

# Stryker SR-447HPC2

- Brilliant 7 color LED back-lit face plate
- High Power 65+ watts PEP output power
- Ultra-High Fidelity Modulation Circuitry
- Advanced NB/ANL reduces interference
- Digital echo & variable talkback volume
- AM/FM/PA
- PC programmable
- 3 year factory warranty



## USER'S MANUAL

# 10 METER RADIO



## ■ INTRODUCTION

Congratulations on your purchase of a Stryker 10 meter mobile amateur transceiver. Your Stryker is designed to provide years of enjoyment and trouble-free service. There are many features and functions designed into this transceiver to give you incredible performance both on transmit & receive. To ensure that your investment is enjoyed to its fullest extent, please take a few moments and thoroughly read this manual.

### **SWR High**

If you notice your radio doesn't transmit when the microphone is keyed and the channel display is showing "E4", this indicates you have a high SWR and the radio won't transmit to prevent you from damaging your radio. Please have your checked either by a competent radio shop.



## INSTALLATION

### 1. Contents

Unpack and inspect your Stryker SR-447HPC2 for missing or damaged Components.

Quantity	Description
1	Stryker SR-447HPC2 Transceiver
1	Microphone
1	DC Power Cord with Inline Fuse
1	Mounting Bracket with Hardware
1	Microphone Hanger with Hardware Set

### Location

Plan the location of the transceiver and microphone brackets before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passengers in the vehicle. In automobiles, the transceiver is usually mounted below the dash panel, with the microphone bracket beside it.

### Mounting

Your mobile radio is supplied with a universal mounting bracket. When mounting the bracket and radio to your car, make sure it is mechanically strong. Also provide a good electrical connection to the chassis of the vehicle. Proceed as follows to mount the transceiver:

#### Mount the Transceiver

After you have determined the most convenient location in your vehicle, hold the mobile radio with the mounting bracket in the exact location desired. If nothing will interfere with mounting it in the desired position, remove the thumbscrews and use the mounting bracket as a template to mark the holes for the mounting screws. Before drilling the holes, make sure nothing behind the surface will be damaged or interfere with the installation.

### Electrical Connections

The Stryker SR447 is designed to work on any 13.8 volt DC, negative ground electrical source. The condition of a vehicle's electrical system can have a profound affect on the performance of the radio. A low battery, worn generator/alternator, or poor voltage regulator will seriously impair the performance of the transceiver. Any of the above conditions could result in a high level of receiver noise generation or a Substantial loss of the transmitter's RF output. Make sure that all these components on your vehicle's electrical system are in good condition prior to installing the transceiver.

1. Before making any electrical connections make sure the volume (VOL) control is in the "OFF" position.
2. Connect the positive (+) red wire of the DC power cord to a positive 13.8-volt source at the vehicle fuse block. If connecting to the fuse block, it is recommended that a switched power source be used so that the power to the Transceiver is disconnected when the vehicle is off. This eliminates the possibility the transceiver draining the vehicle's battery.
3. Connect the negative (-) black wire to a metal part of the vehicle's frame, or chassis ground. Make sure that this is a good ground connection.

### Antenna Connections

The Stryker SR-447 has a jack in the rear for a standard PL-259 antenna plug. If you are looking for the most range for your transmission, use a vertically polarized, quarter-wave length antenna. If antenna height is a problem, you may use a shorter, loaded-type whip antenna although you can expect some loss of transmission range. Your antenna should always be adjusted for the lowest possible SWR (1.5 or less.) To adjust your antenna for best performance, you can take advantage of your radio's built in SWR meter. Failure to properly adjust your antenna(s) will diminish your operational range and could result in damage to your

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radio. Damage that results from operating with high SWRs is not covered under your factory warranty!

### **Tuning the Antenna for Optimum SWR**

**For maximum performance we recommend the Stryker SR-A10 Trucker antenna or the Stryker SR-5K Magnetic Mount.**

Antenna length is directly related to signal frequency. Therefore, it must be tuned to resonate optimally throughout the frequency range of the transceiver.

Lower frequencies require a longer antenna than higher frequencies.

Due to the various methods of adjusting antennas for proper SWR, we have chosen what we think is the optimum method:

#### **A. Antennas with adjustable screws (setscrews).**

1. Start with the antenna extended and tighten the setscrew lightly enough so that the antenna can be lightly tapped with your finger for easy adjustment.
2. Set your Stryker radio to your desired operating frequency or the center of the range of frequencies you plan to use. Press the PTT (Press-To-Talk) switch, and tap the antenna (making it shorter). The SWR meter will show a lower reading each time the antenna is tapped. By continuing to shorten the antenna, you will notice the SWR reading will reach a low point and then start rising again. This means that you have passed the optimum point for the middle frequency.
3. Extend the antenna a short distance and again follow the procedure above.
4. When the lowest point has been reached, switch to the lowest frequency you plan to operate on and then to the highest and compare SWR readings. They should be almost equal.

