NAME

xmit – Radio Free Ethernet transmitter

SYNOPSIS

xmit [**–h** *host*] [**–s** *service*] [*generic-tool-arguments*]

DISCLAIMER

This program is furnished on an AS IS basis as a demonstration of audio applications programming.

DESCRIPTION

xmit is the window-based Radio Free Ethernet transmitter. It functions as a graphical front-end to the **radio_xmit**(6) program, which it uses to read audio data from the audio device (or a file) and broadcast it over the network. (For an overview of Radio Free Ethernet, please refer to the **radio**(6) manual page.) Before you can start broadcasting, you must configure a station name. Clicking on the **Station** item brings up a station edit panel that allows you to specify the station name and broadcast characteristics for one or more stations. The **Station** item brings up a menu of the stations that are configured. Once you select a station, you may begin broadcasting by pressing the **Power** button. Ordinarily, the program broadcasts to the IP Multicast address identified by the host name *RadioFreeEthernet* found in the NIS *hosts* map. The **–h** *host* command-line option may be used to specify an alternate host address or name to use for the default IP Multicast address. The Radio Free Ethernet tools use the port number identified by the service name *radio* found in the NIS *services* map. The **–s** *service* command-line option may be used to specify an alternate service name or port number to use. The following sections describe the individual panel controls. In addition, online help is available by positioning the pointer over the item in question and pressing the **<Help>** key.

Power toggles the state of the transmitter on and off. Since this involves communicating with a running copy of the **radio_xmit** program, this operation may take a few seconds to complete. This button is only enabled when a station name has been configured and selected.

Station brings up a menu of the radio stations that have been configured for broadcast. The **Edit...** entry brings up a panel that may be used to add or modify the broadcast station configuration. Changes to the station configuration parameters do not take effect until the **Add** or **Change** button is pressed. If the the configuration parameters are changed for a station that is currently broadcasting, the new configuration will not take effect until the station is powered off. **Add**, **Change**, and **Delete** also cause the current station list and program parameters to be written out to the initialization file.

Input Volume may be used to manually adjust the audio input gain level. It is only enabled when broadcasting data from an audio device (as opposed to a pre-recorded file).

Auto Volume Adjust enables an automatic gain control algorithm that monitors the input volume level and adjusts it when the audio data is too soft or too loud. The algorithm tends to be cautious, lowering the volume quickly when it is too loud, but raising the level slowly to avoid the noise-pumping effects characteristic of cheap tape recorders.

This control is only enabled when broadcasting data from an audio device. The station configuration panel comes up by default in an abbreviated form, displaying only the **Station** option. The plus (+) button in the lower right corner causes the window to expand to display additional transmit parameters for the selected station. The following sections describe all of the station configuration panel controls:

Station is a text field in which a four-letter station name may be entered. The station name is used to identify your broadcast program.

Sign-On File specifies an audio file that is broadcast when the transmitter is initially powered on.

Audio Input specifies the source of audio data for the normal station broadcast.

Sign-Off File specifies an audio file that is broadcast when the transmitter is powered off.

Auto-Shutoff determines the action to be taken when the audio input source is silent. When this option is enabled, the station will automatically sign off if there has been no audio input for a full minute. If this option is disabled, the station will continue to broadcast station identification packets, but will suppress the broadcasting of audio data until some sound is detected.

Audio Format selects the audio data format that will be transmitted. The uncompressed format causes 8000 bytes of audio data to be broadcast each second. Compressed data sends only 4000 bytes per second, but requires more computation on both the transmitter and receivers.

Multicast Addr specifies the network broadcast address (see **radio_xmit**(6) for more information on the IP Multicast implementation). The special string BROADCAST causes the program to transmit UDP Broadcast packets (which will not be relayed over a network gateway).

Multicast Hops specifies the number of network gateways that RFE broadcast packets may traverse.

FILES

~/.radiorc startup initialization file for **radio** and **xmit**

SEE ALSO

radio(6), **radio_recv**(6), **radio_xmit**(6)