

KIDdesigns INC.

MODEL: HW225

THEORY OF OPERATION

TRANSMITTER

When the talk switch is pressed down, audio sound can be sent through the microphone MIC 1. After passing through the microphone the audio signal is driven by Q7 and Q8, amplified in Q5, Q6. The amplified or modulated signal is mixed with a signal carrier of 49.860MHz at Q3 producing an amplitude modulated signal which can then be transmitted via the antenna.

To transmit 'Message' signal by pressing push key knobs, the signal will utilize Q7, Q8, Q5 and Q6. The output signal is mixed with the carrier signal producing an AM signal for transmission.

RECEIVER

The unit acts as a receiver when power is turned on. RF signal is picked up from the receiver antenna and it is super-regenerated and detected in Q1, Q2 to produce audio signal, which can also be adjusted by the volume VR1 to control the level. The signal is driven by Q9 and amplified through Q7, Q8, Q5 and Q6 before it is heard via the speaker 1.