

# REI

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## Heavy Duty AM/FM Stereo Weather Band Radio, w/Front-Panel Auxiliary Input and built in PA

Radio Engineering Industries, Inc.

[www.radioeng.com](http://www.radioeng.com)

Rev B.1 Date: 12-22-14



Installation/ Operation Manual

50W x 4

**ST-3000**

Thank you for purchasing the ST-3000 AM/FM Weather Band Receiver from REI. This product is designed and tested to withstand temperature and vibration extremes. Please read the owner's manual carefully before attempting to install this unit.

If you have an installation question or need installation assistance, please call the:

**SERVICE HOT LINE**  
**1-877-726-4617 Toll Free USA & CANADA**  
**1-402-339-2200**

**IF ADDITIONAL INSTALLATION COMPONENTS ARE NECESSARY, CONTACT YOUR REI**

**SALES REP FOR:**

- \*\* OEM /FACTORY WIRING HARNESS ADAPTERS**
- \*\* ANTENNAS & ANTENNA ADAPTERS**
- \*\* SPEAKERS & GRILLS**

**Radio Engineering Industries, Inc.**  
 6534 "L" Street  
 Omaha, Nebraska 68117  
[www.radioeng.com](http://www.radioeng.com)

**FEATURES:**

- Heavy Duty construction for tough environments
- Non-volatile memory back-up stores user settings when battery is disconnected
- 30 Day Clock back-up
- 7 channel NOAA® Weather Band Tuner
- Electronic AM/FM Stereo Tuner
- EURO and USA frequency bands
- 12/24 hr Clock modes
- Preset Up to 30 Radio Stations (18 FM, 12 AM)
- 2 Aux Inputs (Front 3.5mm Stereo Jack/Rear RCA)
- Electronic Bass, Treble, Balance, and Fader Controls
- LED Backlighting
- Output Power 50W x 4
- Integrated Microphone input (Microphones & Adapter Sold Separately)
- Rear Channel Pre-amp outputs
- ISO Connector for vehicles manufactured with the ISO connect harness

**SPECIFICATIONS**

AUDIO SECTION

Power supply voltage (negative ground) .....12V DC (10V-18V)  
 Standby Current.....25mA  
 Max Current Consumption.....10A  
 Speaker impedance .....4-8 Ohms per channel  
 Maximum Pre-output Voltage.....2.0Vrms/10k ohms

POWER OUTPUT

Continuous Output into 4Ω, 20 to 20,000 Hz at 10 % THD .....4 x 25Watts  
 Maximum Power Output (Volume control Maximum).....50W×4 (at 1kHz)

FM TUNER

Range .....(USA) 87.5 – 107.9 MHz  
 (EUR) 87.50 – 108.00 MHz  
 Usable Sensitivity (S/N = 30dB).....7.34dBf.(0.6uV/75ohms)  
 Signal to noise ratio .....58dB (Mono)  
 Stereo separation (@ 1K Hz) .....42 dB

AM TUNER

Range .....(USA)530 – 1,710 kHz  
 (EUR) 522 – 1,620 kHz  
 Usable Sensitivity (S/N = 20dB).....23dBuV (14.4uV)  
 Signal to noise ratio (LEVEL60dbuV).....60 dB

WEATHER BAND TUNER

Range .....162.400 –162.550MHz  
 Usable Sensitivity (S/N = 20dB).....0.7uV(-9dBuV)  
 Signal to noise ratio (LEVEL40dbuV).....42dB

AUXILIARY INPUT SPECIFICATIONS

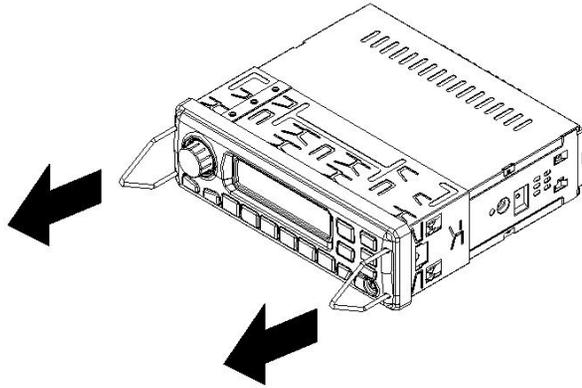
Input Voltage Maximum Voltage.....2.0V  
 Input impedance.....10KΩ

DIMENSIONS

Chassis (W x H x D) .....178mm (7") x 50mm (2") x 154mm (6")  
 Nosepiece (W x H x D) .....188mm (7-3/8") x 58mm (2-1/4") x 17mm (5/8")  
 Weight .....1.9lbs(0.86kg)

