

# TEAM PT-2208S



Freenet-  
&  
optional  
erweiterbares  
VHF-  
Betriebsfunkgerät

Bedienungsanleitung  
Manual  
Mode d'emploi

**TEAM**  
electronic

# TEAM PT-2208S

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## Anzeige- und Bedienelemente:

- 1) abnehmbare Antenne / SMA-Anschluß
- 2) Kontrolllampe
- 3) Kanaldrehwahlschalter, 16stufig [1 – 15, S]
- 4) Lautstärkeregler, kombiniert mit Ein-/Aus-Schalter [VOLUME/OFF]
- 5) PTT-Taste [PTT]
- 6) Monitor-Taste
- 7) Doppelbuchse Ø 2,5/3,5 mm [SPK/MIC]
- 8) Lautsprecher
- 9) Akkumulator

## Displays and Controls:

- 1) detachable antenna / SMA connector
- 2) Control lamp
- 3) Rotary Channel Selector, 16-step [1 – 15, S]
- 4) Volume Control with ON/OFF switch [VOLUME/OFF]
- 5) PTT Key [PTT]
- 6) Monitor Key
- 7) Double Socket Ø 2,5 / 3,5 mm [SPK/MIC]
- 8) Loudspeaker
- 9) Accumulator

## Éléments de commande

- 1) Antenne démontable / SMA connexion
- 2) Lampe témoin
- 3) Sélecteur rotatif de canaux à 16 gradins [1 – 15, S]
- 4) Réglage du volume et marche / arrêt [VOLUME/OFF]
- 5) Touche d'émission [PTT]
- 6) Touche monitor
- 7) Prise double Ø 2,5/3,5 mm [SPK/MIC]
- 8) Haut-parleur
- 9) Accumulateur



# TEAM PT-2208S

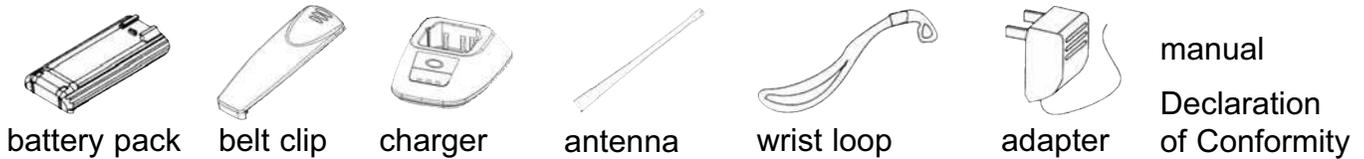
## Manual

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## Setting up the TEAM PT-2208S

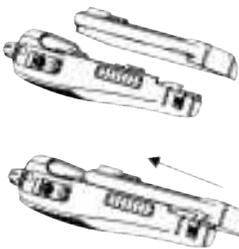
Unpack carefully your UHF radio PT-2208S. Please check whether the supplied material matches with the positions listed below. In case of loss or damage of a part contact your carrier at once.



This transceiver is a heavy duty Freenet radio, which can be optionally modified by your dealer also into a professional transceiver together with the Freenet channels. In this unit only the channels 1 – 3 are already factory-preset to the Freenet channels, i.e. the number of the rotary channel selector position corresponds with the actual Freenet channel. The positions 4 – 16 are free according to the factory setting. The TX output power on the Freenet channels is reduced to 500 mW in the radiated field according to the European regulation. See in the chapter “technical data“ for the table of the Freenet channel numbers together with the corresponding frequencies. When the unit remains in pure Freenet operation, it is free of charge and registration in most European countries.

If you want to use the unit as a professional transceiver, you have to contact your local telecommunication authorities. You may be required to pay costs of registrations and annual fees for every unit and for every frequency. If your application is passed, you can go to your dealer and let him set your PT-2208S to the permitted frequency(ies) and adjustments.

