

# Installation and Operating Instructions

1. Install a fresh battery or connect an external power source to the UCR411A and attach the antennas.
2. Unless frequency settings have been previously assigned, scan for an open frequency and set both the receiver and transmitter to that frequency. (See Finding Clear Frequencies.)
3. Connect the audio cable to the Receiver Audio Out XLR jack.
4. Set the Power ON/OFF switch to ON and verify that the LCD panel activates.
5. Adjust the transmitter gain.

**THIS IS PERHAPS THE MOST IMPORTANT STEP IN THE SET UP PROCEDURE.** Refer to your transmitter manual's Operating Instructions section for details on how to adjust the transmitter gain. In general, adjust the transmitter gain so that the voice peaks will cause the audio modulation indicators on the receiver and transmitter to show full modulation on the loudest peak audio levels. Normal levels should cause the UCR411A's audio level icon to fluctuate fully. This will result in the best possible signal to noise ratio for the system.

## Important:

- Adjust the transmitter gain **before** you adjust the receiver output level.
  - When the transmitter is fully modulated, its limiter will prevent any further increases in level.
  - The receiver output circuitry is set to run at full output, and the level control is simply an attenuator. There is no difference in signal to noise ratio across the entire adjustment range of the receiver output level. The transmitter input gain is the critical adjustment that will affect the signal to noise ratio.
6. Adjust the Audio Output according to the type of input on your equipment. Use the LEVEL menu and adjust the level with the SELECT Up and Down buttons.

The input levels of different cameras, VCRs, and PA equipment vary, which may require that you adjust the AUDIO OUT to an intermediate position. Try different settings and listen to the results. If the output of the receiver is too high, you may hear distortion or a loss of the natural dynamics of the audio signal. If the output is too low, you may hear steady noise (hiss) along with the audio. The UCR411A audio output is designed to drive any audio input device from microphone level to +10dBu line level.

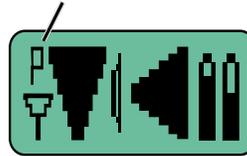
**Note:** The test tone output is especially useful for an exact level match. With the test tone running, adjust for the maximum desired peak level using the metering on the connected device.

## Finding Clear Frequencies

The following procedure will help you identify RF signals in the area and find clear channels for operating the wireless system.

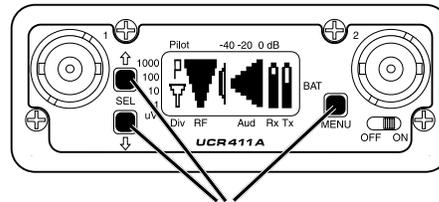
1. Ensure transmitter is turned off. Turn on the receiver and wait a few seconds until the Main Window appears on the LCD.
2. Ensure the receiver is NOT in PILOT TONE BYPASS mode. (A "P" will be blinking in the upper left corner of the Main Window.)

### Pilot Tone Indicator



**TO ENABLE PILOT BYPASS:** Step the MENU key to the MAIN window. Press the MENU and UP keys together for b bypassed pilot or p normal pilot.

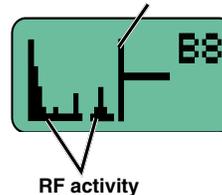
3. Simultaneously press the MENU and SELECT Up and Down buttons to enter Scan Mode.



Press all three buttons at the same time and the receiver will start scanning.

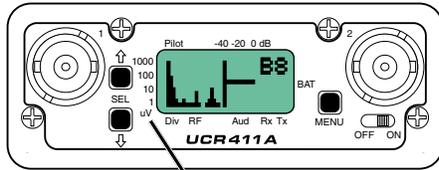
4. View the LCD while the receiver is scanning. The vertical marker will move across the display from left to right. RF activity will be indicated by dark areas in the display.

### Vertical marker moves left to right



RF activity

- RF signal strength is indicated by markings in microvolts on the front panel to the left of the LCD.



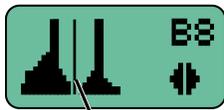
RF level in microvolts

Look for clear channels in the spectrum where there is no RF activity. Scanning will repeat and continue until a button is pressed.



No RF activity (clear channel)

- If necessary, press the MENU button to zoom in for greater detail for fine adjustment.



Zoom in to make fine adjustments

- Then press the SEL Up and Down arrows to move the marker to the middle of a clear area where there is no RF activity. If an area with no RF activity cannot be found anywhere in the spectrum, locate one with the least amount of RF activity.

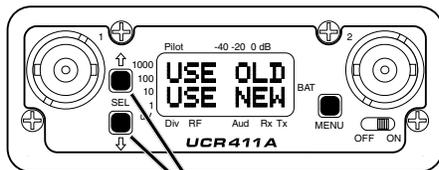


Move marker to area with no RF activity

- Press all three buttons (SEL Up and Down and MENU) to move to the next screen. Two options will be shown.

Press the SEL Down arrow button to select the USE NEW option and set the receiver to the new frequency just found in scanning.

Press the SEL Up arrow button to select USE OLD and return to the frequency that was set before scanning.



Use the SEL Up and Down arrow buttons to select the old or new frequency.

## Locking and Unlocking the UCR411A Front Panel Controls

The front panel controls can be “LOCKED” to prevent accidental changes being made during operation and handling.

### To LOCK the UCR411A

Press and hold the MENU button until a bar tracks horizontally across the LCD screen and the word “LOCKED” appears. If the MENU button is released before the word “LOCKED” appears, the unit will remain UNLOCKED. When in a LOCKED state, the pilot tone bypass toggle is also defeated.

In LOCKED state, the use of the MENU and SEL Up/Down buttons are limited to “view only” and any attempts to change selections will result in an LCD screen displaying the word “LOCKED.” The unit cannot be used for RF scanning when it is set in the LOCKED state.

### To UNLOCK the UCR411A

Press and hold the MENU button until a bar tracks horizontally across the screen and the word “UNLOCKED” is displayed on the LCD screen. When the unit is UNLOCKED, all settings can be altered.

The UCR411A can only be LOCKED or UNLOCKED from one of the main windows. (There are four of them.) Also, it cannot be switched between LOCKED and UNLOCKED modes when it is in a scanning mode or from other subordinate screens.