



92 N. Main Street, Building 18A
Windsor, NJ 08561
www.emcomsys.com

(609) 585-5500
Fax: (609) 585-7723
info@emcomsys.com

SAI010-3
Audio Interface Box
Operation and Installation

June 04, 2021

RECORD OF CHANGES

Changes to this document shall be recorded in the following table.

Record of Changes Table

Rev #	Date	Brief Description	Change Order #
A	04 June 2021	New address	

Product Description

The SA1010-3 is an audio mixer that allows various speak and listen resources to be combined into common transmit and receive audio streams. In a typical application the common transmit and receive audio streams of the SA1010-3 are connected to an E&M to VoIP (Voice over Internet Protocol) gateway that is associated with an Emcom Systems EmVista Agent Station to provide a selection of audio interfaces for that station.

The SA1010-3 has connections for two wired headsets, a wireless headset and a desktop microphone with associated speaker. Each of these interfaces have connections for a “push to talk” contact closure. There are also line-in and line-out connections for the sound card of a PC.

To ensure uniformity of sound level of in and out audio, the SA1010-3 has limiter-compressor circuits associated with each of the audio inputs. This results in an internal common audio level. The common level outputs from each of the sources are then mixed and sent to the appropriate output points. The overall mixing scheme is depicted in Figure 1.

In addition to a primary communication connection associated with an EmVista Agent Station, the SA1010-3 has input connections to allow secondary or monitor audio to be presented to the agent. This “listen only” audio is presented to the agent in a separate headset connection and in a separate monitor speaker output.

The SA1010 contains an alerting device that advises the EmVista Agent Station operator of any incoming call activity. There is also a connection for a “push to talk” footswitch on the SA1010-3.

I. Installation and Use

I.1 Mechanical

The SAI010-3 housing is 8” deep by 17” wide by 1 ¾” high. The bottom of the unit contains rubber feet so that it may be placed on a table top. Also included with the unit are mounting brackets that enable it to be mounted under the surface of a desk.

2.1 Power

The SAI010-3 is powered from 110 – 120VAC and consumes 1 Watt of power.

I.2 Panel Layout

Figure 2 shows the front and rear panel layout of the SAI010-3. The front panel contains connections for 2 headsets with associated volume controls and a monitor speaker headset connection with associated volume control. There is also a connection for a remote monitor speaker with an on/off switch.

The rear panel contains connections for a low impedance desk top microphone, a PC interface, a wireless headset interface as well as the input/output connections for the operate and monitor audio streams from the E&M to VoIP gateway. The rear also contains a jack for a plug-in footswitch and a serial port connection to the Agent Station.

I.3 Audio Connections

Table I lists the audio connections in and out of the SAI010-3 along with the appropriate levels. The mating connectors are also listed.

I.4 Alternate configurations

The SAI010-3 may be configured to provide outputs to 8 ohm Operate or Monitor speakers or it may be configured to provide 600 ohm balanced outputs. As shipped, the unit is configured for 600 ohm balanced outputs with internal jumpers JP1 thru JP8 connected in the 2 to 3 position. To provide 8 ohm outputs to speakers remove the cover and move all of the jumpers to the 1 to 2 position.

The Headset 1 and Headset 2 inputs of the SAI010-3 may be configured to accommodate an inline Push To Talk button with left earpiece audio or to accommodate left and right earpiece audio but without Push To Talk capability. As shipped, the unit is configured to left and right earpiece audio with internal jumpers JP9 and JP10 connected in the 1 to 2 position. To provide Push To Talk capability with left earpiece audio, remove the cover and move the jumpers to the 2 to 3 position.

