

**DV 520** Digital Mobile Radio

**User Manual** 

deltaradiogroup.com

your local distributer.

5	Fuse
6	Mounting bracket
7	Instruction manual
8	GPS Antenna (optional part)
	7

# Thank you!

Thank you for purchasing this DV520 Digital mobile radio by DELTA. This product is designed and developed according to international standards.

Our products are tested using strict and rigorous test procedures with advanced test instruments and equipment to internationally recognized standards.

This manual should be read to ensure that the user understands the operation of the DV520. Please read the Safety information Manual before use.

# Safety Instructions

Please observe the following safety tips to prevent fire, accidents, personal injury or equipment damage.

Do not modify the radio or its changer in any way. Do not expose the radio to direct sunlight for extended periods

Do not store of use unprotected radios for prolonged periods in

of time, leave near heaters or other heat sources

areas of high dust ot excessive moisture. Users may experience signal interference if the unit is used near

devices such as TV or electric generators. If the units emits smoke or you notice a strange smell,

immediately turn off the power, and send it to the closest repair

The radios are small but contain high power components. It is not uncommon to notice slight warming of the handset. This is normal and the unit may be continued to be used.

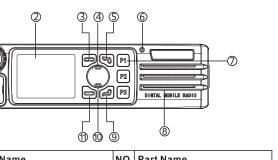
If there is any problem with the radio, please contact DELTA or

# Unpacking and Device Check

	Main body	5	Fuse	
	Hand microphone	6	Mounting bracket	
	Fixed mount and screws for hand microphone	7	Instruction manual	
	Power line	8	GPS Antenna(optional part)	
_				

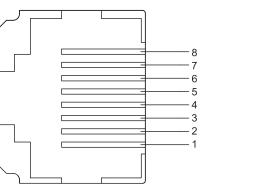
# **Product External View**

# Front panel



NO.	Part Name	NO.	Part Name	
1	Switch/volume knob	7	Programmable button	
2	LCD Display	8	speaker	
3	return key	9	Call key	
4	Up key	10	Down key	
5	Home key	11	Menu key	
6	Receive and transmit indicator	12	Hand microphone interface	

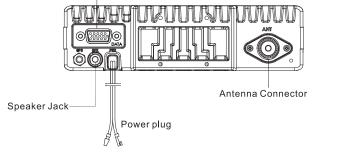
### Hand microphone interface description



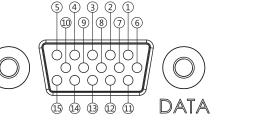
ı ber	Pin definition	Pin description	Remark	NO.	Part Name
	3.3V	+3.3V output	Frequency writer power supply	1	EXIT AF-IN
	vcc	+12V output	Hand microphone power supply	2	COMK1
	GND	Ground wire		3	GND
	0.1.5	Ground Willo	Mobile radio transmission /	4	+12V
	PTT/USB+	send data	reading and writing frequency, burning program	5	SPK-out
			burning program	6	COMK2
	ME	MIC (microphone) connected to the		7	EXIT MOD1
		ground wire		8	EXIT MOD2
	MIC	MIC(microphone) signal input		Progr	ammable key
	USB-	Receive data	Hand microphone signal input, read and write frequency, burning program		er to improve t ammable keys
	DKEY	Digital keypad command input	hand microphone with digital keyboard is effective		an be progran
	1 1	command mput	,	1	

# Rear panel

Data line socket



# Data socket interface description



NO. Part Name 9 MIC\_OUT 10 Exit RX AF

> 12 COMK3 grounded under the power system. Be sure to check the polarity 13 USB\_D+ and voltage of the power supply before installing the unit. 14 USB\_D-• Before installing the unit, be sure to check the length of the 15 GND

#### ammable key function

NO. Shortcut name use

er to improve the convenience of operation, the ammable keys of this unit are P1, P2 ,P3,call key ,and the an be programmed as a shortcut key (see the table below).

