This is an overview of the Radio Jove Project as of 2014, our 15\textsuperscript{th} year in existence. Named Jove after the Roman mythological name for Jupiter, and sometimes written Radio JOVE, we use JOVE like the four call letters of a radio station.
Radio Jove is first and foremost an education program with members that dedicate their time and talents to help students, teachers and individuals learn radio astronomy.
Planning for Radio Jove began in 1997 and officially sold it’s first kit in 1999. Here is a list of our current and founding team members and their affiliations; pictured are many of them circa 2000.

If your name is Jim, you might already be a member. 😊
Radio Jove is a hands-on, kit-based radio telescope that you build yourself. The radio has a center frequency of 20.1 MHz and a narrow bandwidth of 350 kHz by design. The dipole antennas, made of copper wire and coaxial cable, can be easily constructed to observe solar or Jupiter radio emissions. These are a few different pictures of the Radio Jove receiver, antenna and antenna schematic.
Participants are encouraged to interact with each other, teachers, scientists, software, and professional radio telescopes.
This is a world map showing countries with Jove observers. Note that the map shows one dot per country regardless of the number of observers.
The Radio-Skypipe software allows you to easily digitize and record your observations on your computer. The software allows you to do data analysis, calibrations, sound file recordings, and share data with others. This graph is a Radio-Skypipe recording of solar bursts on 19-March 2014 with the y-axis calibrated to antenna temperature (Credit: Jim Brown).

Strip chart of Jove receiver signals
Data streaming over the Internet
Data analysis and sharing
Chat between observers
Radio Jove allows participants a relatively inexpensive way to build their own radio telescope. One can fairly easily detect Jupiter and solar radio emissions, as well as detect the Milky Way. Learning science by doing allows one to learn basic physics and radio science. The Jove team helps you detect and analyze your observations and upload them to our data archive. Targeted for high school students, we also encourage individuals and middle school and college students to become involved.
Radio Jupiter Pro Software

Program Courtesy of Jim Sky

Observer Location

Alt - Az Graph

Storm Prediction

Longitude - Io Phase Diagram

Sky Map
The Radio Jove kits include two CDs: The Radio Jove CD contains the Pro versions of Radio-Skypipe and Radio Jupiter Pro, several lesson plans and a PDF copy of Richard Flagg’s Listening to Jupiter, 2nd Ed. The Education CD, written by Joe Ciotti is a multimedia education primer on radio astronomy and Jupiter.
The Radio Jove data archive is shown with the Jupiter and solar data entries for March 2014. Statistics of the number and types of files are given in the table. Anyone can upload and download data, create graphs for analysis, and look at long-term trends.

**Archive Statistics March 2014**

<table>
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<th>Types of Files</th>
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<th>Targets of Observation</th>
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<tbody>
<tr>
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<td>Sun:</td>
<td>4970</td>
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<td>3736</td>
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</table>

The Radio Jove data archive calendar view is shown with the Jupiter and solar data entries for March 2014.

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On the left is an example display of some solar bursts using the Spectrograph software. The upper panel is a 1-minute widow and the lower panel is a 10-minute window (Credit: Jim Sky).

Top: Schematic for a spectrograph antenna system (Credit: Wes Greenman). Bottom: Hardware for FSX-5 spectrograph (Credit: Richard Flagg).
Long-Term Projects

Io-phase vs. Jupiter longitude graph for the 2013-2014 observing season (Credit: Dave Typinski)

Monthly averaged sunspot numbers (yellow) and 20 MHz solar burst counts (blue) are graphed over seven years from 2005-2012. (Credit: Joe Kimball, MTSU Undergraduate)
This is an image of the Virtual Wave Observatory website for heliophysics wave data. (Credit: NASA)
Here is a summary of the Radio Jove project: 1) Radio Jove participants DO radio astronomy, 2) Radio Jove can make 20.1 MHz observations of Jupiter, the Sun, and the Galaxy; 3) Current Kit Cost: $210.00; 4) Share Data and Join Coordinated Observations; 5) Citizens Can Make Significant Contributions; 6) Advanced Users Can Do Amazing Science; 7) Data Archive is Growing; 8) Radio Jove Plans to Make Observations During the June Mission to Jupiter, 2015-2017