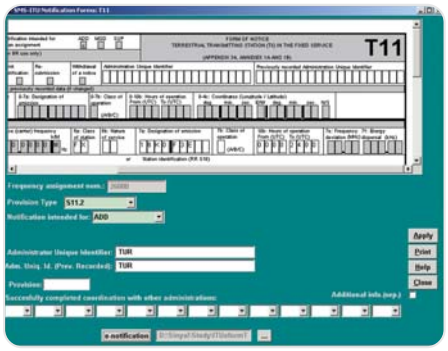
international coordination module

Today, efficient use and sharing of frequency spectrum are the most important issues in proper use of wireless technology and also in the overall frequency management job. The frequency assignment and licensing procedure goes beyond national borders. Administrations must share the frequency spectrum and have to keep in contact with ITU and neighboring countries when assigning frequencies to their national systems. SES – International Coordination Module is designed to help you to carry out the coordination calculations and database queries that may be required in the coordination process.

SES – International Coordination Module focuses on the following features:



Generating an ITU Notification Form-T11

- ITU Notification Forms
- Countries for Coordination
- Satellite Coordination Calculations
- Stations that may require coordination
- LF/MF Coordination Calculations

ITU NOTIFICATION FORMS

SES – International Coordination Module generates the ITU Notification Forms that are required in official correspondence with ITU to register the frequencies assigned to national radio stations. ITU Radio Regulations require that these forms have to be filled and sent to ITU for a new station or a modified/suppressed existing station. These forms are used by ITU in case of any international coordination requirement between affected administrations. The ITU forms vary depending on the service type, frequency band and the required information.

There are various types of notification forms such as T01, T02, T11 - T17, and ApS4/III defined by ITU. This module can generate all types of forms either in paper format or in electronic form as specified in ITU Radio Regulations. The program is user friendly and easy-to-use such that the user can select the form type and all of the information for a given radio station is automatically extracted from the database.

STATIONS IN THE BORDER AREA

The ITU recommends international coordination for certain frequency assignments, depending essentially on the frequency and power of the transmitter. Especially, the transmitters located within the border area may cause harmful interference in the terriority of neighboring administrations. SES – International Coordination Module is a useful tool to identify your stations that may require border coordination with neighboring countries.

This module automatically identifies the stations that are located in a coordination zone using a GIS-based map. It provides a database query function to find the stations in a buffer zone around the borders and displays them on the map. The user can specify various search criteria such as distance to the border, frequency range, power, class of station and effective antenna height. When the user clicks on a station symbol on the map, the program shows the technical details of that frequency assignment. The query results can also be saved into an output file.

COUNTRIES FOR COORDINATION

Coordination with neighboring countries may be required for some frequency assignments because the area of interference may cross a border. SES – International Coordination Module provides the coordination contour calculations for stations in TV and FM sound broadcasting services. This module can plot the coordination contour on a geographical map and produce the list of countries to be coordinated with for a given transmitter.

The module simply finds the affected administrations due to a new station or a modified existing one. This is basically a computation of coordination distances in different directions using geographical coordinates, frequency band, power, and effective antenna height of the station defined by the user. The countries inside the coordination distances are identified as the administrations that may be potentially affected. The coordination distance limits used in the calculations are compatible with Chester 97 Regional Agreement.

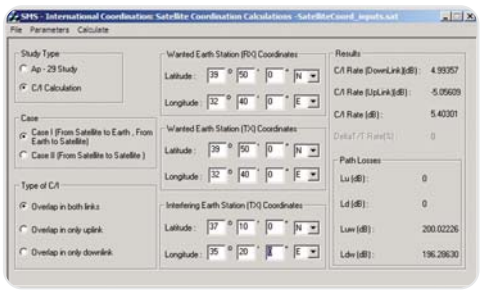
COORDINATION IN LF/MF BAND

SES – International Coordination Module contains a useful tool for coordination process in the low frequency and medium frequency bands. The coordination studies in LF/MF bands are essential due to the large coverage areas of stations in these bands. This module provides the necessary field-strength calculations and interference analysis that are described in the Final Acts of Geneva 75 Regional Agreement for any modification to the plan of the agreement. Both ground-wave and sky-wave propagation models are used in the calculations.

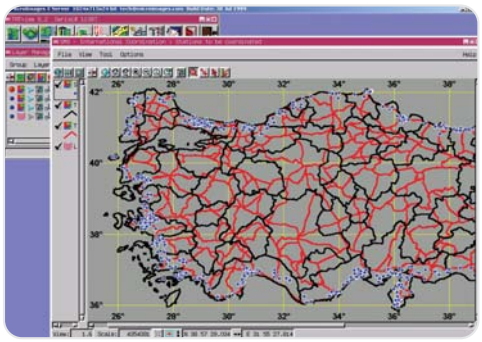
This program enables the user to define a victim station and specify the characteristics of the new or modified assignment in addition to other assignments of the plan that may affect the victim. The usable field strength is calculated at test points on the boundary of the service area of victim in different directions. The victim station is considered affected when its usable field strength is increased by a value equal to or greater than 0.5 dB as a consequence of the proposed modification to the plan.

SATELLITE COORDINATION CALCULATIONS

SES – International Coordination Module is also capable of doing calculations that may be required for satellite coordination. You can easily define the parameters of wanted and interfering networks. Characteristics of the earth stations and the satellites are used to calculate the propagation losses and C/I rates for both up-link and down-link. The program can perform calculations for earth-to-space, space-to-earth and also space-to-space cases.



Satellite Coordination program



Stations in the border area that may require coordination