1	Power switching	Quickly adjust the transmit power		
2	Steady state monitoring [simulation]	Adjust signal reception matching		
3 Transient monitoring [analog]		condition		
4	Steady state canceling squelch [analog]	Always turn on the speaker whether		
5	Transient canceling squelch [analog]	or not there is a carrier		
6	Regional up	Quick selection area		
7	Regional down	Quick selection area		
8	scanning	Listen to communication activity on other channels		
9	Off-network	Direct communication with other terminals		
10	One-touch call 1-4 (DMR )	Call the shortcut key, press the one-touch call to enter the quick call mode, and then press the PTT to send the corresponding call assist service function.		
11	Broadcast local ID[number]	Set the broadcast local ID		
12	Broadcast channel number	Press to broadcast the current channel number		
13	Broadcast power	Set to press the local power		
14	Broadcast battery power	Set to press the local battery power		
15	Broadcast channel type	Set the current channel type by pressing the broadcast		
		·		

Note: Long press and short press of the same button can realize different functions, which are set by the user.

# Installation

Before installing this radio, please read the following installation precautions carefully.

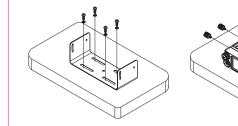
### Precautions

- This machine can only be in 13.6V ± 15 % The negative pole is
- screw protruding from the surface of the radio. Care should be taken when drilling the mounting holes so that the wiring or parts of the car must not be damaged.
- Connect the antenna and power cord to the radio before loading the radio into the mounting bracket
- Please use the mounting bracket provided by the European standard to ensure that the vehicle is not easy to loosen in an accident. If the radio is not fully fixed, it may cause physical injury to the passenger.
- Install the radio on a location that is convenient for front panel
- There should be enough space at the rear of the radio to make
- When replacing the fuse of the DC power cord, be sure to use a fuse of the same specification and do not replace it with a fuse with a higher fuse current.

#### Installation Kit

Electric drill, Phillips screwdriver, Hexagon socket

#### **Preparation Steps**



Bracket installation instructions

- 1. Install the u-bracket to the desired position
- 2. Put the platform on the u-frame and secure it with screws.

# LED indicator

The front panel LED indicator allows the user to determine the radio state

ndicator status	Radio status	intercom, please keep
Red LED is always on	Launching	when launching 5 cm.
Red LED flashing	1. Low voltage alarm,	Call
Red LED liastiling	2.USB upload data (When there is no USB upload data)	Initiate a call
Green LED is always on	Receiving	You can initiate a call i
Green LED flashes	Scanning	Make a call to a prese
Drange LED is always on	Start monitoring	In the standby interfac
	-	to the preset caller or

Connect hand microphone

#### LCD icon

Status indication

Icon name	Icon display	status description
Emergency alarm icon	Δ	The Radio is in an emergency alarm state or receives an emergency alarm
Battery level icon		The more the number of bars, the more battery power
Launch indicator icon	((1))	The Radio is in the launch state
Signal	Yıl	The Radio has a receiving signal
indicator icon	Ψ	Radio has no receiving signal
Transmit	L	Current channel power is low power
power icon	Н	Current channel power is high power
Squelch icon	<b>(</b> [0)	Speaker turned on
Monitor icon	q)	Monitoring function is turned on
Scan icon	9	The radio is in the scanning state
Lock button icon	Ð	Keyboard is locked
Off-line icon	916	Off-line function is turned on [some machines do not have this function]
	СТ	Transmit or receive sub-audio
Signaling icon	DN	Set to transmit or receive positive sub-digital
	DI	Set to transmit or receive anti-sound digital
	СТ	Already set to transmit or receive analog sub-audic

Already set to transmit or receive positive sub-digital

DI Already set to transmit or receive anti-sound digital

# Basic operation

#### Power on and off

Press the power button and hear a beep, the green light will light up e car will turn on, and then press the power button to turn off the car.

