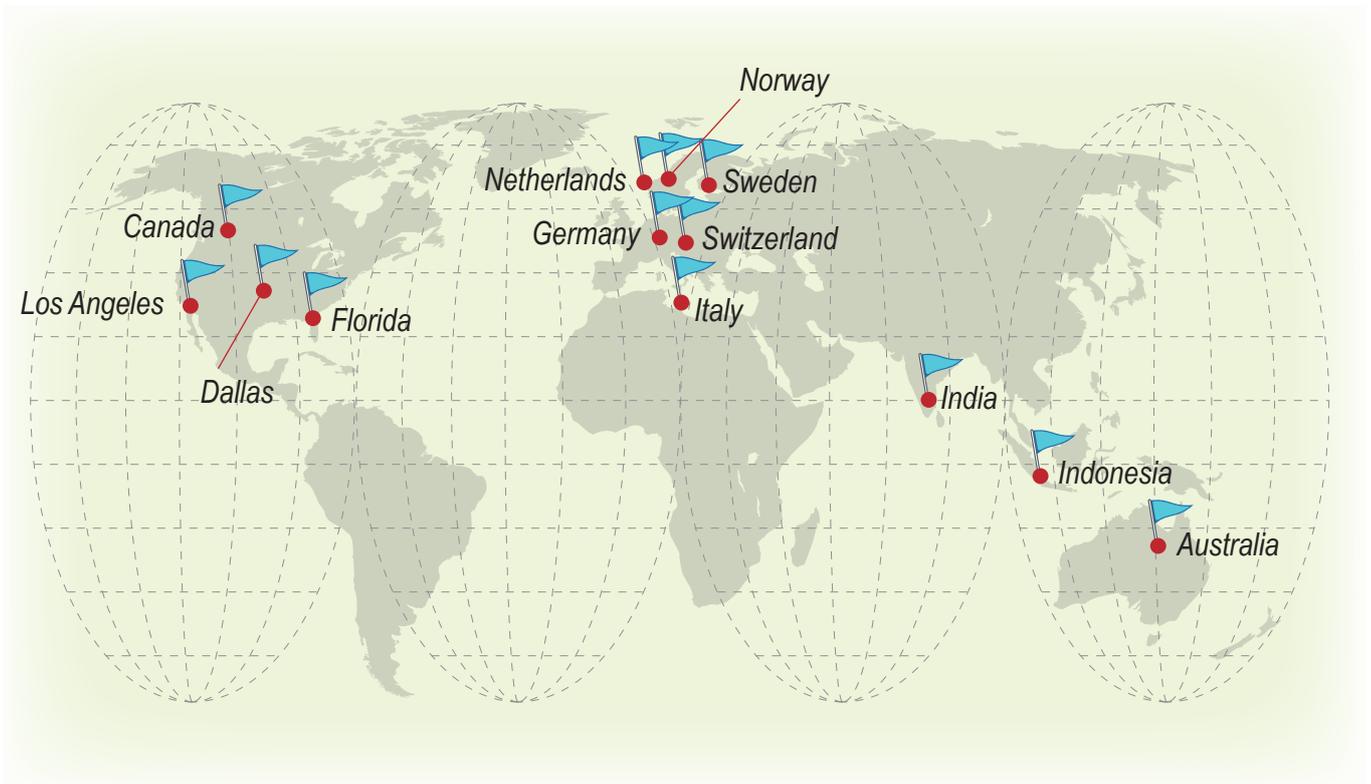
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Description

■ 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 does Unication design Pager Status Report & Message Receiving ACK / Text Message Dispatch via Radio System (Trunking & Conventional), Pager Receiving Text Message Response Solution?

● Fulfill the Demand of the Emergency Dispatch Center:

For the dispatch console devices used by the emergency dispatch centers on the market, the main purpose is to send voice call messages. The same, the voice pager equipped by firefighters is mainly only capable of receiving voice messages. There is almost no device to support receiving text messages or image message, and to the users, only one way receive the messages from the dispatch center is not enough. Therefore, Unication designed the Pager Receiving Text Message Response Solution with Unication's PS & DRT Dispatch Console software. By using this solution, the dispatch console can send multiple types of messages such as voice calls, text messages, and image messages. It makes up the current dispatch center's shortcomings in only sending voice messages to the users, and can also provide users more options for receiving the messages.