#### **B. Antennas that must be cut to proper length.**

1. Follow the procedure as in A above, but adjust the length by cutting in 1/8" increments until a good match is obtained.
2. Be very careful not to cut too much off the antenna at one time. Once it is cut, it can no longer be lengthened.

3. The whip is easily cut by filing a notch all the way around, then breaking the piece off with pliers.

#### **NOTE:**

The proper setting is achieved when the SWR is 1.5 or below and when it has the same reading for the low and high frequencies in the range you plan to use.

#### **External Speaker**

The external speaker jack (EXT) on the rear panel is used for remote receiver monitoring. The external speaker should have 8 ohms impedance and be able to handle at least four watts. When the external speaker is plugged in, the internal speaker is disabled.

#### **Public Address**

To use the transceiver as a public address system, connect an external 8 ohm speaker that is able to handle at least four watts to the EXT speaker jack on the rear panel. Direct the speaker away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker is important when operating the PA at high output levels.

#### **Improper Radio Adjustments**

Service by unqualified technicians could result in damage to your radio. Never allow anyone to disable your radio's modulation limiting circuitry. We have designed your radio for optimal performance and durability. Disabling this circuitry could damage your radio and potentially void your factory warranty!



## OPERATING GUIDE

- 1. Band Selector:** This switch allows you to switch bands, each band contains 40 channels, with each channel being on a different frequency.
- 2. Mon:** The variable Mon control (talk back) is used to monitor your own voice. This can be used to compare different microphones. To increase the volume of the talk back rotate the control clockwise. To decrease rotate counterclockwise. To turn off the talk back rotate the control completely counterclockwise.
- 3. Transmit Power or PWR** - This variable control allows you to adjust your power output. **Turn down when talking to nearby operators to avoid sounding distorted.**
- 4. Mode:** This switch controls what mode of operation the radio is in, options are AM, FM & PA.
- 5. Noise Blanker / ANL Switch:** When this switch is in the NB position the noise Blanker circuits are activated. The Noise Blanker is very effective in eliminating repetitive pulse type noise usually associated with ignition systems. The NB+ position activates both the Noise Blanker and Automatic Noise Limiter (ANL) Circuitry.
- 6. Color:** This switch controls the color of the front panel and display. To adjust the color move this switch to the left "COL" setting and then rotate the channel selector. Each click will select a color one option will be loop mode where the radio will automatically cycle through all of the colors.
- 7. Dimmer Switch:** This switch controls the brightness for the front panel. To adjust the brightness move this switch to the left "DIM" setting and then rotate the channel selector clockwise for more light or counter-clockwise for less.
- 8. Channel Display:** The channel display indicates the currently selected channel. When the SWR function is enabled, during TX, the display will show the current SWR such as 1.5.
- 9. Microphone Input:** The Stryker SR447 accepts microphones with a female 4 pin connector. **For maximum performance use the SR-65BC noise canceling microphone. Please see our website for further details.**
- 10. On/Off Volume Control:** Turn clockwise to apply power to the unit and to set the desired listening level. During normal operation, the VOLUME control is used to adjust the output level obtained either at the transceiver speaker or the external speaker, if used.
- 11. Squelch:** Squelch is used to cut off or eliminate receiver background noise in the absence of an incoming signal. For maximum receiver sensitivity it is desired that the control be adjusted only to the point where the receiver background noise or ambient backgrounds noise is eliminated. Turn fully counterclockwise then slowly clockwise until the receiver noise disappears. Any signal to be received must now be slightly stronger than the average received noise.
- 12. Microphone Gain:** Adjusts the microphone gain in the transmit and PA modes. This controls the gain to the extent that full talk power is available several inches away from the microphone.
- 13. RF Gain:** This control is used to reduce the gain of the RF (receive) amplifier under strong signal conditions. For maximum receiver sensitivity this control should be turned all the way to the right (clockwise).

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14. **Echo Volume:** Varies the volume or number of echo repetitions. To increase the echo volume, rotate the control clockwise.

15. **Echo Delay:** The Echo switch turn the echo on. A big advantage to this is you can turn it off and then back on with the switch without the need to adjust your volume & delay potentiometer. To turn the echo off simply move the switch to the middle position.

16. **Channel Selector:** This control is used to select the desired transmit and receive channel. Please note the "LED" switch must be in the center position for this to function correctly.