#### lume Control

otate the [Power/Volume] knob to adjust the volume, clockwise increase the volume, and counterclockwise to decrease the volume

### witching channels

he user can press the up and down keys to switch channels. he upper right corner of the LCD displays the alias of the curren nannel (CH:X), where X represents the channel number.

#### ne Selection

zone is a channel group, that is, you can include channels with e same attributes in one zone, so that you can effectively manage isting channels. The unit supports 100 zones, each zone containing o to 32 channels. There are two ways to select a region:

- Select through menu
- After entering the "Area" menu, press the [Up] / [Down] key to select the desired area, and then press the [Enter] key to switch to the selected area.
- Select by programming button

Press the programmed [Zone Up] or [Zone Down] button to switch to the desired area.

Remarks: You can enter the designated area and channel after booting through the dealer settings. If not specified, enter the area and channel where the last shutdown occurred.

In order to ensure the best receiving volume of the receiver's intercom, please keep the microphone about 2.5 to the mouth

Call and reception

#### Initiate a call

You can initiate a call in the following ways.

Make a call to a preset contact

In the standby interface, press and hold [PTT] to initiate a call

to the preset caller on the current digital channel. Remarks: You can preset a contact for each digital channel.

which can be a caller or a group call.

Or call the contact all the time.

• Initiate a call through the Contact List or Call Log 1 Select "Contacts- > Contact List" or select "Call History" to enter the list ofdialed / received / missed calls:

2 Use the [Up] / [Down] keys to select the caller you want to call;

3 Hold down [PTT] to initiate a call.

Initiate a call by manual dialing

1 Select "Contacts- > Manual Dialing" to enter the dialing

2 Enter the number of the call you want to call through the handheld\(\mathbf{m}\)icrophone with keyboard;

3 Hold down [PTT] to initiate a call.

Receive and reply to a call

After receiving a call, press [PTT] for a preset time to send a callback. If the callback is not made, the missed call alert icon is displayed. To remind you.

### Group call

### Initiate group call

You can initiate a group call in the following ways.

 Make a call to a preset contact In the standby interface, press and hold [PTT] to initiate a

group call to the group call contact preset on the current digital

Initiate a call through the Contact List

1 Select "Contact -> Contact List": 2 Use the [Up] or [Down] keys to select the group call contact

you want to call;



**DV 520** Digital Mobile Radio

**User Manual** 

# www.deltaradiogroup.com

# Thank you!

Thank you for purchasing this DV520 Digital mobile radio by DELTA. This product is designed and developed according to international standards.

Our products are tested using strict and rigorous test procedures with advanced test instruments and equipment to internationally recognized standards.

This manual should be read to ensure that the user understands the operation of the DV520. Please read the Safety information Manual before use.

# Safety Instructions

Please observe the following safety tips to prevent fire, accidents, personal injury or equipment damage

Do not modify the radio or its changer in any way. Do not expose the radio to direct sunlight for extended periods

of time, leave near heaters or other heat sources.

Do not store of use unprotected radios for prolonged periods in areas of high dust of excessive moisture.

Users may experience signal interference if the unit is used near devices such as TV or electric generators.

If the units emits smoke or you notice a strange smell, immediately turn off the power, and send it to the closest repair

The radios are small but contain high power components. It is not uncommon to notice slight warming of the handset. This is normal and the unit may be continued to be used.

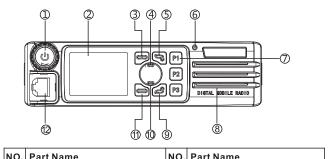
If there is any problem with the radio, please contact DELTA or your local distributer.