● Greatly Reduce the Cost of System Upgrade or the Cost of Adding New Functions:

In the market, if the emergency dispatch center's dispatch system needs to have the function that can send the Text Message, it needs to be charged a considerable fee to upgrade the system by the system providers (Such as Motorola, Harris, and Airbus.) Usually, it needs to cost around \$US1 million to upgrade. Therefore, many dispatch centers are unwilling to bear this cost, they use other ways to dispatch or just not send the text messages. However, Unication provides complete product solutions, including PS & DRT and Dispatch Console software plus Radio Box devices which can support sending text messages to Unication G-series voice pager products, and greatly reducing the cost of dispatch center for system upgrades or the cost of adding features to use sending text messages.

● Faster and More Efficient Dispatch Operations:

At present, some dispatch systems can use emails to send to the telecommunications service provider (TSP) and then TSP sends text messages to users' mobile phones through telecommunications networks. However, these messages must be transmitted over multiple networks and shared with general mobile phone networks, and that causes the transmission speed is not so good. In addition, dispatchers are often responsible for receiving emergency calls and then sending relevant voice messages to rescue teams near the place of help. The time delays can be fatal. In view of this, the Unication G-series voice pager has Text Message function. This product is combined with Radio Box and PS & DRT and Dispatch Console software. This solution can assist dispatchers to send text messages through Radio Box and console software in a faster and more efficient way. Dispatchers can also send out the emails (original operation procedures) after obtaining the basic information with the reporter. The reported information will be recorded in the original operation mode (emails); then, the PS & DRT and Dispatch Console software will send the text message via the radio box through the dedicated radio network for rescue to Unication G2/ G3/ G4 / G5 Voice Pager.

● Provide Firefighters With a Clearer Understanding of the Scene:

G Series Voice Pager provides the function of receiving photos. Rescue workers can use this function to understand the situation of the scene, know the precise location of the scene through the scene photos, and can reach the scene faster. The Unication PS & DRT and Dispatch Console software can send the image of the scene to the Unication G2/ G3/ G4 / G5 Voice Pager through the Radio Box, so that each firefighter can understand the situation of the scene more clearly; reduce and avoid casualties due to differences at the scene.

● **Clearly know the status of the pager which is equipped with each firefighter:**

The current dispatch center cannot know if the users turn on the pager, on duty, off duty, in range, out range or OOR. Dispatch center cannot know how many people will receive the message after sending the message.

1. Unication PS&DRT and Dispatch Console provide the dynamic pager status monitoring function which is able to show the status of each pager (Power On/Off, Duty On/Off, In Range/ Out Range) in order to let the staffs of dispatch center know.
2. Unication G Series Voice Pager is built Bluetooth and is able to wirelessly connect with smart phone via a specific app. Voice pager can send the volunteer' s status, ACK message and pager status to dispatch center.
3. G Series voice pager offers the function that the voice pager will automatically report to the server of the dispatch center when the duty on/off. This action is able to let the dispatch center know the status of each voice pager.

● **Clearly know if each firefighter receives the message:**

It is hard to know how many people receive the message after the dispatch center sending the message. This situation causes the dispatch center or chief is unable to arrange and assign the staff quickly.

1. Unication G Series voice pager offers the function called Message Receiving ACK which lets the dispatch center and the chief know how many people receive the message. The voice pager is designed to connect with the cell phone via Bluetooth in order to use the app and report the Receive ACK to Unication PS&DRT and Dispatch Console software.
2. Unication G Series voice pager will automatically report to the server of dispatch center when the voice pager receives the dispatch message in order to let PS&DRT and Dispatch Console system know how many pagers and who receive the dispatch message.

