M812 Functional Description

The M812 is an iPod docking speaker system that operates wirelessly on three separate frequencies (channels) in the 2.4GHz ISM band. The M812 consists of a docking station, speaker unit, wireless remote, and IR transmitter. Functionality will be described separately for each.

The docking station serves its main purpose is as an audio source. The docking station houses an FM tuner, 3.5mm auxiliary input, and iPod dock. These audio sources are converted into a digital audio format which is then transmitted wirelessly via the RF module. The docking station has a DC jack for power via an external power adapter, 2 spring terminals for an FM dipole antenna, and an additional 3.5 mm jack for IR transmission. The user interface consists of a pushbutton and 3 LEDs. A single LED indicated standby and the 2 remaining LEDs indicate synchronization to one or more speaker units. The pushbutton has several functions:

1. Single press and release – The system enters/exits standby.

2. Hold for 3 seconds and release – The docking station enters RF channel select mode. The standby LED will blink at a rate of one flash per second to indicate RF channel select mode. The sync 1 and sync 2 LEDs will indicate the RF module's current channel selection for wireless transmission. The RF channel selection is indicated as follows:

    a. Sync 1 LED and Sync 2 LED are off – Auto mode.

    b. Sync 1 LED is on and Sync 2 LED is off – Channel 1.

    c. Sync 1 LED is off and Sync 2 LED is on – Channel 2.

    d. Sync 1 LED and Sync 2 LED are on – Channel 3.

    The pushbutton can be pressed again to change the desired RF channel. Once the selection is made, the button must be held again for 3 seconds to save the change.

Auto channel mode will force the RF module to select the cleanest channel for transmission.

3. Hold for 6 seconds and release – The wireless connection will be reset if the docking station is synchronized to any speaker unit. This is useful when the docking station synchronizes to an unwanted speaker unit.

The docking station also serves as an IR transmitter via the connection of the IR transmitting LED. Three IR commands can be recorded by the speaker unit and are stored in memory on the docking station. IR transmission will be discussed more in the speaker unit section.

The speaker unit houses most of the system controls and is also an amplified speaker system. The speaker unit is able to be placed on a desktop and can also be mounted to any wall with the designated wall bracket. An eight character LCD on the front of the speaker unit displays visual feedback for user interface. The right side of the speaker unit houses six pushbuttons for system control. The back of the unit houses the IEC power connector and two switches for mode control. The IR receiver is located to the right of the LCD display.

The pushbutton controls consist of the following functions:

1. Standby – The standby button has three separate functions:

    a. Single press and release – The speaker unit will enter/exit standby. If the speaker unit is the only one synchronized to its associated docking station, then it will place the docking station in standby as well.

    b. Hold for 3 seconds and release – The speaker unit will enter system default mode. System volume, treble, bass, and input will all be set to default.

c. Hold for 6 seconds and release – The wireless connection will be reset if the speaker unit is synchronized to a docking station. This can be useful if the receiver has synchronized to an unwanted docking station.

2. Vol-/Vol+ - The Vol buttons have two functions:

a. Local volume – When idle, these buttons will control the volume of the speaker unit only. If multiple speaker units are connected, their volume level is not affected. Volume is displayed on the LCD.

b. Menu position – When in menu mode, the Vol buttons act as increment and decrement buttons for the menu tree.

3. Trk FW/Trk BK – The Trk buttons have three functions:

a. iPod track change – When idle and iPod is selected as the input source, the Trk buttons allow you to move forward or back in your iPod play list.

b. FM station selection – When idle and FM is selected as the input source, the Trk buttons allow you to tune or seek the next available FM station. The station is displayed on the LCD.

c. IR transmission – When idle and Aux is selected as the input source, the Trk buttons allow you to transmit the IR Remote command that is associated with those buttons.

4. Input – The input button has two functions:

a. Single press and release – Audio input selection. Select between Aux, FM and iPod. The selected input is displayed on the LCD.

b. Hold for three seconds and release – Enter Menu mode. You can use the Vol buttons to scroll up or down through the options. Pressing and releasing the input button will select the displayed option. The menu can be divided into 7 selections as follows:

1. Treble – Increase or decrease treble setting. Select this option by pressing and releasing the input button. Adjust this option by pressing the Vol buttons. The current treble setting is displayed on the LCD.