*\*Due to continuous product improvement, specifications and design are subject to change without notice.*

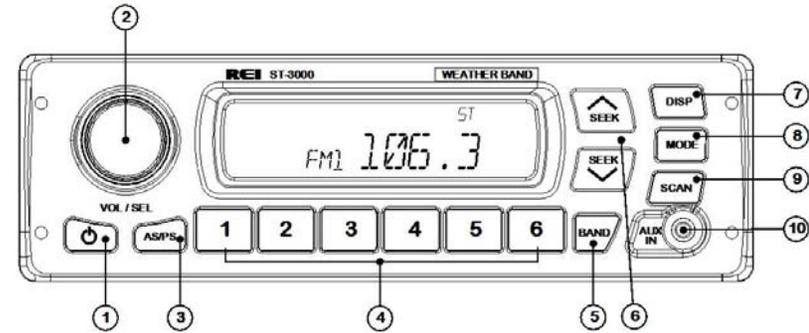
4. To remove the radio, insert the two release keys into the holes on the front face of the radio. The tools must be inserted with the notched side facing the radio. Slide the keys forward until you hear a click. Then pull the radio out, releasing it from the DIN collar.



#### TROUBLE SHOOTING

Problem	Cause	Solution
<b>Backlighting is on, but no LCD display</b>	No power to BATTERY wire or blown 10A main fuse.	Check for both ACC & BATTERY voltage with Multi-meter, check all fuses.
<b>No sound</b>	Speakers not connected; speakers connected with bad splices; Speakers shorted to ground; speaker load is not within 4-8 Ω.	Connect speakers to harness; check all spliced wires; verify speakers not shorted to chassis; verify total speaker impedance. Check volume level.
<b>Public Address can NOT be heard over speakers</b>	PA setting in MENU is wrong; microphone is pinned wrong; wrong microphone type is used. Microphone is defective.	Turn the volume up on the microphone or radio when the LCD display's MIC; Check that the correct microphone type is connected. Check the PA setting's in the radio's menu.
<b>LCD Display says MIC and front controls are locked</b>	PA system is triggered	Remove microphone connection and verify correct pinning and or type, replace microphone.
<b>Cannot tune radio stations</b>	The antenna cable is not connected. The signal is too weak. The radio is in the wrong frequency steps.	Connect the antenna cable. Check the frequency spacing in the radio's SERVICE menu.

#### CONTROLS AND INDICATORS



### Panel Function

1. Power On/Off Button
2. Volume / Select Knob
3. Auto Store / Preset Scan Button
4. Preset Memory / Recall Buttons
5. Band Button
6. Tune / Seek Buttons
7. Display Button
8. Mode Button
9. Station Scan Button
10. Front AUX1 Input Jack

## OPERATION

### 1) Power On/Off Button

Press the Power Button to turn the unit ON or OFF. The button will illuminate RED when OFF and BLUE when ON.

**Note: Radio can also be powered on by pressing any front button.**

### 2) Volume/Select Knob

Rotate the knob left or right to change the volume level.

Press the knob to select one of the following functions:

VOL---BASS---TREB---BAL--FAD

Upon choosing the function, rotate the knob to adjust the desired setting.

PLEASE NOTE: If the Volume/Select Knob has not been adjusted for 5 seconds it will automatically revert back to volume function.

### 3) Auto Store / Preset Scan Button

Press and hold this button for 2 seconds to auto program available stations into the preset memory buttons. This function will erase previous memorized stations and store the newly searched stations. Once completed, the radio will scan for 5 seconds through each of the preset stations of either the AM or FM band and stop.

Press this button momentarily to scan preset stations.

### 4) Preset Memory/Recall Buttons

Press one of these buttons momentarily to select preset station.

Press and holding a button will preset the current station to the button being pressed.

**\*\*Preset buttons are pre-assigned frequencies in Weather Band Mode.**

### 5) BAND Select Button

Press this button to change radio bands as follows:

FM1—FM2—FM3—AM1—AM2 —WB1

### 6) TUNE / SEEK Buttons

Under Radio mode, press the desired button momentarily to manually tune a station moving upward or downward. Press and hold a button and the radio will automatically seek the next available radio station. These buttons also function as Weather Band Channel 7 (162.550 MHz) access. Under weather band mode, pressing these buttons will select weather band channels 1-7.

