

## Inventory Equipment/Operations

As indicated above, the first task should be to take an inventory of your wireless microphones. Fictional TV Station KWXYZ-HD operates on TV channel 45 in Albany, GA and completed its inventory of wireless microphone equipment. The station has SONY Pro Audio DWMO1/C3114 and C4244 Wireless Microphones along with DWRSID/1820 and 3032 Wireless Microphone Receivers for their Cameras that are used in the studio and for ENG operations. The equipment operates on channels 18 to 19 and 44-45 in the studio and operates from 18 to 21 and 42 to 44 in the field for ENG.

Studio operations include three news and weather broadcasts daily, recording of local ads, promos, etc. Between testing and rehearsals, microphone operation can occur anytime from 6AM to 11:30PM.

Equipment	Area of Operation	Frequencies Used (TV Channels )	Time of Operation
Sony DWMO1/C3114 wireless microphones with DWRSO1D/1820 receiver	Studio	18 & 19	6AM to 11:30PM
Sony DWMO1/C3142 wireless microphones with DWRSO1D/4244 receiver	Studio	44 & 45	6AM to 11:30PM
Sony DWMO1/C3114 wireless microphones with DWRSO1D/1820 receiver	Field ENG	18-21	As Needed
Sony DWMO1/C3142 wireless microphones with DWRSO1D/4244 receiver	Field ENG	42-44	As Needed

## Determining Available Channels

The Spectrum Bridge database allows you to determine the channels that are available for wireless microphone operation at any location. The fictitious TV station and studio is located in Albany, Georgia and we can use that location to find what channels are available for licensed wireless microphones. To do that, go to the Spectrum Bridge database website,

<http://whitespaces.spectrumbridge.com/Main.aspx> . This will bring you to the Protected Entity Registration and Data Portal, shown below:

## TV White Space Database: Protected Entity Registration and Data Portal

Spectrum Bridge's White Space database solution is certified by the FCC.

The Commission's Part 15 rules (47 C.F.R. § 15.701 et seq.) require that unlicensed TV band devices (TVBDs) contact an authorized database system to obtain a list of channels that are authorized for operation (i.e., channels not protected for authorized radio services). Channel use authorizations are determined for a specific location.

Radios authorized and operating as white space devices (TVBDs) are required to provide their geographic location, by means of a secure Internet connection, to a TV band database system authorized by the Commission. The database will return a list of authorized channels available for operation by the TVBD for its reported location. Please contact Spectrum Bridge about our partner program and access to this service.

This web portal can also be used to register certain protected devices and services entitled to protection authorized by the FCC rules. These devices and services include: low power auxiliary stations, including wireless microphones, Multi-Channel Video Programming Distributor (MVPD) receive sites and Broadcast Auxiliary links (cable headend receive sites).

Search	Protected Entity Registration	Support
<p>Locate available TV White Space channels <a href="#">here</a>.</p> <p>View TV White Space channels and protected areas <a href="#">here</a>.</p> <p>Locate channels available exclusively for wireless microphones (both licensed and unlicensed) <a href="#">here</a>.</p>	<p>Register a Temporary Broadcast Auxiliary Service <a href="#">link here</a>.</p> <p>Register a MVPD Receive Site <a href="#">here</a>.</p> <p>Register a licensed Low Power Auxiliary Station (wireless microphone) <a href="#">here</a>.</p> <p><i>Unlicensed Low Power Auxiliary Devices (Unlicensed Wireless Microphones) can only be registered with prior authorization from the FCC. Until the FCC registration system is operational, parties seeking to obtain protection for venues where large numbers of unlicensed wireless microphones are used must submit registration requests directly to OET at <a href="mailto:TVWSinfo@fcc.gov">TVWSinfo@fcc.gov</a>. Once OET has granted your request, SBI will ensure you are provided with the approved protection.</i></p>	<p>All feedback, comments and responses are welcome.</p> <p>Click <a href="#">here</a> for the submission form.</p> <p>All information required by the FCC to be in the TV bands databases is publicly available at <a href="ftp://ftp.tvws.spectrumbridge.com/">ftp://ftp.tvws.spectrumbridge.com/</a></p>
<p><b>Browser Compatibility:</b></p> <p>This site is best viewed with the following browsers:</p> <ul style="list-style-type: none"><li>Internet Explorer - version 6 or later</li><li>Google Chrome - version 12 or later</li><li>Firefox - version 3 or later</li><li>Safari - version 4 or later</li><li>Opera - version 9 or later</li></ul> <p><b>Note:</b> ALL browsers need to have Java Script enabled.</p> <p>To view the maps, MS Silverlight needs to be installed. To install MS Silverlight, click <a href="#">here</a>.</p> <p>SBI TVWS Version: 1.0.5.120120: <a href="#">Release Notes</a></p>		