● **Quickly understand and calculate the numbers of involved firefighter:**

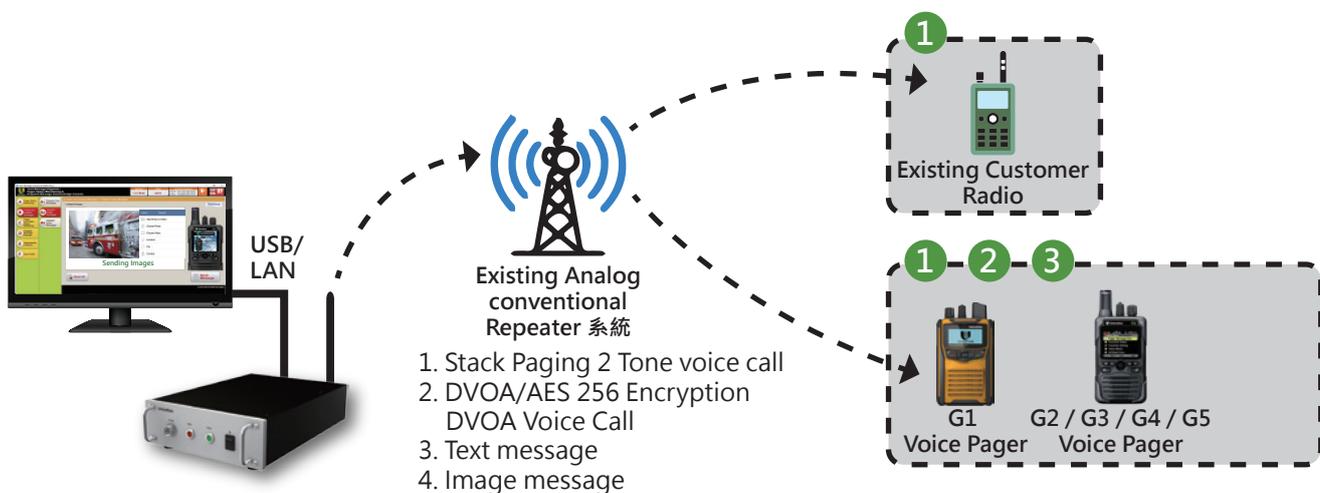
How to know whether the pager users come after they receive the message and whether the dispatch console of the dispatch center knows?

1. Unication G Series voice pager offers Message Manual ACK (CAN Message ACK) function which lets the pager is able to send back the Manual ACK result to Unication PS&DRT and Dispatch Console for informing if the user comes and the time he will come. This function can help the dispatch center and chief quickly assign and arrange the staff.
2. After receiving the message from the dispatch center, Unication G Series voice pager enables users to reply the canned message to the PS&DRT and Dispatch Console system about the decision that they will participate in or not according to their own situation and how long they will take to arrive the scene.

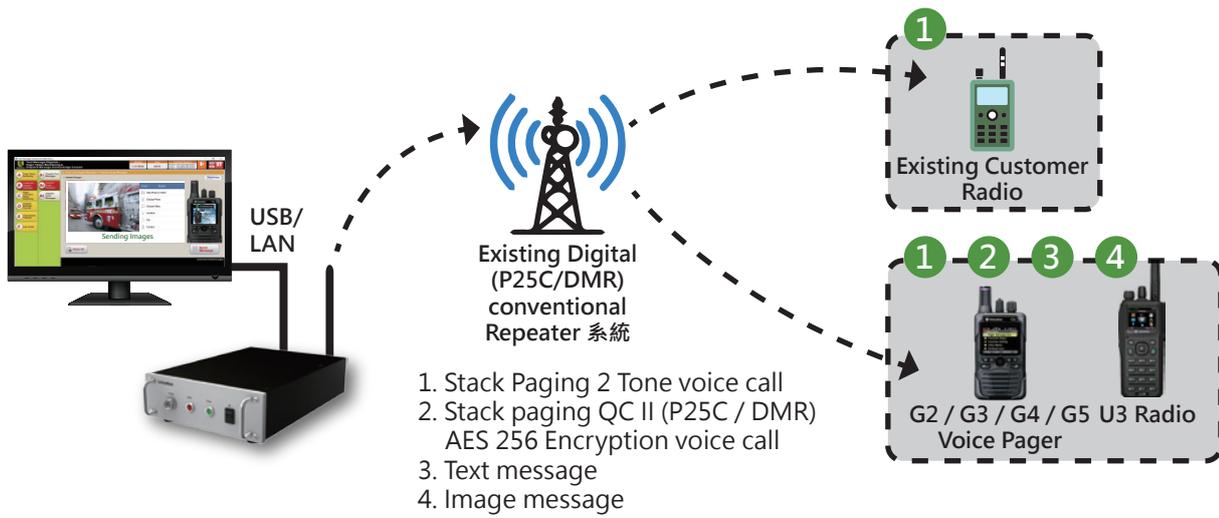
■ Design Concept and Features of Unication Pager Status Report & Message Receiving ACK / Text Message Dispatch via Radio System (Trunking & Conventional), Pager Receiving Text Message Response Solution?