# Unpacking and Device Check

Main body	5	Fuse	
Hand microphone	6	Mounting bracket	
Fixed mount and screws for hand microphone	7	Instruction manual	
Power line	8	GPS Antenna (optional part)	

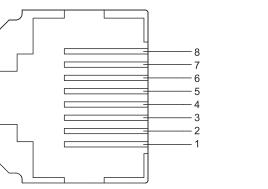
# **Product External View**

# Front panel



Ο.	r art Name	NO.	raitivanie	
1	Switch/volume knob	7	Programmable button	
2	LCD Display	8	speaker	
3	return key	9	Call key	
4	Up key	10	Down key	
5	Home key	11	Menu key	
6	Receive and transmit indicator	12	Hand microphone interface	

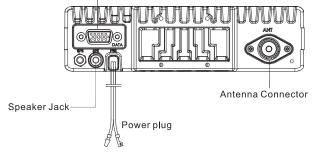
### Hand microphone interface description



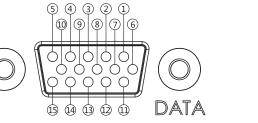
n ber	Pin definition	Pin description	Remark	NO.	Part Name	
	3.3V	+3.3V output	Frequency writer power supply	1	EXITAF-IN	
,	VCC	+12V output	Hand microphone power supply	2	COMK1	
·	GND	Ground wire		3	GND	
		0.04.14.11.10	Mobile radio transmission /	4	+12V	
ļ	PTT/USB+	send data	reading and writing frequency,	5	SPK-out	
			burning program	6	COMK2	
	ME	MIC (microphone) connected to the		7	EXIT MOD1	
•		ground wire		8	EXIT MOD2	
;	MIC	MIC(microphone) signal input		Progr	ammable key fun	ction
,	USB-	Receive data	Hand microphone signal input, read and write frequency, burning program	In orde	er to improve the co ammable keys of th	nvenie
;	DKEY	Digital keypad command input	hand microphone with digital keyboard is effective	userc	an be programmed	as a sl
		command riput	,	NO.	Shortcut name	use

### Rear panel

Data line socket



### Data socket interface description



# NO. Part Name 9 MIC OUT 10 Exit RX AF

• This machine can only be in 13.6V ± 15 % The negative pole is 12 COMK3 13 USB\_D+ and voltage of the power supply before installing the unit. 14 USB\_D-• Before installing the unit, be sure to check the length of the 15 <u>GND</u>

#### grammable key function

rder to improve the convenience of operation, the grammable keys of this unit are P1, P2, P3, call key, and the r can be programmed as a shortcut key (see the table below)

L			
	1	Power switching	Quickly adjust the transmit power
	2	Steady state monitoring [simulation]	Adjust signal reception matching
	3	Transient monitoring [analog]	condition
	4	Steady state canceling squelch [analog]	Always turn on the speaker whether
	5	Transient canceling squelch [analog]	or not there is a carrier
	6	Regional up	Quick selection area
	7	Regional down	Quick selection area
	8	scanning	Listen to communication activity on other channel
	9	Off-network	Direct communication with other terminals
	10	One-touch call 1-4 (DMR )	Call the shortcut key, press the one-touch call to enter the quick call mode, and then press the PTT to send the corresponding call assist service function
	11	Broadcast local ID[number]	Set the broadcast local ID
	12	Broadcast channel number	Press to broadcast the current channel number
	13	Broadcast power	Set to press the local power
	14	Broadcast battery power	Set to press the local battery power
	15	Broadcast channel type	Set the current channel type by pressing the broadcast

Note: Long press and short press of the same button can realize different functions, which are set by the user.

# Installation

Before installing this radio, please read the following installation precautions carefully.

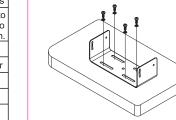
# Precautions

- grounded under the power system. Be sure to check the polarity
- screw protruding from the surface of the radio. Care should be taken when drilling the mounting holes so that the wiring or parts of the car must not be damaged.
- Connect the antenna and power cord to the radio before loading the radio into the mounting bracket.
- Please use the mounting bracket provided by the European standard to ensure that the vehicle is not easy to loosen in an accident. If the radio is not fully fixed, it may cause physical injury to the passenger.
- Install the radio on a location that is convenient for front panel
- There should be enough space at the rear of the radio to make
- When replacing the fuse of the DC power cord, be sure to use a fuse of the same specification and do not replace it with a fuse with a higher fuse current.