This web page provides a [search function](#) that allows you locate available white space channels; view protected areas; and locate wireless microphone channels. There is also a [registration function](#) to register with the database to receive protection from interference from TV white space devices. This function is used to register licensed wireless microphones. **It is important to note the database only prevents unlicensed TV band white space devices from operating on a registered TV channel. It does not prevent other wireless microphones from registering or using the same channels so coordination of ENG and other activities is still necessary .** Finally, there is a [support function](#) that permits comments to be filed and lets you view all registrations and other information in the database.

Using the search function, left click on the word “here” in the locate channels available exclusively for wireless microphones.<sup>1</sup> This will bring you to the following page:



The screenshot shows the Spectrum Bridge website header with the logo and tagline "ENABLING UNIVERSAL SPECTRUM ACCESS". A navigation bar includes "Overview", "Search", "Protected Entity Registration", and "Support". The main content area features the title "Locate Channels Reserved Exclusively For Wireless Microphones" and a paragraph explaining the channel availability process. A "click here" link is highlighted in blue. The footer contains the copyright notice "© 2012 Spectrum Bridge, Inc. All Rights Reserved." and a "Powered by: SPECTRUM BRIDGE" logo.

Left click on the highlighted “click here” above to bring you to the following screen where you can enter location information. In this case, we entered Albany, Georgia, the location of our fictitious studio and station.

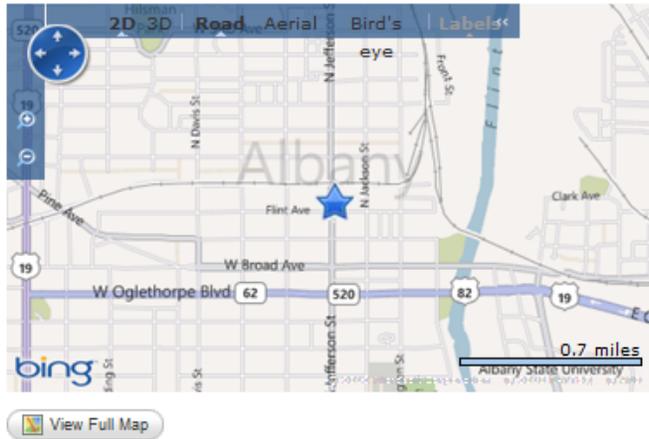


The screenshot shows the "Show My White Space" tool interface. The header includes the title "Show My White Space" and sub-navigation links "discover", "manage", and "learn". Below the header, the text reads "ShowMyWhiteSpace - Locate TV White Space Channels" and "Enter one of the location combinations listed below to view the available TV white space channels in your desired location." A list of location options is provided: Complete Address, Street, City, State, Street, Zip, City, State, Zip Code, and Latitude, Longitude. A "Need help? We're there for you! Submit a support request here." link is present. The main form area is titled "Enter your device type and location below" and contains three radio buttons for device types: Fixed TVBD, Personal/Portable TVBD, and Wireless Microphone (which is selected). A text input field contains "Albany, Georgia" and a "Search" button is located to the right of the input field.

After you’ve entered the location, left click on the search button and icon  immediately to the right of the box in which you entered the location information. The database will then return a list of channels available for wireless microphone operation, as follows:

<sup>1</sup> Note: You can actually use any of the channel search functions and then click on wireless microphones.