### Mounting of the Accumulator



At first turn the rear panel towards you. Place the accumulator ( 9 ) in that way on the unit's rear panel that the 4 slip planes of the unit grip into the corresponding guiding slots of the accumulator, and that the accumulator's charging contacts show into the direction of the unit's base. Then push the accumulator under simultaneous slight pressure on its back into the direction of the unit's top side, until the latch on the unit's base clicks into place. Now the unit is ready for radio operation.

### Detaching of the Accumulator



Turn again the unit's rear panel towards you. To release the accumulator from the unit you have to pull the latch on the unit's base with your finger towards the unit's front panel, while pushing simultaneously the accumulator towards the unit's base. After the accumulator is slid out of the unit's slip planes you can take it off.

### Removing and mounting of the belt clip

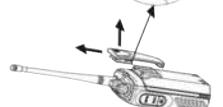
Turn the rear panel towards you.

#### Mounting of the Belt Clip



Pull the springy support of the belt clip a bit out of its rest position by using your index finger and your middle finger. When the support is parallel to belt clip's main part insert it from above into the corresponding guide on the back of the accumulator. Push the belt clip into the direction of the unit's base until the belt clip's latch clicks into place.

#### Detaching



The latch of the belt clip is located on the accumulator's back near the top side. Pull the latch with your fingernail away from the accumulator's back and push simultaneously the belt clip towards the unit's top side. After the belt clip is slid out of its guide you can take it off.

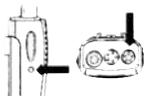
## Operation of the TEAM PT-2208S

### 1) Turning the unit On/Off



To turn on the unit rotate the volume control with ON/OFF switch [VOLUME/OFF] ( 4 ) from its rest position clockwise until you hear a click. A short beep tone will be heard from the loudspeaker ( 8 ), which indicates that the unit is in reception mode. To switch off the unit rotate the volume control with ON/OFF switch [VOLUME/OFF] ( 4 ) counter-clockwise to the final stop [OFF] until you hear a click. This indicates that the unit is switched off now.

### 2) Volume level adjustment



If a radio operator sends a message on the actual channel, you can hear it in the incorporated loudspeaker ( 8 ). If the actual channel is free, the loudspeaker will be silent. In this case you can produce a strong noise in the loudspeaker by pressing the monitor key ( 6 ). Adjust the volume control [VOLUME/OFF] ( 4 ) to a comfortable listening level. Turning the control clockwise will increase the volume level and turning it counterclockwise will reduce the volume level.

### 3) Channel selection



The TEAM PT-2208S has maximal 16 channels available. To select another channel turn the rotary channel selector [1-15, S] ( 3 ). According to the programming of the channels, which has been made by your dealer, the unit will call up those transmit and reception frequencies which correspond to the actual position 1 – 15 ( 16 ) of the rotary channel selector.

Note: If the rotary channel selector is set to a un-programmed position, you will hear a continuous warning tone in the loudspeaker.

### 4) Transmission

Do not transmit if the antenna ( 1 ) is not mounted. Check activity on the actual channel. Do not send if someone talks on the actual channel. Only if the loudspeaker is silent and the indicator light ( 2 ) is dark, the channel is free. Press also the monitor key ( 6 ). There must be a noise if the channel is not occupied.

To transmit depress and hold the PTT key ( 5 ). During transmission the indicator light ( 2 ) lights up red and the rotary channel selector is disabled. Hold the unit upright. The sensitivity of the built-in microphone is set for speaking at a distance of 2 inches. Speaking too loud will cause distortions and makes the signal difficult to understand. On completion of the transmission release the PTT key and the set will return to receive mode.

Note: Radio operation is only possible with the counter operator at coinciding channels.

### 5) Receiving

After being switched on, the unit is always in receiving mode, as long as it is not transmitting. When it does not receive any signal on the actual channel, it would produce a disturbing noise in the loudspeaker ( 8 ). For this end the unit is equipped with a built-in noise suppression circuit ( squelch ) that mutes the receiver if there is no signal on the actual channel. If there is any incoming signal, the squelch will turn the loudspeaker on and cause the indicator light ( 2 ) simultaneously to light up green. This indicates that the channel is occupied. Your dealer can adjust the squelch threshold. The squelch function can be disabled to hear also weak signals which are not strong enough for the squelch to turn the loudspeaker on ( monitor function ).