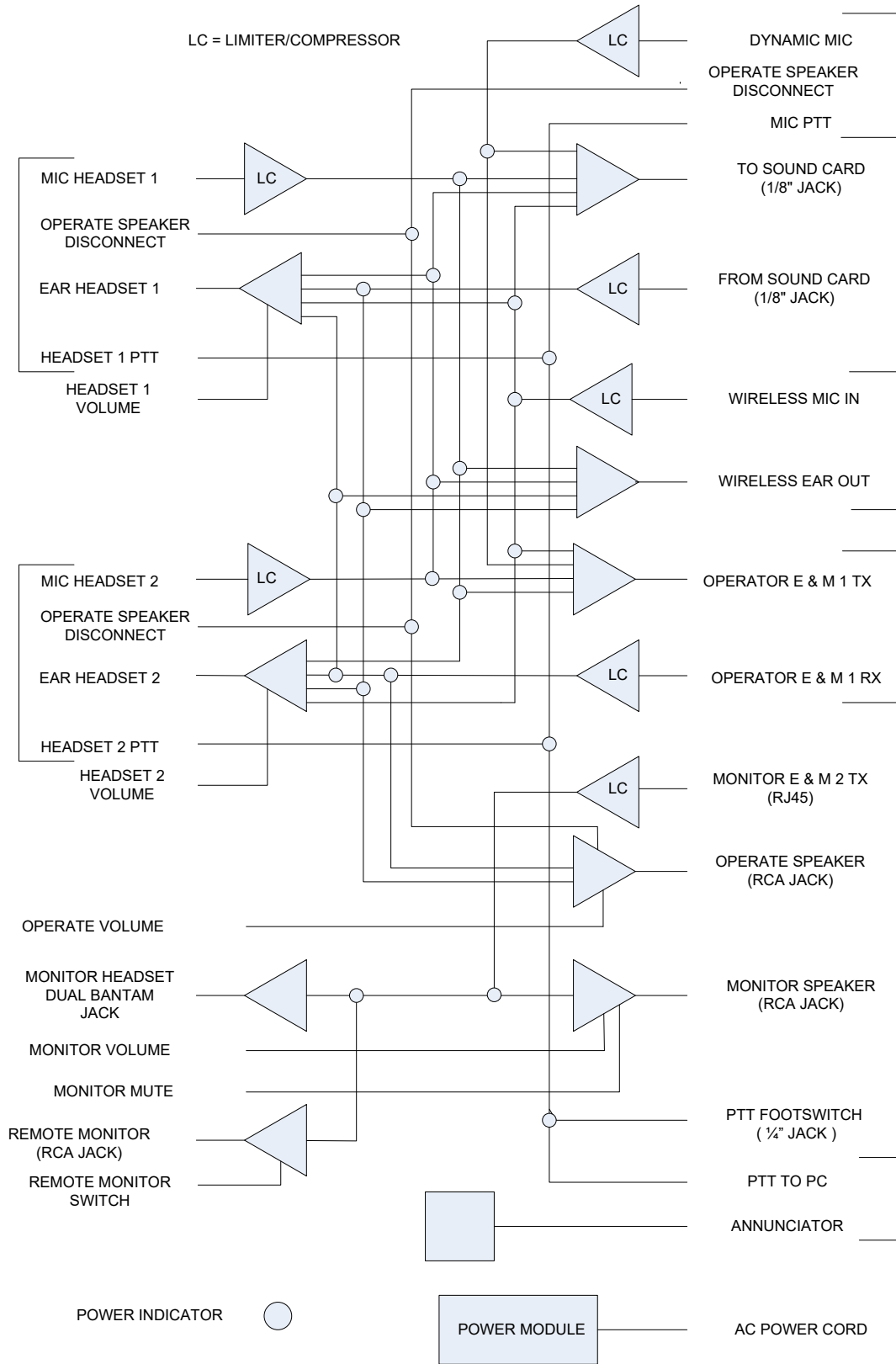


Figure 1: EMCOM SYSTEMS SA1010 BLOCK DIAGRAM

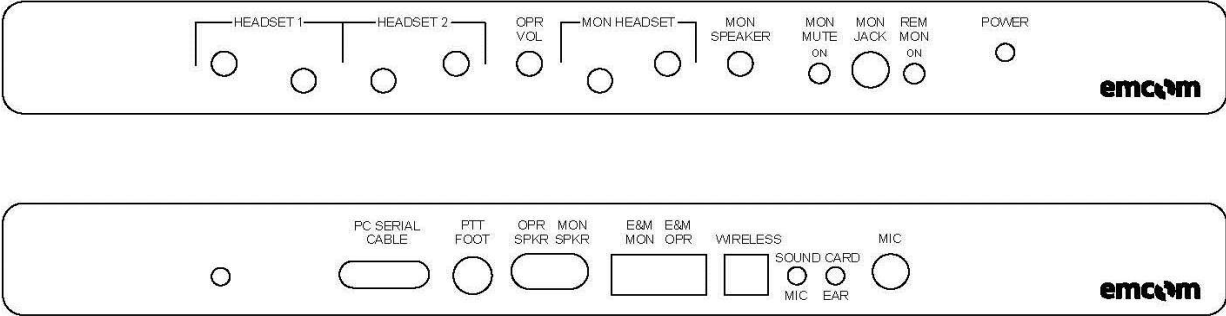


Figure 2: Front and Rear Panels of SAI1010-3

Connection	Mating Connector	Pinout	Levels
Headset 1	3.5mm 4 tier male	Tip – Left Ring 1 – Right or PTT Ring 2 – Ground Sleeve – Mic	Mic , 10 to 100 mV RMS High impedance PTT – Contact Closure Ear, 1V RMS max into 40 ohms
Headset 2	ADC Telecommunications PJ778B Serration is side 1	Tip – Left Ring 1 – Right or PTT Ring 2 - Ground Sleeve – Mic	Mic , 10 to 100 mV RMS High impedance PTT – Contact Closure Ear, 1V RMS max into 40 ohms
Monitor Headset	ADC Telecommunications PJ778B Serration is side 1	Tip – Left Ring 1 – NC Ring 2 – Ground Sleeve - NC	Ear, 1V RMS max into 40 ohms
Wireless Headset	RJ11 6 pin	1 – PTT 2 – From Mic 3 – To Ear 4 – To Ear 5 – From Mic 6 – PTT	From Mic, 1V RMS, 600 ohm To Ear, 1V RMS, 600 ohm PTT – Contact Closure
Desk Microphone	Switchcraft TA5F	1 – Shield 2 – Signal 3 – Signal 4 – PTT 5 – PTT	Signal, 10 to 100 mV RMS, Low Impedance
Operate Speaker	RCA male	Isolated	8 ohm or 600 ohm
Monitor Speaker	RCA male	Isolated	8 ohm or 600 ohm
Remote Monitor	RCA male	Isolated	8 ohm
Operate Audio to/from IP	RJ45 8 pin	1 – NC 2 – NC 3 – From IP 4 – To IP 5 – To IP 6 – From IP 7 – NC 8 – NC	From IP, 1V RMS, 600 ohm To IP, 1V RMS, 600 ohm
Monitor Audio from IP	RJ45 8 pin	1 – NC 2 – NC 3 – From IP 4 – NC 5 - NC 6 – From IP 7 – NC 8 – NC	From IP, 1V RMS, 600 ohm
Sound Card to MIC	3.5mm Stereo Male		To Line In
Sound Card from EAR	3.5mm Stereo Male		From Spkr Out
PTT Foot	¼" Stereo Male	Tip – PTT Ring – PTT Sleeve - NC	Contact Closure
Serial Port	DB9 male	4 – Piezo alert 5 – Piezo alert 7 – PTT 8 - PTT	Established by computer

Table I: SA1010-3 Input / Output Connections