- With easy installation and set up, the Radio Box and PS&DRT and Dispatch Console has great mobility and convenient connection, which can be used in the Dispatch Center, the office of the Fire Chief, and even the place near the fire site.
- The host equipment in different Dispatch Center might have either Windows or Linux operation system, with the capability of software control, the Radio Box is available in both Windows and Linux operation system.
- When the software of the Radio Box device needs to be updated, users can simply connect the Radio Box with a Windows computer through a USB cable, and update the device by using the programming upgrade software provided by Unication.
- The internal software of the Radio Box records all the Log information. When there is any abnormality during the operation, all the log information can be reported to the customer service department of Unication for issue analysis, so as to solve the problems immediately.
- Most of the Dispatch devices in the Dispatch Center on the market support transmission by the Analog or Digital system. During the migration from Analog to Digital, the Dispatch Center needs both systems in use. Unication Radio Box supports multiple Protocol systems such as P25T, P25C, DMR, MDC1200, 2Tone and 5Tone, so the Dispatch Centers can choose which system should be used.
- Most Dispatch devices in the Dispatch Center on the market support Voice Call transmission only. For Dispatch Center, it needs to dispatch according to different usages like sending image and text message also. Unication Radio Box supports multiple types of data transmission (image, text and voice message).

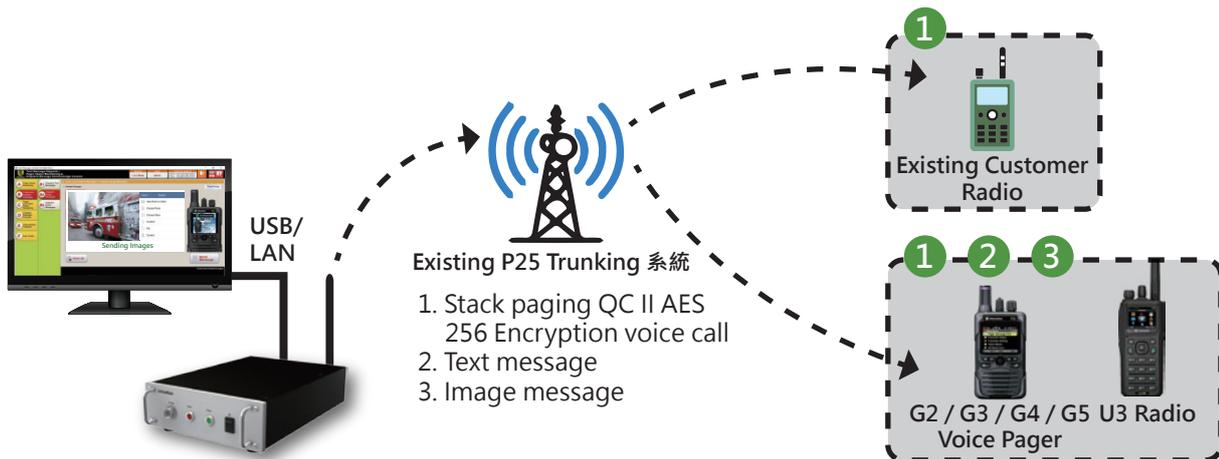
● Radio Box can be connected with various dispatch systems on the market:



figa.PS &DRT Radio Console's system operation diagram in current Digital (P25C/DMR) conventional repeater system.



