

F8M026 – TuneBase FM for Zune

Operational Description, refer to Block Diagram:

The device communicates serially with the Zune to get the Zune to pass audio signals to our device. This audio is conditioned and divided down to a level acceptable for the stereo modulator and FM transmitter IC. The audio is then modulated onto FM audio(generated by the same IC). This FM signal is then attenuated and connected to our gooseneck antenna.

The EUT gets its' power from the CLA(cigarette lighter adapter). The car voltage is passed through an LDO to supply 5V EUT system power. The car voltage is also connected to a switching power supply(1MHz switching), which converts the car voltage into 5V, which is then supplied to the Zune.

The microprocessor controls all communications with the Zune, updates the LCD display, senses button presses, and digitally communicates with the FM Transmitter IC to set its transmission frequency.

There are 5 buttons on the device. One increments the frequency, one decrements the frequency, and there are 3 presets that are user programmable. An up button press when the transmitter is already on 107.9MHz will “wrap” the frequency down to 88.1MHz. The opposite is true when the user presses the down arrow when the transmitter is set to 88.1MHz.