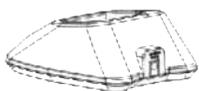
Depress the monitor key ( 6 ). Now the noise suppression is shut off and the indicator light lights up green simultaneously. If there is no station on the actual channel you hear a noise in the speaker. To reactivate the squelch release the monitor key ( 6 ) again. Thus the squelch works again. The monitor key function can also be changed by your dealer. For further information see point 4 of the chapter "Auxiliary functions of the PT-2208S".

### 6) Sockets for External Speaker-Microphone

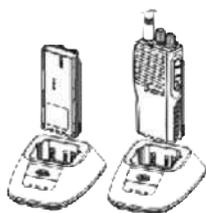


Behind the screw-fixed cover on top of the unit's right side you can find two jack sockets for stereo plugs  $\varnothing 2,5/3,5$  mm [SPK/MIC] ( 7 ). They serve for the connection of a speaker-microphone with PTT function or for a separate microphone or a separate speaker. As already indicated on the cover, the upper socket is for the speaker and the lower socket is for the microphone. The internal speaker and/or the internal microphone will be switched off, if the socket for the corresponding external accessory is in use.

### 7) Charging of the accumulator:



Insert the DC connector of the power cord coming from the adapter into the socket on the rear of the charging mould. Then connect the adapter with a wall outlet ( 230 V, 50 Hz ).



As a result the middle LED ( POWER ) on the charging mould lights up green, which indicates that the charger is ready for operation now.

The accumulator is not charged in the factory. Therefore it must be charged before it is used the first time. Now insert the transceiver with mounted accumulator or only the accumulator itself into the charging mould. The front panel must show into the direction of the push button, or the charging contacts to the rear.

The green shining LED ( POWER ) on the charging mould switches itself off, and the LED ( CHARGING ) lights up red now, which indicates that the charging process has started. During the charging process a device in the charging mould checks constantly the charging content of the accumulator. When the charging mould has detected that the accumulator is completely charged, the red LED ( CHARGING ) switches itself off, and the LED ( POWER ) lights up green again.

The charging current is reduced to a very little value now ( trickle charge ), just to compensate the self-discharging current. Now you can take out the transceiver with mounted accumulator or only the accumulator itself from the charging mould.

The charging time of a totally discharged accumulator amounts to 3 – 4 hours, a partially discharged accumulator needs less time.

The charging control device can also detect a defective accumulator. In case of a normally worn-out accumulator the red LED ( CHARGING ) lights up only for a short time, and then the LED ( POWER ) will light up green again. In case of a short-circuit in the accumulator no LED will light up at all. In case of an overheating of the accumulator the middle LED ( POWER ) on the charging mould lights up yellow.

The button on the charging mould has no function.

Never try to recharge alkaline cells or other accumulators than the supplied one with the charging mould.

### 8) Accumulator Alert Indication

The unit is equipped with a accumulator level monitoring circuit which alerts you, when the stored energy is nearly completely used up. If the accumulator voltage drops below a certain value in transmission mode, you will hear a warning tone in the speaker. If the accumulator voltage drops below this value while transmitting, the indicator light ( 2 ) starts to flash red. After releasing the PTT key and pressing it once again now, the unit will not transmit any more. Now it is time to recharge the accumulator.

## Scan function of the TEAM PT-2208S

The scan function must be installed into your transceiver by your dealer, before you can use it. If it is not installed, there is another channel available on position [S] ( = 16 ) of the rotary channel selector. In the description below it is assumed that the scan function is active. Ask your dealer for more details.

### 1) Start of the scan function

When you turn the rotary channel selector on position [S] ( = 16 ) the unit runs through all channels which your dealer has selected for the scan function ( scanning list ). If there is a radio operator signal on one channel which is strong enough to open the squelch, the scan function will pause on that channel. You can hear the partner station but the scan remains active.