## Quick Start Guide

Detailed descriptions in user manual

- 1 Band Selector **A-H**
- 2 RF Power **set 5 O'clock**
- 3 Talkback **set to 11 O'clock**
- 4 Mode **set to AM**
- 5 ANL & Noise Blanker set to **NB+**
- 6 Color and Dimmer set to middle position
- 7 Volume Control
- 8 Squelch **set where ever you like**
- 9 Mic Gain **wide open or turn down if needed**
- 10 RF Gain **wide open or back off slightly**
- 11 Echo Volume **set where ever you like**
- 12 Echo Timing **set where ever you like**



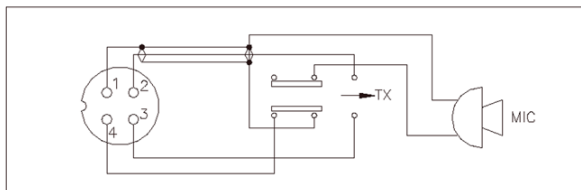
## ALTERNATE MICROPHONES AND INSTALLATION

For best results, the user should select a low-impedance dynamic type microphone or a transistorized microphone. Transistorized type microphones have low output impedance characteristics. The microphones must be provided with a four-lead cable. The audio conductor and its shielded lead comprise two of the leads. The third lead is for transmit control and fourth is for receiving control.

The microphone should provide the functions shown in the schematic below.

### 4 WIRE MIC CABLE

Pin Number	Mic Cable Lead
1	Audio Shield
2	Audio Lead
3	Transmit Control
4	Receive Control

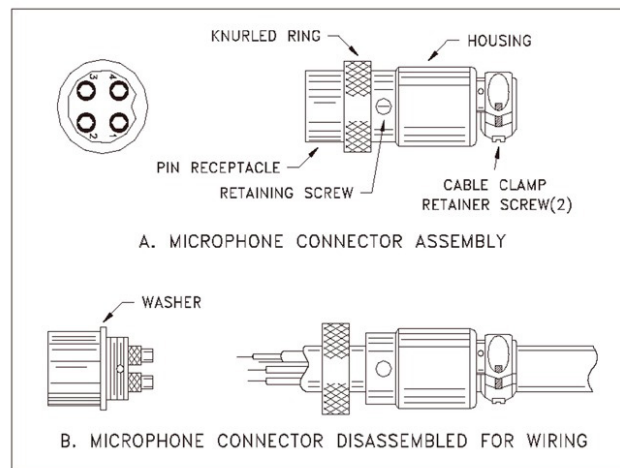


**Fig. 1** Your transceiver microphone schematic.

If the microphone to be used is provided with pre-cut leads, they must be revised as follows.

1. Cut leads so that they extend 7/16" beyond the plastic insulating jacket of the microphone cable.
2. All leads should be cut to the same length. Strip the ends of each wire 1/8" and tin the exposed wire.

Before beginning the actual wiring, read carefully the circuit and wiring information provided with the microphone you select. Use the minimum heat required in soldering the connections. Keep the exposed wire lengths to a minimum to avoid shorting when the microphone plug is reassembled.



**Fig. 2** Microphone plug wiring

To wire the microphone cable to the plug provided, proceed as follows:

1. Remove the retaining screw.
2. Unscrew the housing from the pin receptacle body.
3. Loosen the two cable clamp retainer screws.
4. Feed the microphone cable through the housing, knurled ring and washer as shown Figure 2.



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### Programming notice:

The programming software for the SR-447HPC2 is available for download on our website. A special USB cable is required to program your radio.

### ASQ: (Automatic Squelch Control)

Suppressed undesirable back-ground noises when no communication. Squelch does not effect neither sound or transmission power, but allows a considerable improvement in listening comfort.

### Beep:

This function basically emit an audible beep when a feature is turned on or off, for example moving the NB setting to NB+ switch position.

### Time out timer:

is used to set transmitting limit time. When pressing PTT key at a single time longer than the due time setup in advance, the radio would stop transmitting automatically and the speaker will emit a voice prompt until the PTT key is released. Then, the radio can transmit again

### RB

This function lets you choose from a total of 8 roger beep. the RB tones are programmable

### Public data

when Public setting is OFF, the busy channel lockout and RB setting can set different for each channel. when Public setting is ON, the busy channel lockout and RB setting are same for each channel.

### TSQ

CTCSS and DCS code available for each single channel, when one channel set a CTCSS or DCS code, you can hear on this channel only when the other radio set same code on this channel. when one channel set TSQ off, you can hear other radio no matter if they set any CTCSS/DCS code. TSQ is often used to communicate within team members.

### Rep

REP setting is choose offset direction + or - or OFF.

### REP frequency

You can programming the offset frequency , default value is 100Khz.

### Error Codes

Here is the full list of error codes for the SR-447HPC2:

**E1** : VOLTAGE LOW - Test the voltage at the power cord, it should be no less than 12v DC

**E2** : VOLTAGE HIGH - Your voltage should be no higher than 15v DC.

**E3** : BAND not valid

**E4** : TX SWR High - Check your antenna system