2. Bass - Increase or decrease bass setting. Select this option by pressing and releasing the input button. Adjust this option by pressing the Vol buttons. The current bass setting is displayed on the LCD.

3. FM Mode – Select the appropriate region for FM reception. Select this option by pressing and releasing the input button. Adjust this option by pressing the Vol buttons. The current FM region setting is displayed on the LCD.

4. RF Chan – Adjust the RF module's receiving channel. Select this option by pressing and releasing the input button. Adjust this option by pressing the Vol buttons. Channel selections are channel 1 through channel 3 and Auto. Auto will force the RF module to search for a valid transmission from a docking station. The current RF Channel setting is displayed on the LCD.

5. IR Prog – IR programming mode. Select this option by pressing and releasing the input button. You can select between 3 buttons to program: Trk Fw, Trk Bk and Play/Pause. Select the desired button to program and press and release the input button to select it. The LCD will display "START". To program an IR remote function, aim the desired remote at the M812 and press the button on the remote you want to record. The LCD will display "DONE" when programming is complete. The recorded command can now be re-transmitted by connecting the IR LED to the docking station, entering AUX input mode and pressing the associated button either on the side of the speaker unit (Trk Fw and Trk Bk only) or the wireless remote. The IR LED must be aimed at the unit you are trying to control in order for it to work.

6. Default – Enter default mode. Select this option by pressing and releasing the input button. You can select local or factory by pressing the vol buttons. Local default is described in the Standby option. Factory defaults will set the entire system to default including local and system

volume, treble, bass, input selection, RF channel, FM presets, recorded IR commands and FM region.

The two switches on the back of the unit control listening modes. The 2 position switch optimizes the sound for the differences between listening to the system on a table top or on a wall. The switch allows the user to change the sound between desk and wall. The three position switch controls speaker configuration. You can select stereo, mono left or mono right. This switch is useful for use of multiple M812 systems, allowing the user to set up multiple speakers in mono left or right mode in the same room, resulting in an improved stereo image.

The wireless remote control has many functions and also repeats some of the functionality of the pushbuttons on the speaker unit. The controls are as follows:

1. Standby – The speaker unit will enter/exit standby. If the speaker unit is the only one synchronized to its associated docking station, then it will place the docking station in standby as well.

2. Mute – Mutes volume of local speaker unit. Status is displayed on LCD.

3. Master Vol -/+ - Controls volume of entire system, if only one speaker unit exists, then master volume has the same effect as local volume.

4. Bass -/+ - Adjusts bass setting. Status is displayed on LCD.

5. Treble -/+ - Adjusts treble setting. Status is displayed on LCD.

6. iPOD – Selects iPod as audio source. Status is displayed on LCD.

7. FM – Selects FM as audio source. Status is displayed on LCD.

8. AUX – Selects Aux input as audio source. Status is displayed on LCD.

9. Buttons 1 through 6 – These buttons are the FM preset buttons and allow the user to save an FM station and recall it later. To save an FM station as a preset, select FM as the input, tune to the desired FM channel, and then hold the desired preset button for 3 seconds. The LCD will display "PRESET X" where X represents the preset number you are recording.

10. Button "Wheel" – The button wheel consists of 5 separate buttons as follows:

    a. "+" – The plus button increases local volume only. Current status is displayed on the LCD.

    b. "-" – The minus button decreases local volume only. Current status is displayed on the LCD.

    c. ">>" – The track forward button repeats the functionality of the Trk Fw pushbutton on the speaker unit.

    d. "<<" – The track back button repeats the functionality of the Trk Bk pushbutton on the speaker unit.

    e. ">||" – The play/pause button serves 2 functions. In iPod mode, this button repeats the functionality of the play/pause button on the iPod allowing you to play or pause a track as well as shutdown and wakeup. In Aux mode, this button serves as the control for IR transmission of the programmed command for this function.