### 2) End of the scan function

When you turn the rotary channel selector on a position between 1 and 15 the scan function is not active.

### 3) Restart of the scan function

Your dealer can select between two conditions under which the scan function restarts stepping through the scanning list when it has previously stopped on an occupied channel:

- a) Time control: The scan function restarts working after a dealer-set dwell time between 0.5 and 5 s, beginning from the moment of stopping on that channel. The dwell time does not depend on whether the channel is free or still occupied.
- b) Carrier wave control: The scan function restarts working 3 s after the radio operator signal has dropped below the squelch threshold.

### 4) Transmission during activated scan function

Your dealer can select one of 4 different criteria to determine the transmit frequency while the scan function is active:

- a) Selected channel: When pressing the PTT key while the scan function is active the unit transmits basically on the first channel of the scanning list, i.e. the channel with the lowest channel number.
- b) Selected channel or actual channel: When the pressing of the PTT key occurs while the scan function is stepping through the scanning list, the unit transmits on the first channel of the scanning list. When the pressing of the PTT key occurs while the scan function is resting on a channel, the unit transmits on this channel.
- c) Prior channel: When pressing the PTT key while the scan function is active the unit transmits basically on the prior channel, i.e. any channel of the scanning list which your dealer can select.
- d) Prior channel or actual channel: When the pressing of the PTT key occurs while the scan function is stepping through the scanning list, the unit transmits on the prior channel. When the pressing of the PTT key occurs while the scan function is resting on a channel, the unit transmits on this channel.

Note: Once a channel is selected for transmit mode, you can send your entire message on this channel. After you have released the PTT key the unit will still stay for a dealer-set dwell time between 0.5 and 5 s on this channel, before the channel scanning is restarted again.

## Auxiliary functions of the TEAM PT-2208S

These functions must be installed into your transceiver by your dealer, before you can use them. In the description below it is assumed that the functions are active. Ask your dealer for more details.

### 1) Transmit time limiter

The transmit time limiter ( = time-out-timer ) has the effect of limiting the maximum time for continuous transmitting on a channel. This transmit duration limit can be adjusted in steps between 0.5 and 5 minutes by your dealer. If the transmit time exceeds the actual transmit duration limit during your message, the transmitter will shut off automatically, and you will hear a warning tone in the speaker. To stop the warning tone and to reactivate the transmitter you have to release briefly the PTT key.

### 2) Busy channel lockout function

The lockout function for busy channels has the effect to prevent the unit from interfering with other stations. If there is a signal on the actual channel at the moment when you press the PTT key, the transmitter will not be switched on. In this situation you will only hear a warning tone in the speaker. When you release the PTT key the warning tone will be stopped and the set will revert to receiving mode. You can only send if there is no signal on the actual channel at the moment when you press the PTT key.

### 3) Energy saving function

The unit is equipped with an energy saving function. This function is factory set in your unit. This function works only in receive mode. It reduces the current consumption when no signal is detected on the actual channel and the rotary channel selector is not turned for a period of 10s. If you do not use the unit for a long period of time, you should switch it off.

### 4) Additional muting function

The unit is also equipped with a possibility to suppress messages of unwanted operators on the actual channel while the message of the partner station remains audible. To identify the wanted radio messages there are two methods available: CTCSS and DCS.

#### CTCSS method ( = Continuous Tone Coded Squelch System )

The wanted radio message must contain a certain inaudible tone, which the CTCSS detecting circuit of the receiving unit recognises and which can take the additional muting device out of service. In transmit mode the unit adds to its voice signal also a certain inaudible tone which will be recognised by the CTCSS detecting circuit of the counter station's receiver to open its additional muting device.

