STLICENSE.COM

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LICENSING AN AURAL STL

All Aural STLs are licensed by the Federal Communications Commission. The licensing is administered by the Wireless Telecommunications Bureau of the FCC as governed by the rules contained in 47 C.F.R. §74.501 of the FCC Rules and Regulations. An STL is actually just one of three types of licenses available in the 944-952 MHz Broadcast Auxiliary Station (BAS) frequency band. The remaining two types of facilities are Intercity Relay (ICR) stations and Microwave Booster Stations. The requirements and procedures for licensing these types of stations are very similar to those for STLs.

LICENSING PROCEDURE

Obtaining a license for an STL, ICR or Booster station is a multi-step process which we handle in the following six steps:

1) Frequency selection and system design
2) Frequency Coordination
3) Prior Coordination Notification (PCN)
4) Application for license
5) Construction of the link
6) Notification (to FCC) of construction completion

1) FREQUENCY SELECTION AND SYSTEM DESIGN

Prior to 2003, broadcasters desiring an STL, ICR or Booster contacted the local frequency coordinator (in most markets the coordinator was a member of the nearest Chapter of the Society of Broadcast Engineers) and, with his/her assistance, picked a frequency. Then, they selected the equipment and antennas that gave them a reliable link and the required bandwidth. This process usually worked, but in some cases it resulted in harmful interference to existing or the new station. Failures were usually caused by inaccurate or incomplete data in the local coordinators database resulting from uncoordinated changes made to existing stations.

In 2003, the FCC changed the rules. The new rules require a much more structured frequency selection approach. The process is now identical to the frequency selection criteria required for the Fixed Microwave Services as detailed in Part 101 of the FCC Rules. The frequency selection and system design must now be done to assure that harmful interference (defined in Part 101) is not caused to any existing station. Frequency selection must now be coupled with system design parameters (antenna beamwidth, antenna polarization, antenna gain, transmitter power output, path losses and cable losses) to arrive at a solution that meets the FCC Rules interference criteria.

2) FREQUENCY COORDINATION

Frequency coordination is a process that must be completed for all new STL, ICR and Booster stations. The process must also be done for any "major change" modification made to an existing system. It doesn't require much change to trigger the "major change" classification. Any change to antenna coordinates, heights, model or polarization is considered a major change. Any change to the EIRP, bandwidth or modulation type (changing an analog system to a digital system) also triggers the "major change" requirement for frequency coordination.

Frequency coordination is a complicated procedure. Once the system design is complete, the parameters of the new system must be analyzed to determine what level of interference they cause to all existing systems on the proposed frequency as well as adjacent frequencies. Nearly all of the proposed operating parameters will have an effect on the amount of interference generated. If the ratio of Desired signal to Undesired signal for all impacted receivers meets the FCC requirements you've passed frequency coordination. If the D/U ratio for any existing receiver (or previously coordinated but un-built receiver) is inadequate – it's back to Step 1 to adjust the system design. Frequency coordination and system design is an interactive process – design the system – check for interference – re-design – check. You repeat the entire process until all interference criteria are met.

Although this process is new (since 2003) to the BAS frequencies, the Fixed Microwave Services have been using it for thirty years. Thirty years ago all of the calculations were done by hand (do you remember slide rules?). Fortunately, we can now calculate all the required data by computer.

3) PRIOR COORDINATION NOTIFICATION (PCN)

One of the most obvious changes brought about in 2003 was the need for Prior Coordination Notification or PCN for the 944-952 MHz BAS frequency band. The procedures for PCN are contained in §101.103 of the FCC Rules.

PCN is a descriptive name for the process. Prior to filing a license application, the applicant must notify all current users potentially affected, that a new or modified facility has been coordinated.

The area in which stations must be notified is large. The standard distance is 200 km (125 miles) in all directions from the proposed transmitting antenna. Within +/- 5 degrees of the azimuth of the main lobe of the antenna the distance is doubled to 400 km. The data contained in the Notification must be adequate to allow the recipients to calculate what, if any, impact the proposal will have on their system. (A sample PCN form is available by clicking PCN Samples on our Home Page).

Once the notifications are mailed, the stations receiving the notices have up to 30 days (plus mail transit time) to respond to the sender. This waiting period can be shortened through an expedited coordination, but try to avoid it. Expedited processing requires much more of a frequency coordinators time and so will cost more. Any expressions of concern or specific objections from those notified must be addressed. If any objection is received that requires modification of the system design then frequency coordination and PCN must be repeated.

PCN is a good reason to make sure the FCC database information for all of your existing STL/ICR/Booster licenses is accurate. We can't notify you if we can't find you! The PCN process is designed to protect you so don't give up this protection by allowing your data to become out of date.

4) APPLICATION FOR LICENSE

With the PCN waiting period over and any concerns or objection addressed, the application for a new or modified license can be filed with the FCC. All applications for aural BAS facilities are filed on-line through the Universal Licensing System (ULS) maintained by the Wireless Telecommunication Bureau of the FCC. The required form is a 601.

After filling in all of the required information, you are instructed to submit the filing fee. The fee can be paid by credit card or by printing a form 159 and submitting it with a check. The filing fee for an aural STL/ICR/Booster is currently $145.00 and, if paying by check, the fee is sent to a lock-box. Non-commercial Educational licensees are exempt from the filing fee.

If no errors are found on the application and the filing fee (if required) is paid, the application will be granted within 30 to 60 days.

5) CONSTRUCTION OF THE LINK

This is the easy part – although you may need the assistance of a tower rigger. Be sure you build the system exactly as specified in the license. Last minute changes like changing polarity of the antennas or raising/lowering an antenna are not allowed.

6) NOTIFICATION OF COMPLETION

There is one final step that must be done to complete the licensing process. It's a simple but important step. A Notification of Completion must be filed with the FCC. This notification, like the application, is filed on-line through the ULS. No fee is required for the Notification.

Filing this Notification is important because failure to file it will result in the license being cancelled 18 months following its grant.

THINGS TO CONSIDER

The FCC requires all towers over 200' in height or that fail the FCC/FAA "Slope Test" be registered and have an Antenna Structure Registration Number (ASRN). If the STL transmit antenna is to be mounted on an unregistered tower, the tower must pass the "Slope Test". If it doesn't pass the "slope test" the tower needs an ASRN before an STL can be licensed on it.

The ULS and WTB are very unforgiving. All data entered onto the form 601 must be accurate and the data in the PCN form must exactly match the data in the application form or the application will be returned for amendment. Amending an application sometimes requires another round of PCN mailings.

HELP IS AVAILABLE

If this procedure is more than you have the time or resources to perform – let us know. We design, license and build STL systems all the time. Email any questions to bob@stllicense.com or call us at (772)-335-0688.