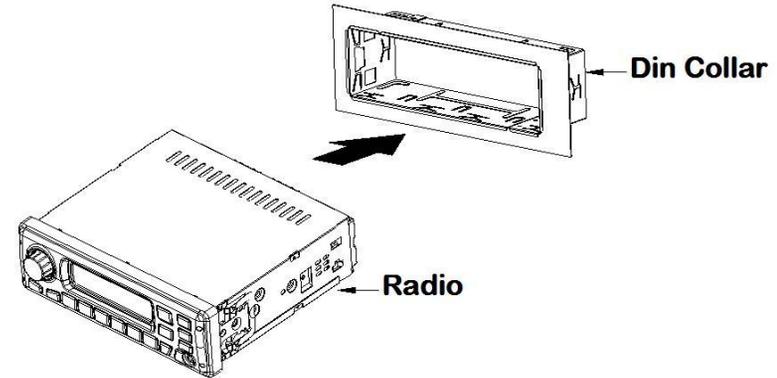
### 7) DISP Button

Press this button to change between Clock and Mode Information display.

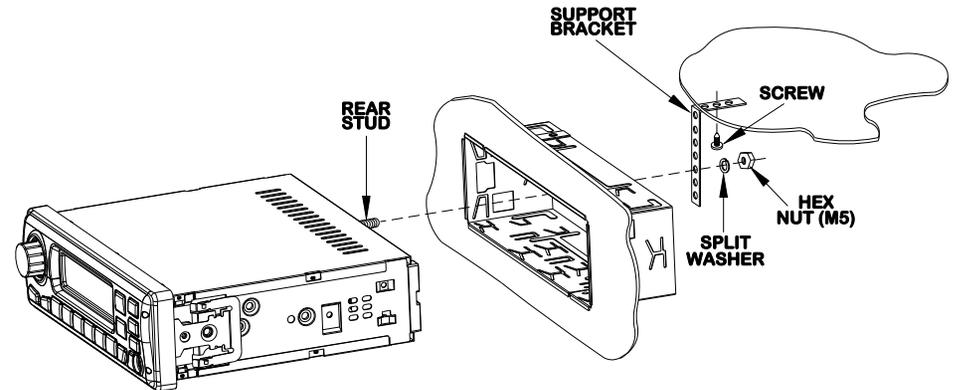
Setting the Time:

With the radio's power ON, press this button momentarily to display the time. Next, press and hold this button until the hour display begins to flash. Rotate Volume/Select Knob to adjust the hour. Press the DISP button again, and the minute display will flash. Rotate VOL/SEL Knob to adjust the minute. Press the VOL/SEL button to save the time on the LCD.

2. Pass the harness and antenna cable through the DIN collar, and connect to the back of the radio. Verify clearance; then gently insert the radio into the DIN Collar until both spring clips are locked into place.

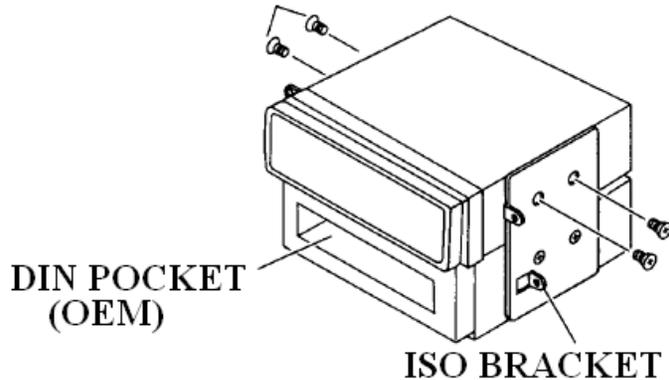


3. If additional support is needed, bend the included support bracket, and secure it to the vehicle using a screw. Secure the opposite end to the radio's rear stud using the nut provided.



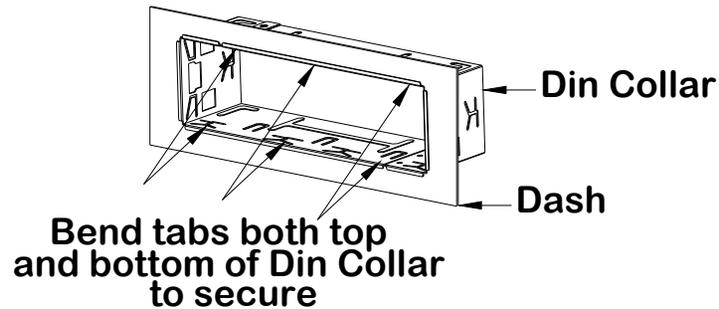
## ISO INSTALLATION

For installations that do NOT require the use of the DIN collar. The radio has threaded holes in the chassis side panels for ISO mount applications. If necessary, four M5x10mm screws are included with the hardware pack to assist you.