#### Installation Kit

Electric drill, Phillips screwdriver, Hexagon socket

### **Preparation Steps**



Bracket installation instructions

- 1. Install the u-bracket to the desired position
- 2. Put the platform on the u-frame and secure it with screws.

# LED indicator

The front panel LED indicator allows the user to determine the radio state

Indicator status	Radio status	
Red LED is always on	Launching	
Pod I ED floobing	1. Low voltage alarm,	
Red LED flashing	2.USB upload data (When there is no USB upload data)	
Green LED is always on	Receiving	
Green LED flashes	Scanning	
Orange LED is always on	Start monitoring	

Connect hand microphone

### LCD icon

Scan icon

Status indication

Icon name	Icon display	status description	Press the power button and hear a beep, the green light will li the car will turn on, and then press the power button to turn off the  volume Control  Rotate the [Power/Volume] knob to adjust the volume, clo to increase the volume, and counterclockwise to decrease the
Emergency alarm icon	Δ	The Radio is in an emergency alarm state or receives an emergency alarm	
Battery level icon		The more the number of bars, the more battery power	
Launch indicator icon	((1))	The Radio is in the launch state	
Signal indicator icon	Yıl	The Radio has a receiving signal	Switching channels  The user can press the up and down keys to switch channels
	Ψ	Radio has no receiving signal	

#### Zone Selection

A zone is a channel group, that is, you can include channels with the same attributes in one zone, so that you can effectively manage existing channels. The unit supports 100 zones, each zone containing up to 32 channels. There are two ways to select a region:

The upper right corner of the LCD displays the alias of the curren

channel (CH:X), where X represents the channel number.

- 1. Select through menu
- After entering the "Area" menu, press the [Up] / [Down] key to select the desired area, and then press the [Enter] key to switch to the selected area.
- Select by programming button

Press the programmed [Zone Up] or [Zone Down] button to switch to the desired area.

Remarks: You can enter the designated area and channel after booting through the dealer settings. If not specified, enter the area and channel where the last shutdown occurred.

# Call and reception In order to ensure the best receiving volume of the receiver's

intercom, please keep the microphone about 2.5 to the mouth when launching 5 cm.

which can be a caller or a group call.

- Initiate a call through the Contact List or Call Log
- enter the list ofdialed / received / missed calls:
- 3 Hold down [PTT] to initiate a call.
- 1 Select "Contacts- > Manual Dialing" to enter the dialing
- 2 Enter the number of the call you want to call through the
- 3 Hold down [PTT] to initiate a call.
- Receive and reply to a call

After receiving a call, press [PTT] for a preset time to send a callback. If the callback is not made, the missed call alert icon is displayed. To remind you.

# Group call

You can initiate a group call in the following ways.

- In the standby interface, press and hold [PTT] to initiate a
- group call to the group call contact preset on the current digital
- 1 Select "Contact -> Contact List";

you want to call;

DN Already set to transmit or receive positive sub-digital

The radio is in the scanning state Lock button icon Keyboard is locked Off-line function is turned on [some machines do not have this function] Transmit or receive sub-audio

Speaker turned on

Current channel power is low power

Monitoring function is turned on

Current channel power is high power

Set to transmit or receive positive sub-digital

Set to transmit or receive anti-sound digital

Already set to transmit or receive analog sub-audio

Already set to transmit or receive anti-sound digital

Basic operation

Power on and off

In the standby interface, press and hold [ PTT ] to initiate a call

Make a call to a preset contact

Make a call to a preset contact

Initiate a call

You can initiate a call in the following ways.

Or call the contact all the time.

2 Use the [Up] / [Down] keys to select the caller you want to call;

to the preset caller on the current digital channel. Remarks: You can preset a contact for each digital channel,

1 Select "Contacts- > Contact List" or select "Call History" to

handheld microphone with keyboard;

Initiate group call

Initiate a call through the Contact List

2 Use the [Up] or [Down] keys to select the group call contact