Best match: Albany, GA



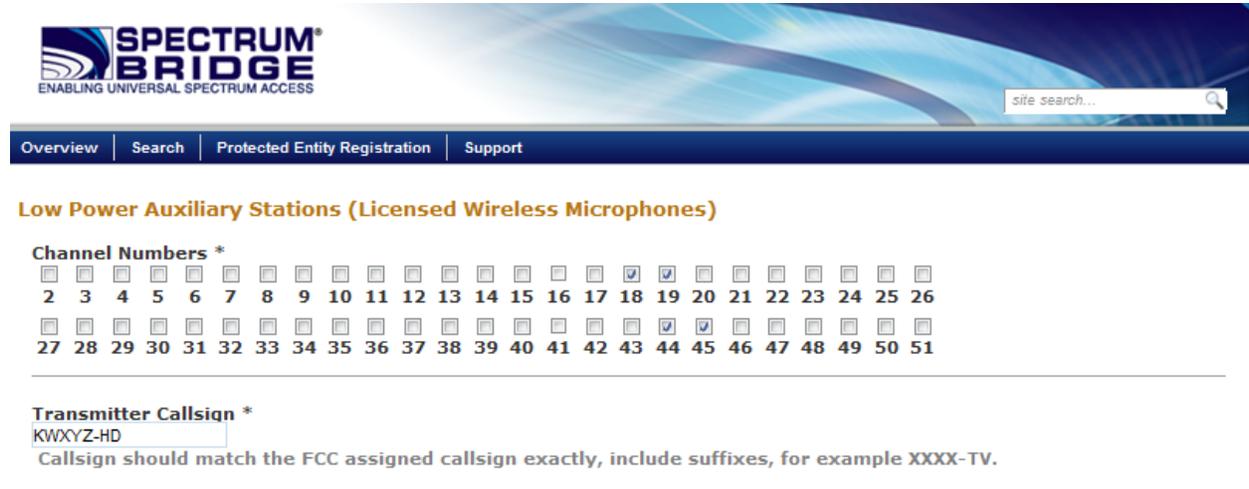
Channel Number	Frequency Range (MHz)	Availability	Noise Floor (dBm)
36	602-608	Exclusive	(i)
38	614-620	Exclusive	(i)
5	76-82	Available	(i)
7	174-180	Available	(i)
9	186-192	Available	(i)
13	210-216	Available	(i)
14	470-476	Available	(i)
16	482-488	Available	(i)
2	54-60	White Space	(i)
17	488-494	White Space	(i)
18	494-500	White Space	(i)
19	500-506	White Space	(i)
20	506-512	White Space	(i)
21	512-518	White Space	(i)
22	518-524	White Space	(i)
23	524-530	White Space	(i)
24	530-536	White Space	(i)
25	536-542	White Space	(i)
26	542-548	White Space	(i)
28	554-560	White Space	(i)
29	560-566	White Space	(i)
30	566-572	White Space	(i)
31	572-578	White Space	(i)
32	578-584	White Space	(i)
33	584-590	White Space	(i)
35	596-602	White Space	(i)
39	620-626	White Space	(i)
41	632-638	White Space	(i)
42	638-644	White Space	(i)
43	644-650	White Space	(i)
44	650-656	White Space	(i)
45	656-662	White Space	(i)
47	668-674	White Space	(i)
48	674-680	White Space	(i)
49	680-686	White Space	(i)

\* Additional notes on channels available for wireless microphone use.

On the Spectrum Bridge database, the wireless microphone channels are presented in a Table as shown above on the right. The first column shows the 6 MHz TV channels that are not occupied and useable for wireless microphone operation at the location specified in the search. The second column lists the frequency range of each usable channel. The third column lists the “availability” of each channel. *Exclusive* channels are the two channels that under the FCC White Spaces rules have to be reserved for wireless microphone operation. The rules require that the first vacant TV channels on either side of channel 37 (Reserved for Radio Astronomy) are available exclusively for both licensed and unlicensed wireless microphone operation. TV white space devices cannot operate on these reserve or exclusive channels. In the Spectrum Bridge database, *Available* channels are also channels that can be used only for wireless microphone operation because of rule or interference restrictions. TV Channels 20 and below may only be used by fixed TV Band devices and operation on channels adjacent to TV station channels is not permitted by fixed devices. These channels are therefore available for wireless microphones only. The last category in the Table is *White Space* channels. These channels are available for wireless microphone use but may also be used by TV White Spaces devices. Licensed wireless microphones receive interference protection from TV Band devices if the channel only if they have been registered with a TV bands database administrator.

## Submitting a Registration Request

To register a wireless microphone go to the main page on the Spectrum Bridge website, <http://whitespaces.spectrumbridge.com/Main.aspx>. Under the Protected Entity registration column, left click on the highlighted “here” in Register a Low Power Auxiliary Station (wireless microphone) here. This will bring you to the registration page, below. Since our fictitious station has studio microphones that operate on channels 18, 19, 44 and 45, we’ve checked those channels in the channel list.



