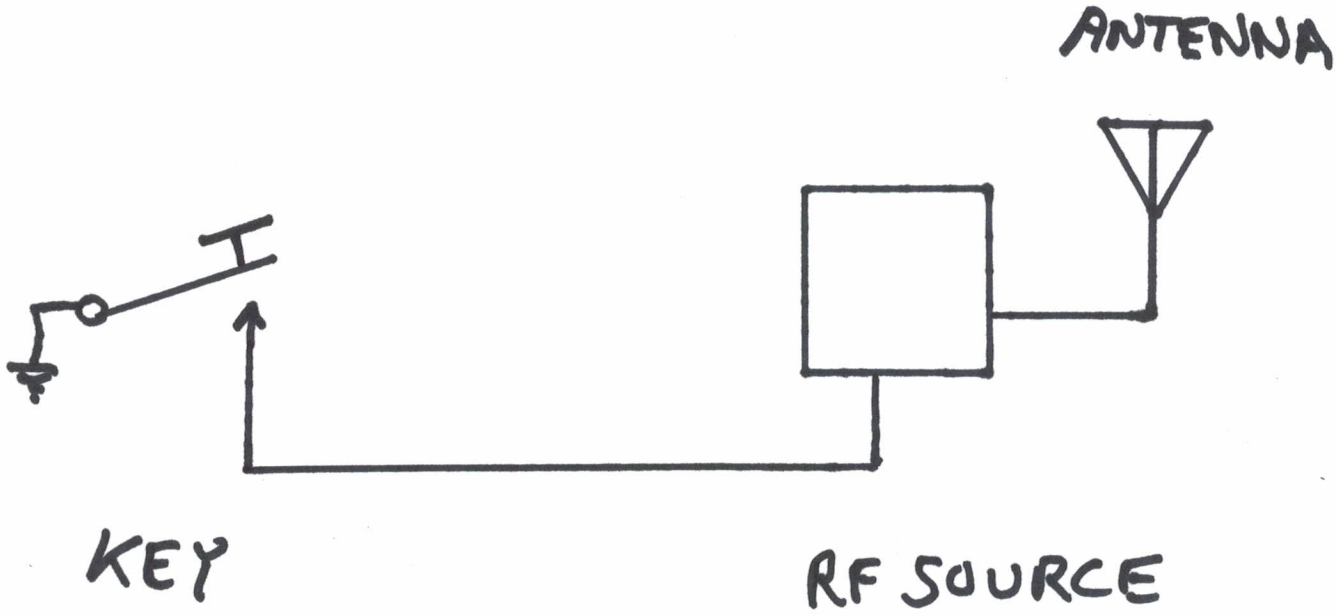
CW Operation:

- **How does CW work?**
- **How do I learn Morse Code?**
- **Why operate CW?**

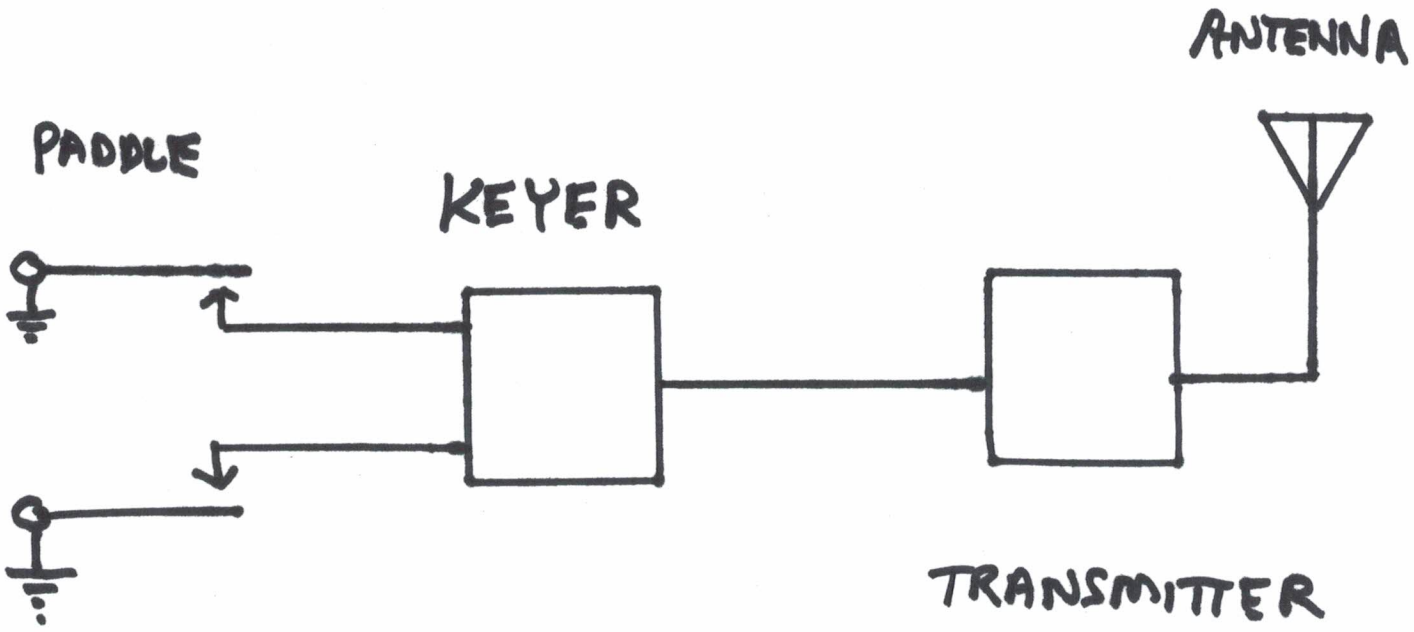
Presented By:

Mark Thompson
AE6GD

Simple CW Transmitter.