## INSTALLING THE RADIO

1. Place the DIN collar into the dash opening. Bend the tabs outward as shown on the drawing below to lock into place.



- 8) Mode Button  
Press this button to navigate between modes AUX1—AUX2 —TUNER.
- 9) Scan Button  
Press this button to automatically preview all radio stations for 5 seconds.
- 10) Auxiliary Input Jacks  
The unit is equipped with a front panel 3.5mm auxiliary input (AUX 1) so you can connect your external portable audio player or portable satellite radio receiver. A second REAR (AUX 2) RCA jack is also included on the rear of the radio.

\*It may be necessary to adjust the volume level of your portable device to achieve an optimal volume level.

## WEATHER BAND MODE

NOAA National Weather Radio Broadcasts from over 380 Locations throughout the U.S. on seven VHF/FM frequencies. Tune to receive continuous weather information 24 hours a day on one of the following frequencies.

Press preset 1 to select weather band channel 1 - 162.400MHZ

Press preset 2 to select weather band channel 2 - 162.425MHZ

Press preset 3 to select weather band channel 3 - 162.450MHZ

Press preset 4 to select weather band channel 4 - 162.475MHZ

Press preset 5 to select weather band channel 5 - 162.500MHZ

Press preset 6 to select weather band channel 6 - 162.525MHZ

\*\*Press SEEK UP/DOWN to select weather band channel 7 - 162.550 MHz

## RADIO SYSTEM MENU

While in either FM or AM tuner mode, press and hold the VOL/SEL button for 2 seconds. LCD will display MENU, press again to make a selection:

The first option is to select a correct REI PA input based on the microphone type you are using. Rotate VOL/SEL button to choose type:

- DYNAMIC

Microphone does NOT have on on-board volume control. PA volume control is built into the radio. Key the microphone to make adjustments.

- CARBON

Microphone does have on on-board volume control. Radio does NOT have built in volume controls.

Press VOL/SEL to the desired selection.

- VER 1.00

This is the firmware version present on the radio,

To save and exit MENU mode, press and hold the VOL/SEL button.

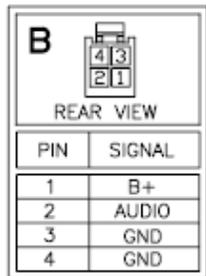
Note: Menu will exit automatically after 5 continuous seconds without saving any selections.

## PA OPERATION (microphone sold separately)

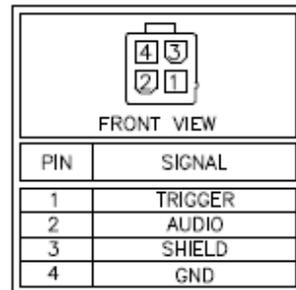
Connect a PA microphone into the 4-pin connector. Microphone has priority over all other audio modes and mutes the source audio being played when keyed. When the PA is triggered, the front display will show MIC, until the trigger is un-keyed. Once released, it will return to the previous source mode at the previous volume level.

The PA operates regardless of radio status, as long as both ACC and Battery power is applied to the radio.

When set to CARBON mode, the volume of the PA is only adjustable on the microphone itself. When set to DYNAMIC mode, the volume level is adjustable only when keyed from the front using the VOL/SEL button. A rear view of the radio's PA pin connection option is shown below:



Carbon PA



Dynamic PA

### NOTE:

For easy viewing at night, the backlighting will always be on when ACC +12V DC switched power is applied. Backlighting will only shut off when the switched ACC +12V DC power is removed. If the radio's LCD does NOT come on and display the clock, verify that the BATTERY +12V DC power wire is installed correctly.

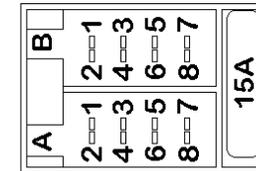
## ELECTRICAL CONNECTIONS

Follow this easy wiring diagram when installing Radio and Speakers.

### Warning:

\*This radio is designed for 12V DC Negative Ground Systems Only.

\*\*Shorting or grounding any of the speaker wires can damage the radio and is not covered by warranty.



Conn A		Conn B	
1	NONE	1	RR+
2	NONE	2	RR-
3	NONE	3	RF+
4	ACC +12V	4	RF-
5	NONE	5	LF+
6	NONE	6	LF-
7	BATTERY +12V	7	LR+
8	GROUND	8	LR-

**\*\*NOTE: THE RADIO'S BATTERY +12V WIRE MUST BE CONNECTED FOR OPERATION.**

## REQUIRED RADIO DIMENSIONS

Verify the radio will fit by following the suggested dimensions below. Carefully cut or file as necessary until the sleeve easily slides into the opening.