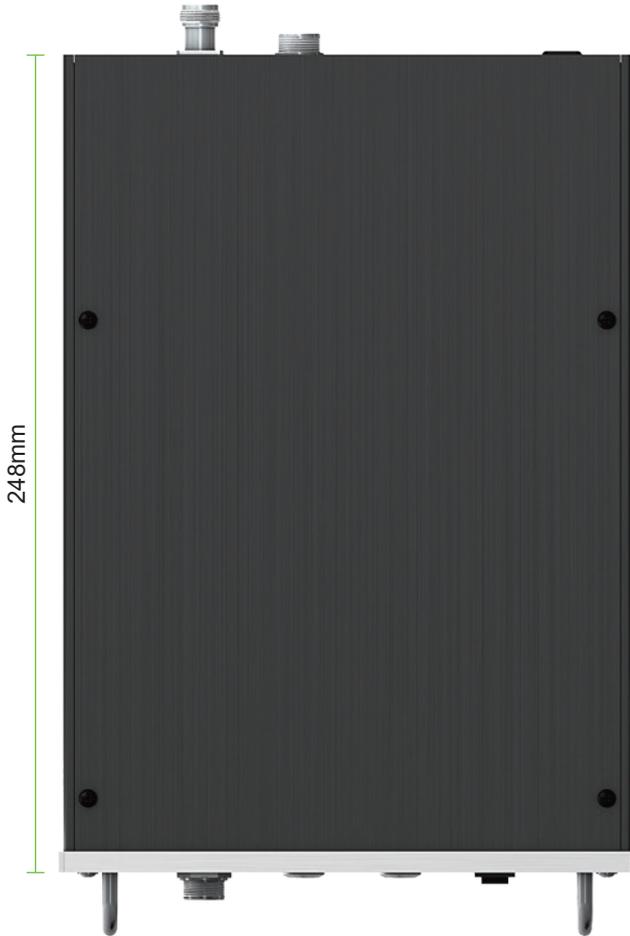
figb.PS &DRT Radio Console's system operation diagram in current Digital (P25C/DMR) conventional repeater system.



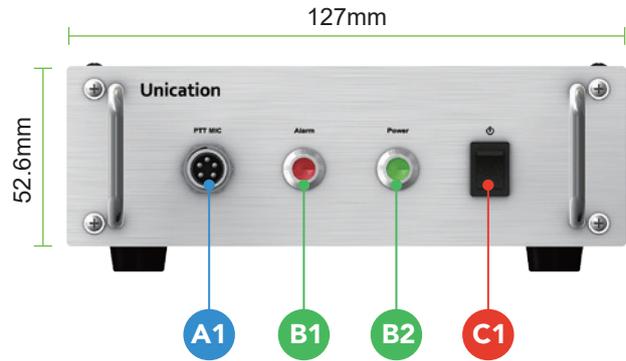
figb.PS &DRT Radio Console's system operation diagram in current P25 Trunking system

● Radio Box Overview :

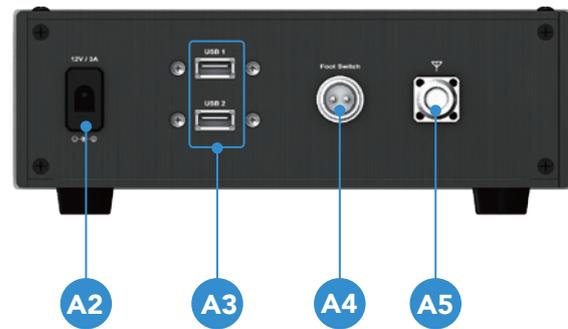
● Top View



● Front panel



● Rear Panel



● Side View



A : Connector			
A1	PTT Speak Mic Connector	A4	Foot Switch Connector
A2	Power Input (12V / 3A)	A5	Antenna Connector
A3	USB Connector		