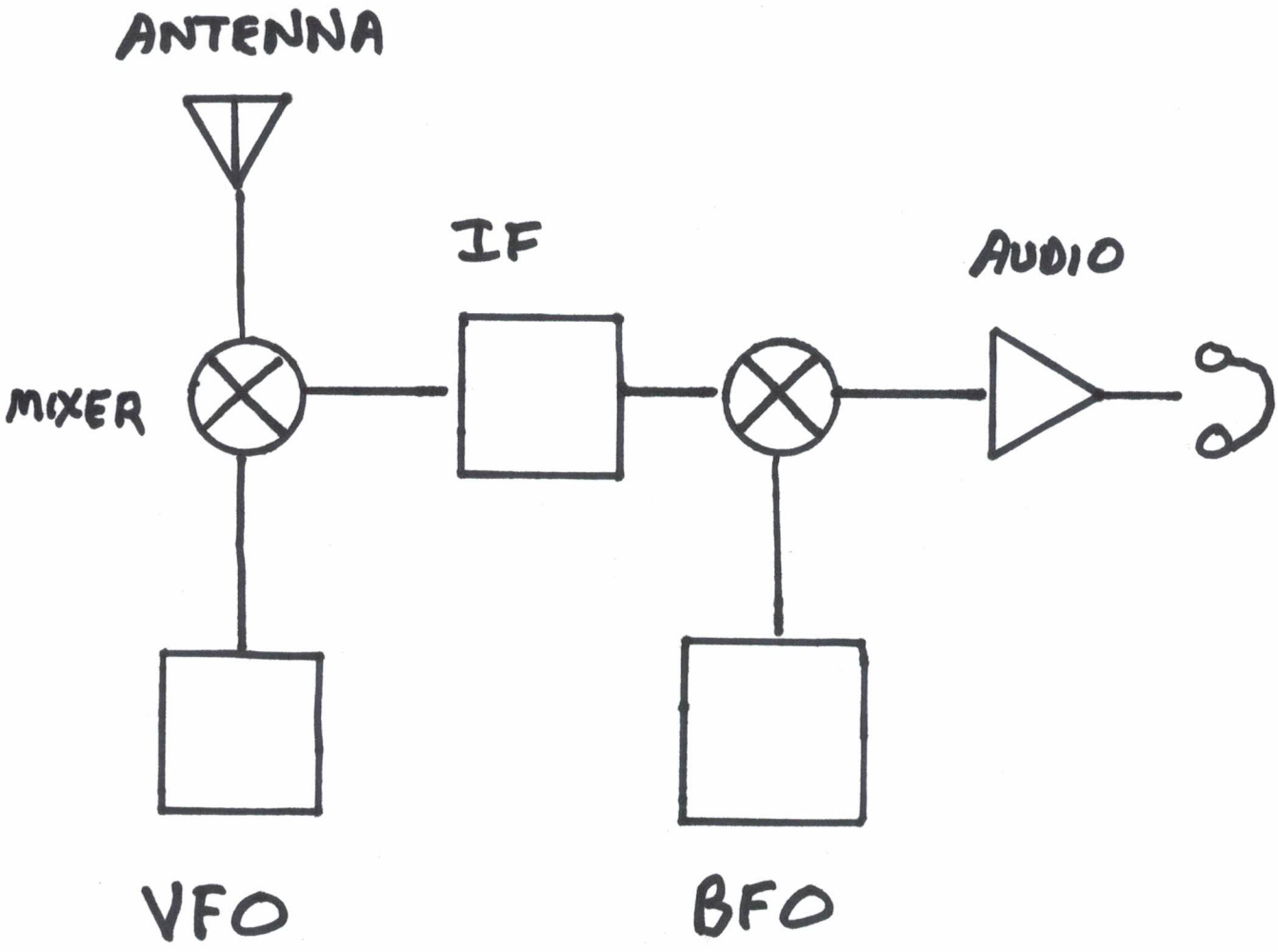
CW Transmitter with Keyer and Paddle



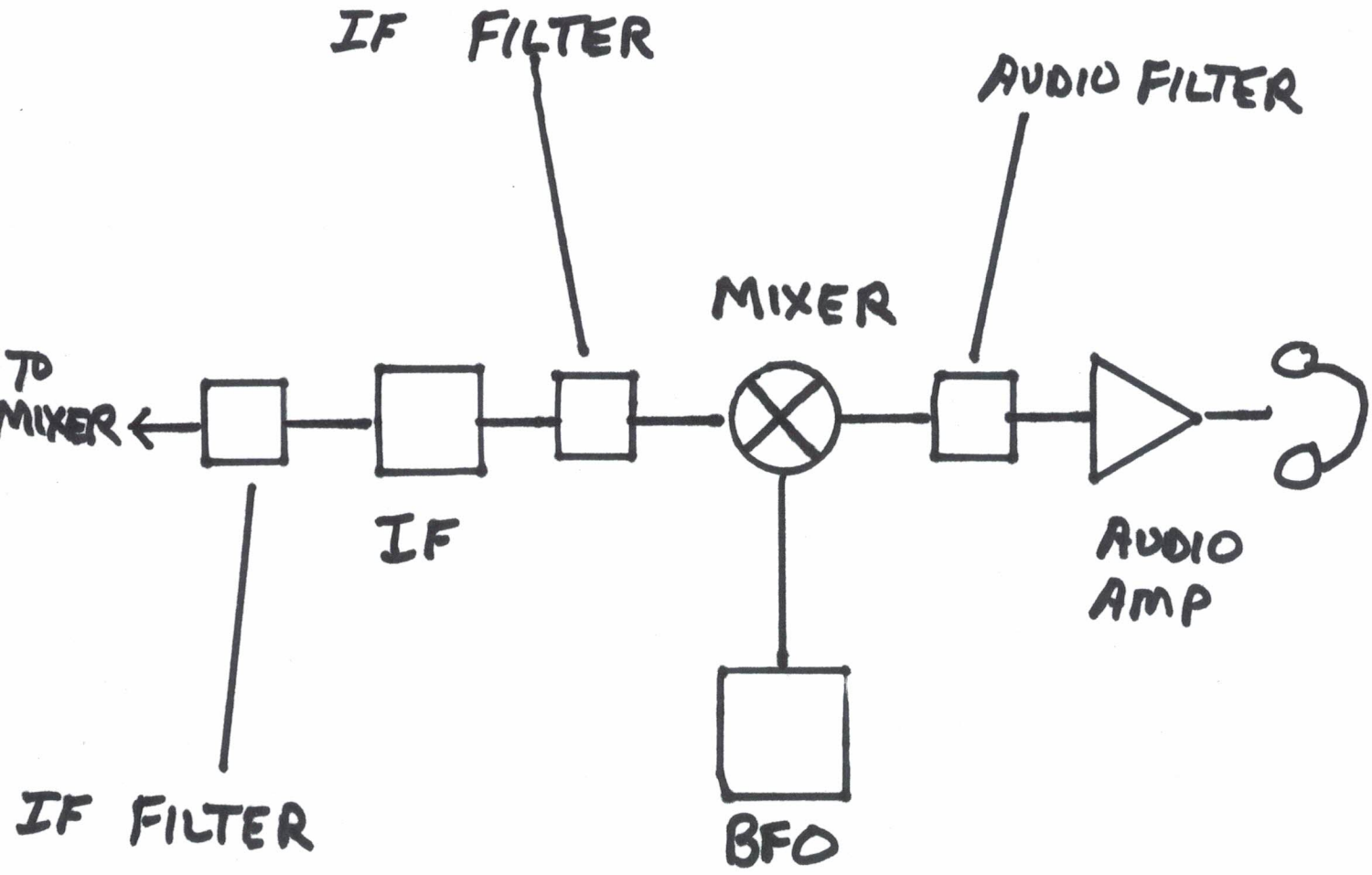
Keyer Functions and Controls

- Creates correct dot and dash spacing.
- Sets the speed in WPM.
- Controls the “weight” of dots and dashes.
- Creates sidetone with adjustable pitch.
- Performs logic for Iambic paddle.
- Output for negative or positive keyline.
- Serves as a practice oscillator.

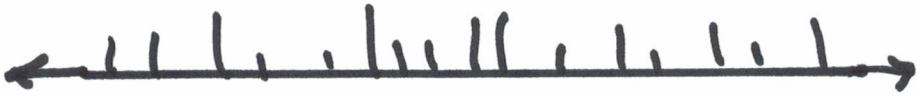
CW Receiver with BFO



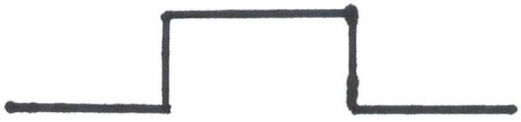
CW Receiver with Filters



CW Recption with Filters



BAND WITH SIGNALS



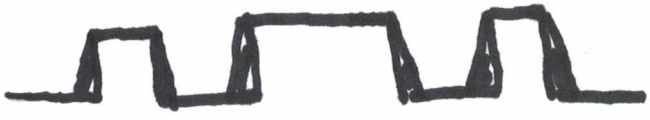
WIDE FILTER

NARROW FILTER

RECEIVED WAVEFORM

"R"

GOOD FILTER



OK FILTER

TOO NARROW

Modes of Receiving:

- **Look-up > Write > Read > Comprehend**
- **Write > Read > Comprehend**
- **Visualize text > Comprehend > Notes**
- **Mental copy words phrases. No Notes**

Modes of sending:

- **Sending written material**
- **Sending mental thoughts**
- **Conversation back and forth**

Tips that will reduce frustration:

- **Don’t use memory aids.**
- **Don’t use computer decoders.**
- **Skip using a straight key until later.**
- **Don’t practice at very slow speed.**
- **Use Farnsworth method.**
- **Improve receiving by sending practice.**
- **Watch on-line videos of CW operation.**
- **Use a headset with noise-canceling**
- **Minimal filtering is easier to copy**

Why Bother Learning CW Operation?

- It's a real challenge involving mental and physical skills.

- It connects a modern ham to the earliest radio operators by learning the same skill that they had.

- CW is used by homebrewers, QRP operators, boat-anchor enthusiasts to operate their rigs.

- DX is possible with modest equipment.

- Many interesting hams only work CW. They started with CW and they never left.

- Preppers, survivalists and public service oriented hams should know CW operation for emergency situations.