

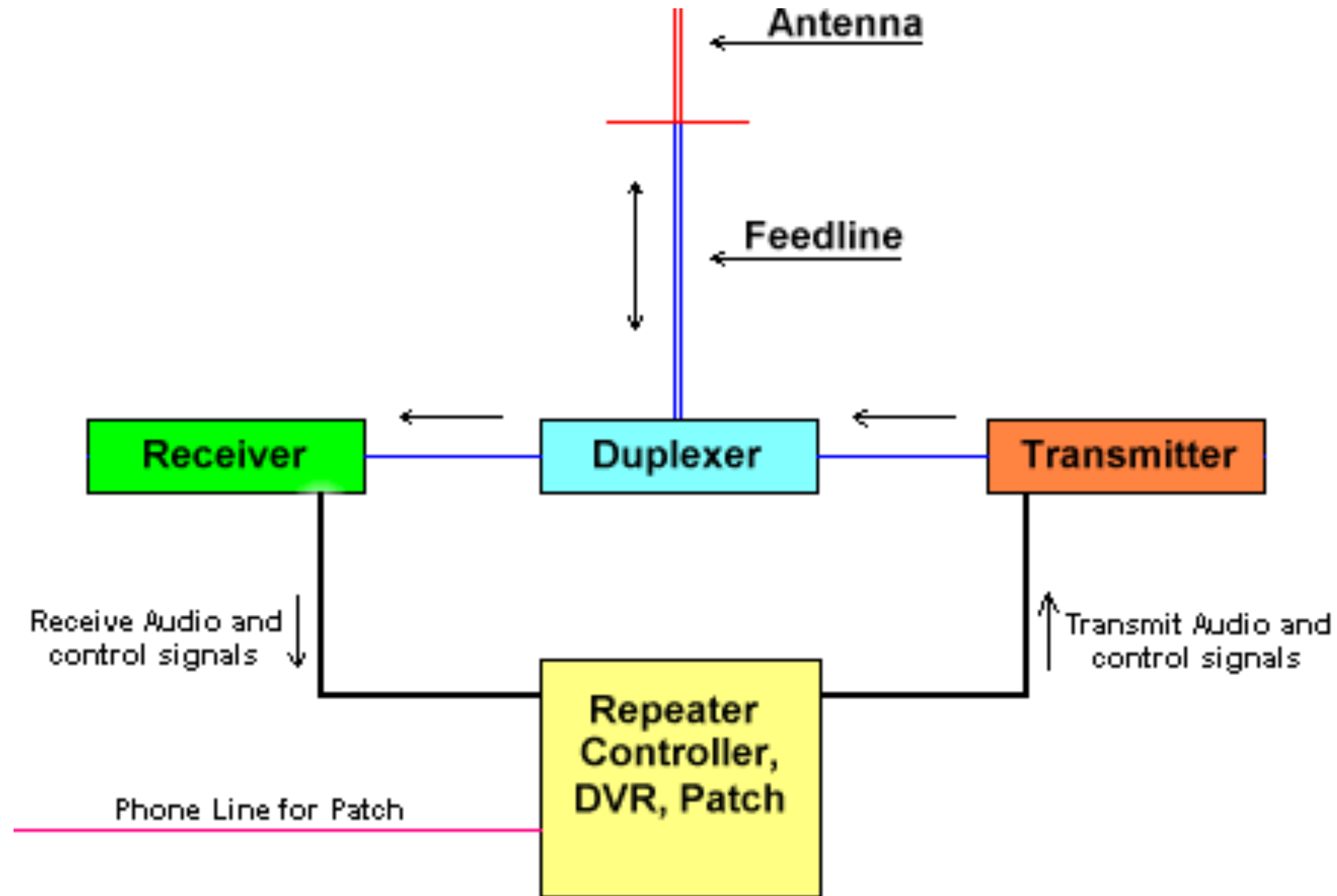


Tactical Repeater Committee

Repeater Controllers

What are they, and what functions do they perform?

Repeater Block Diagram



What is a Repeater Controller?

- The brain of the repeater
- Gives the repeater its personality
- Activates and deactivates the transmitter
- Handles station identification
- *A little* computer that's programmed and optimized to control a repeater

Controller Functions

Basics

- Carrier Operated “Relay” - Key transmitter when signal received
- Time-out Timer - 3 minutes §97.213 (b)
- Station ID - §97.119

see: <http://www.arrl.org/auxiliary-station-faq>

Amateurs who use repeaters and associated operations are often faced with Part 97 rules dilemmas. Part 97 gives amateurs "pieces" which can be incorporated into a system. Part 97 doesn't address all uses, "remote bases" or crossband repeaters, for example, by name.

Controller Functions

- Repeater RX/TX Ports
- Link/Remote Base Ports
- Audio Delay
- Audio Levels
- Courtesy Tone
- Voice-synthesis Bot for ID and announcements
- User-Recorded Speech ID Messages
- DTMF Encoding/Decoding
- CTCSS Encoding/Decoding
- CTCSS Squelch
- DCS Encoding/Decoding
- Time-out Timer
- Other Timers

Controller Functions

Added Value

- APRS functionality
- Echolink functionality
- Auxiliary Audio Input
- Voice Mailboxes
- Autopatch
- Reverse Patch
- Autodials
- Digital Modes

Controller Functions

Operations and Maintenance

- Telemetry (power status, temperature, humidity, ...)
- Console or Web Interface
- DTMF Controllable (over the air)
- Alarm Input (tamper, ...)
- Fan Control
- Dedicated Control Receiver Input

Types of Controllers

- Integrated commercial products
- Stand-alone commercial products
- Homebrew dedicated hardware
- Homebrew general purpose hardware
- Open source software
- Commercial software