B : LED Indicator	
B1	Alarm Indicator
B2	Power Indicator

C : Button	
C1	Power Switch

Radio Box Series		PS&DRT and Dispatch Console with Radio Box			
Models of Radio Box Series		VHF	UHF	700/800M	
A Frequency and Mode of Radio Equipment					
A1	Frequency range (MHz) and maximum power output	• 136-174 MHz (VHF)	5W	—	—
		• 330-400 MHz (U1)	—	4W	—
		• 380-430 MHz (U2)	—	4W	—
		• 403-470 MHz (U3)	—	4W	—
		• 450-520 MHz (U4)	—	4W	—
		• 763-776 MHz	—	—	3W
		• 793-806 MHz	—	—	3W
		• 806-825 MHz	—	—	3W
		• 851-870 MHz	—	—	3W
A2	Band Width of Radio Box (kHz)	12.5 KHz 25 KHz	12.5 KHz 25 KHz	12.5 KHz 25 KHz	
A3	Signal Mode of Radio Box	1. Analog and digital signal can be mix-used.			
A4	Types of transmit and receiving message of Radio Box	1. In the analog system, it is able to receive and transmit the message, voice, text and image by using MDC 1200 and WDC protocol. 2. In the digital system, it is able to receive and transmit the voice, national languages and image by using DMR, P25(C) and P25(T) protocol.			
B 設備允用環境					
B1	Operating Environment of Radio Box	• Operating Temperature	-30 ~ +60 °C		
		• Waterproof Condition of the Equipment	IPX3		
		• Dustproof Condition of the Equipment	IP3X		
		• Safety Regulations of the Equipment	FCC		
C Hardware Specification of Equipment					
C1	Appearance	Refer to page D1-1			
C2	Dimension	Height (H) (mm)	248 mm		
		Width (W) (mm)	127mm		
		Thickness (T) (mm)	52.6mm		
C3	Shell Material	Fe-Al			
C4	Weight	3.6 kg			
C5	Operating Interface	Power Switch	●	●	●
		External PTT / Speaker MIC	●	●	●
		External PTT Foot Switch	●	●	●
D Features and Specifications of Equipment					
D1	Band width can be set	Band width can be set for each frequency	12.5 KHz 25 KHz	12.5 KHz 25 KHz	12.5 KHz 25 KHz
D2	Quantity of the Frequency can be set	The number of frequencies that can be set depends on the number of bandwidth settings. Number of settable frequencies = band width ÷ set frequency width	For example: the settable frequencies in 30-88 MHz are: (88-30 M) / 12.5K = 4640 (88-30 M) / 25K = 2320		

PART D. Connection Multi - Communication Protocol System, Multi - Function (Voice / Text / Image) Transmission System Specification & Function Description

■ Radio Box Seires			PS&DRT and Dispatch Console with Radio Box		
■ Models of Radio Box Series			VHF	UHF	700/800M
D Features and Specifications of Equipment					
D3	Output Power	Maximum Output Power	<ul style="list-style-type: none"> • U3 VHF : 136-174 MHz (5W) • U3 UHF : 403-470 MHz (4W) • U3 700/800 : 764~806, 806~870 MHz (3W) 		
E Functions					
E 1	Multiple certified standard protocols for users to select from.	1. Protocol in Analog a. CTCSS / CDCSS c. MDC 1200 b. 2 Tones d. Uni DVOA	●	●	●
		2. Protocol in Digital DMR, P25 (C)	●	●	●
		3. Protocol in Trunking system P25 (T) / PHASE I, PHASE II	●	●	●
E 2	Communication encryption (Fip #2 level)	1. Provide the AES 256 decryption to the voice, text and image receiving.	●	●	●
		2. Each TGID can be dependently set with the encryption key. a. The Radio Box can connect with the computer which used for the PS&DRT and Dispatch Console.	●	●	●
E 3	Call Alert	If the sending side cannot get the response when calling, he can leave the voice message to ask the individual receiving side to reply immediately.	●	●	●
E 4	Send text message with pre-programmed Canned Message	1. The Radio Box can send the messages programmed with "canned message" through PPS.	●	●	●
		2. User can use the pre-programmed can message as the content of text message.	●	●	●
E 5	Send text message with pre-programmed Canned Message	1. There are two types of Radio Box. a. Fixed Type: PC b. Client Type: Client Computer	●	●	●
		2. Radio Box can be connected with PS&DRT and Dispatch Console by USB.	●	●	●
		3. Functions of PS&DRT and Dispatch Console after connecting with the computer. a. Pager User Status ACK Monitoring Function can show dynamic Pager Status Monitoring and display all the status of every pager (Power On/ Off, Duty On/ Off, and In/ Out Range), so that the Disptach Center is able to know the status of the personnel. b. Dispatch Message - Auto Text Message (From 911 Center) c. Dispatch Message - Manual Text and Image Dispatch (From Dispatch Center) with P25 Conventional/ DMR/ P25 Trunking system d. Dispatch Message - Manual Voice Message Dispatch e. Dispatch Message - Receiving ACK Back Status Monitoring function supports Message Manual ACK (Canned Message ACK). The users can reply to the Dispatch Center whether they will join the mission and how long it will take by the pager, so that the Dispatch Center or the fire chief can arrange and dispatch the personnel efficiently and easily.	●	●	●

Pager Status Report & Message Receiving
ACK / Text Message Dispatch via Radio
System (Trunking & Conventional),
Pager Receiving Text Message Response
Solution.