The screenshot shows the Spectrum Bridge website interface. At the top left is the logo for Spectrum Bridge with the tagline "ENABLING UNIVERSAL SPECTRUM ACCESS". To the right is a search bar labeled "site search...". Below the logo is a navigation menu with four items: "Overview", "Search", "Protected Entity Registration", and "Support". The main heading is "Low Power Auxiliary Stations (Licensed Wireless Microphones)". Under this heading is a section for "Channel Numbers \*". It consists of two rows of checkboxes, each followed by a number from 2 to 51. The checkboxes for channels 18, 19, 44, and 45 are checked. Below the channel numbers is a section for "Transmitter Callsign \*". The text "KWXYZ-HD" is entered into a text box. Below the text box is a note: "Callsign should match the FCC assigned callsign exactly, include suffixes, for example XXXX-TV."

We next have to input the transmitter call sign. This can be the call sign assigned by the low power auxiliary license or the TV station’s call sign. The call sign, however, must match exactly the call sign in the FCC records.

The next step is to add the location the wireless microphones will be used. This can be a single location (geographic point) or a quadrilateral (where no side can exceed 3km). This later function can be useful for a large venue such as a sports stadium.

For our fictitious station and studio, we will use a point for registration, as shown below. You can use the latitude and longitude of the location or find the location using the map function. Left clicking on the “don’t know the coordinates,” will open the map function and you can find the appropriate location by scrolling with your mouse.

## Location

Add Multiple Locations

### Area Type

Point  Quadrilateral

Area type cannot be modified later and additional locations are required to be of the same type.

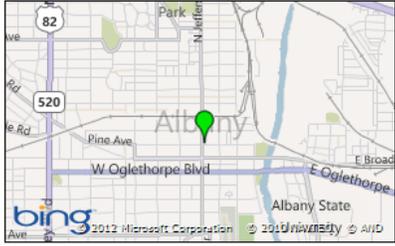
#### Location of Device

Degrees / Minutes / Seconds  Decimal

**Latitude**  
31 ° 34 ' 50.7324 "  North  South

**Longitude**  
84 ° 9 ' 21.6468 "  East  West

Don't know the coordinates? [Click here](#)



Next you need to add the contact information for the wireless microphone operation, as shown below:

## Contact Information

### Name of Entity Owner \*

KWXYZ Corp.

### Contact Name \*

John Smith

### Country

United States

### Street Address \*

KWXYZ Avenue

### City \*

Alabany

### State/Province

Georgia

### Zip/Postal Code

### Contact Phone \*

111-222-3333

### Contact Email (optional)

jsmith@wxyz.com

\*\*Your email address will be stored for future email notifications from Spectrum Bridge, such as entity registration renewals, and will not be shared with any third party or other entity.

Next you need to add information on when the microphones will be used. In this case, we are registering studio microphones that are used for broadcasts throughout the day and are also use in other productions, such as local spots. This is therefore a recurring event, so click on recurring event under "Entity Usage Will Be." This will also bring you to the recurring event screen, below:

## Usage Schedule

Entity Usage Will Be:

One Time  Recurring

Time Zone:

(UTC-05:00) Eastern Time (US & Canada) ▼

For recurring entity usage, you must select when the entity will be in operation. Please enter the date range, start time and duration of the event. For each event, a selection must be made for a specific day(s) of the week, and/or a specific week(s) of the month, and/or a specific month(s) of the year in which the entity will be in use. Please note, the duration hour entered cannot exceed 24 hours, and date ranges cannot exceed more than one year. Registration renewal is required after one year of usage.

Recurrence begins on or after: 2/2/2012  and ends on or before : 2/2/2013 

Events start at: 6:00 AM  and runs for: 18 hours

Day(s) of Week [select](#) / [clear all](#)

Mon Tue Wed Thu Fri Sat Sun

Week(s) of Month [select](#) / [clear all](#)

First Second Third Fourth Last

Month(s) of Year [select](#) / [clear all](#)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

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I have read the [Terms of Use](#). By clicking submit, I understand that all information required by the FCC's rules to be in a TV bands database will be publicly available. If the information I have provided is inaccurate or incomplete, I understand that the FCC has the right to deny registration or remove my information from the database.

Start and end dates are entered through a drop down menu by clicking on the calendar icons. Since usage is continuous, our start day is the day of registration and will run for an entire year. This use can take place from 6AM to 11:30PM every day. Enter the start time. The Spectrum Bridge's registration uses whole hours so round up to an 18 hour period. Since the use is every day and all year long. Click on "select" in the Day(s) of the Week, Week(s) of the Month and Month(s) of the Year; or, alternatively, click on each box so that the check mark appears.

Finally, check that you have read the agreement and click on the "Register Entity" button. You've now completed the registration process and should receive an e-mail confirmation from the database administrator.