#### DCS method ( Digital Coded Squelch )

The digital pulse detecting circuit of the receiving unit checks if the received signal contains any digital pulses. If it has identified a certain sequence of digital pulses as the opening code of the wanted message, the muting device lets the radio message pass from that moment on. In case of sending DCS coded messages the unit transmits immediately, after the PTT key has been pressed down, a certain sequence of digital pulses, too. These pulses will be recognised by the digital pulse detecting circuit of the counter station's receiver, which gives an order to the muting device to let the radio message pass to the speaker from that moment on. The duration of the sequence of digital pulses is very short, so you can start to speak without waiting after you have pressed the PTT key.

Please take into account that other radio operators, who are not equipped with a CTCSS or DCS coding/encoding device, or who don't use it, can hear all your conversation if they are working on the same channel like you and your counter operator.

Your dealer can install for each channel separately the CTCSS or DCS operation. It is also possible to set at the same channel different operation types for receive and transmit mode. But if you do not want the CTCSS or DCS operation at all, you can take it as well out of service.

If the CTCSS or DCS operation is installed in receiving mode on the actual channel, and if there is a radio operator on this channel who uses either no CTCSS or DCS operation or a not according one, you will see only the indicator light ( 2 ) lighting up green, but the speaker will be silent. This shows you that the channel is occupied and that you should not transmit on this channel for not disturbing the other station.

The CTCSS method allows your dealer to select one of 38 different inaudible tones to encrypt your messages between you and the wanted radio operator. If you use the DCS method your dealer will have 166 different digital codes to encrypt your messages between you and the wanted radio operator.

The monitor key stops besides the noise suppression also a possible CTCSS or DCS operation in the receiver. The monitor key function can be changed in that way by your dealer that only the

1) Safety

The unit radiates RF energy in transmitting mode. To reduce the exposure to the lowest possible value and to benefit the most of the set's features, keep the following in mind:

In transmission mode, keep the unit in a vertical position at a distance of 2 inches away from your face. Keep the antenna at a distance of at least 3 inch away from your head and your body.

2) Service

The condition of the accumulator must be tested from time to time. If the accumulator is weak a short time after complete charge, it should be removed from the set. It can leak and damage the device. Replace it by a new one.

Worn out accumulators do not belong into the waste bin. Bring them to a suitable collecting depot or to a special dealer, for the sake of the environment.

There are no user-adjustable or user-serviceable parts inside the radio. The casing must not be opened. Independent repairs or adjustments must not be carried out, since each modification or unauthorised intervention will immediately cancel all and any guarantee or repair claims, they are also likely to result in non-conformity to ETS/EN regulations which will render the set to become illegal.

In the event a defect becoming apparent, contact a properly equipped and authorised TEAM dealer or TEAM directly.

3) Conformity

The transceiver TEAM PT-2208S complies with the rules of the European Directive R&TTE and meets the European Telecommunication Standards EN 300 086-2, EN 301 489-1/-5 and EN 60065.

4) Programmed Channels

Channel	Transmit Frequency (MHz)	Encryption Tx	Reception Frequency (MHz)	Decryption Rx	Bandwidth Narrow / Wide
1	149,0250 MHz		149,0250 MHz		narrow
2	149,0375 MHz		149,0375 MHz		narrow
3	149,0500 MHz		149,0500 MHz		narrow
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

5) Programmed functions

Insert below the functions that your dealer has programmed into your transceiver.

Condition to Restart the Channel Scan Function

Time Control	Carrier Wave Control
Duration [ s ]	

Channel Scanning

activated	deactivated

**Transmit Channel during Active Channel Scan Function**

Selected Channel	Selected Channel or actual Channel	Prior Channel	Prior Channel or actual Channel

**Function of the Monitor Key**

Out of Function	Stopping briefly CTCSS & DCS	Stopping CTCSS & DCS in toggle mode	Stopping briefly Noise Squelch CTCSS & DCS

**Transmit Time-Out-Timer**

Duration [s]

**6) Technical Data**

**Freenet Frequency Range**

Channel	Frequency [ MHz ]	Channel	Frequency [ MHz ]	Channel	Frequency [ MHz ]
1	149,0250	2	149,0375	3	149,0500

Channel spacing:	12.5 kHz
Radiated Tx output power:	500 mW
Modulation type:	8K5F3E
Deviation:	max. 2.5 kHz ( narrow )
RX sensitivity:	+ 0,28 µV ( narrow )
Audio output power:	0.56 W at 8 Ω at 10 % THD
Supply voltage:	6 – 8 V
Current consumption:	Tx: 490 mA
<b>Professional radio communication:</b>	
Frequency range:	150 MHz – 174 MHz
Frequency step size:	6.25 kHz; 5 kHz
Channel separation:	narrow: 12.5 kHz / wide: 25 kHz
Tx output power:	max. 5 W
Modulation type:	FM
Deviation:	narrow: 2.5 kHz / wide: 5 kHz
RX sensitivity:	narrow: + 0,28µV / wide: 0,75µV
Audio output power:	0.56 W at 8 Ω at 10 % THD
Supply voltage:	6 – 8 V
Current consumption:	Tx ( Low ): 490 mA; Tx ( High ): 1.5 A
Tx and AF out 560 mW :	180 mA
Standby without power down :	60 mA
Standby with power down :	30 mA
Dimensions ( cabinet ):	W/H/D: 59 x 117 x 42 mm
Weight with batteries and antenna:	322 g

CTCSS-Töne • CTCSS tones • Fréquences des tons CTCSS :

Code	Frequ. (Hz)								
1	67,0	10	94,8	18	123,0	26	162,2	34	218,1
2	71,9	11	97,4	19	127,3	27	167,9	35	225,7
3	74,4	12	100,0	20	131,8	28	173,8	36	233,6
4	77,0	13	103,5	21	136,5	29	179,9	37	241,8
5	79,7	14	107,2	22	141,3	30	186,2	38	250,3
6	82,5	15	110,9	23	146,2	31	192,8		
7	85,4	16	114,8	24	151,4	32	203,5		
8	88,5	17	118,8	25	156,7	33	210,7		

DCS-Codes

Code	Code	Code	Code	Code	Code
D023N	D114N	D174N	D315N	D445N	D631N
D025N	D115N	D205N	D331N	D464N	D632N
D026N	D116N	D223N	D343N	D465N	D654N
D031N	D125N	D226N	D346N	D466N	D662N
D032N	D131N	D243N	D351N	D503N	D664N
D043N	D132N	D244N	D364N	D506N	D703N
D047N	D134N	D245N	D365N	D516N	D712N
D051N	D143N	D251N	D371N	D532N	D723N
D054N	D152N	D261N	D411N	D546N	D731N
D065N	D155N	D263N	D412N	D565N	D732N
D071N	D156N	D265N	D413N	D606N	D734N
D072N	D162N	D271N	D623N	D612N	D743N
D073N	D165N	D306N	D431N	D624N	D754N
D074N	D172N	D311N	D432N	D627N	

DCS-Codes

Code	Code	Code	Code	Code	Code
D023I	D114I	D174I	D315I	D445I	D631I
D025I	D115I	D205I	D331I	D464I	D632I
D026I	D116I	D223I	D343I	D465I	D654I
D031I	D125I	D226I	D346I	D466I	D662I
D032I	D131I	D243I	D351I	D503I	D664I
D043I	D132I	D244I	D364I	D506I	D703I
D047I	D134I	D245I	D365I	D516I	D712I
D051I	D143I	D251I	D371I	D532I	D723I
D054I	D152I	D261I	D411I	D546I	D731I
D065I	D155I	D263I	D412I	D565I	D732I
D071I	D156I	D265I	D413I	D606I	D734I
D072I	D162I	D271I	D623I	D612I	D743I
D073I	D165I	D306I	D431I	D624I	D754I
D074I	D172I	D311I	D432I	D627I	

# TEAM PT-2208S

für den Vertrieb und Betrieb als Freenet/Betriebsfunkgerät in Deutschland,

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