Sigtronics RES-2 Installation and Operating Instructions

INTRODUCTION

ATTENTION INSTALLER: To assure a trouble free installation, please read the entire instructions through once before beginning.

SIGTRONICS REMOTE AUDIO SWITCHER SYSTEM SPECIFICATIONS

CONFIGURATION - The Sigtronics Audio Switcher is designed to provide an entertainment option in aircraft when an intercom system is not present; for single seat aircraft or aircraft with Non-Sigtronics Intercoms. This enables the pilot and passengers to listen to any programmed entertainment, such as AM/FM radio, stereo or monaural, or recorded music without missing transmissions from ATO, flight watch, or traffic!

SWITCHING - The pilot and passengers are automatically switched from the audio bus of the entertainment system to the VHF radio when a radio message is received or transmitted and is switched back when the radio traffic is completed.

OPERATING MODES - Several modes of operation are possible. The pilot may listen to entertainment and be switched to the VHF, or he may elect to remain on the VHF only. He also has the option of putting the passengers on uninterrupted music or letting the VHF interrupt their music so they may hear the radio communications. (See Mode Selection Table)

RADIO MONITORING - The "fail-safe" design assures that the pilot will always receive the VHF, regardless of the position of the Switcher controls.

MUSIC INPUTS - The Switchers music inputs are fully compatible with music systems that have line level output, headphone level (Walkman) output, or speaker output up to 25 watts per channel. No amplifiers, adapters or modifications to the RES-2 unit are required.

HEADPHONES -The Sigtronics RES-2 system is designed for use with general aviation Stereo headsets with high impedance speakers (300 to 600 ohms). Headsets with low impedance (less than 100 ohms) speakers cannot be used with RES-2 systems without modification. Contact Sigtronics for details. In general, headsets with speakers high and low impedance and/or unmatched audio efficiencies should not be used together without modifications.

STEREO HEADSETS - Sigtronics stereo headsets are specifically designed for the aircraft high noise environment and give excellent noise attenuation. They also provide full frequency response stereo for maximum enjoyment They are compatible with aircraft mic circuits and can be used as general aviation headsets in aircraft that are not equipped with stereo headphone jacks. This is because they include a switch to change from "stereo to monaural", ***NO ADAPTERS NEEDED.***

NOTE: General aviation headset (monaural) phone plugs should not be plugged into stereo phone jacks. A monaural plug in a stereo jack shorts out one of the audio channels and therefore renders the aircraft VHF radio and intercom reception inoperative. (You may still hear music, however). General aviation headsets may be used with stereo installations only if one of the following two changes are made:

1. Monaural to stereo adapters are used on the headset headphone plugs. (Only monaural music will be heard.)
2. The general aviation headsets are re-wired for stereo reception or you install the Sigtronics Audio Switcher system for monaural operation. (See installation instructions for detail.)

MODE SELECTION TABLE 1			
Pilot / All Switch	Music Switch	Pilot Hears	Passengers Hear
Pilot	ON	VHF Interrupts Music	Music Only
All	ON	VHF Interrupts Music	VHF Interrupts Music
Pilot	OFF	VHF Only	Music Only
All	OFF	VHF Only	VHF Only

RES-2 UNIT SPECIFICATIONS

WEIGHT - 11 ounces with cables and accessories.

SIZE - 4"x2.9"x 2"

POWER - Utilizes aircraft power, 11 VDC through 34 VDC.
Maximum current drain 0.07 amp.

POWER SWITCH - Turns Switcher "ON" and "OFF". DISTORTION - Less than 1% total harmonic distortion PILOTIALL SWITCH - Selects who is to be switched, when wired as shown in Table 1.

HEADPHONE JACKS - Accepts standard .250 stereo headphone plugs in stereo installations and .250' phone plugs in monaural installations.

MUSIC INPUT - The Switcher provides loading so that your entertainment system output will not be open circuited. This eliminates the possibility of harming any music system.

HARDWARE SUPPLIED

Beside the RES-2 music switcher unit, each system comes with the following hardware.

- Headphone Output Jacks (Accept .250 Stereo headphone plugs)....4
- Flat metal washer....4
- Jack mounting nut....4
- Switch DPDT....1
- Switch SPST....1
- Music Input Cable (J1)....1
- Music Output Cable (P2)....1
- Music Switch Panel....1
- Music Input Jack, 3.5 mm....1
- RES Mounting Screws 6-32....4
- RES Mounting Nuts 6-32....4

WARRANTY: The RES-2 Audio Switcher is built of high quality commercial components and carries a five year parts and labor warranty.

Sigtronics®

Specialists in "SOUND" Management

178 East Arrow Highway, San Dimas, CA 91773 (909) 305-9399

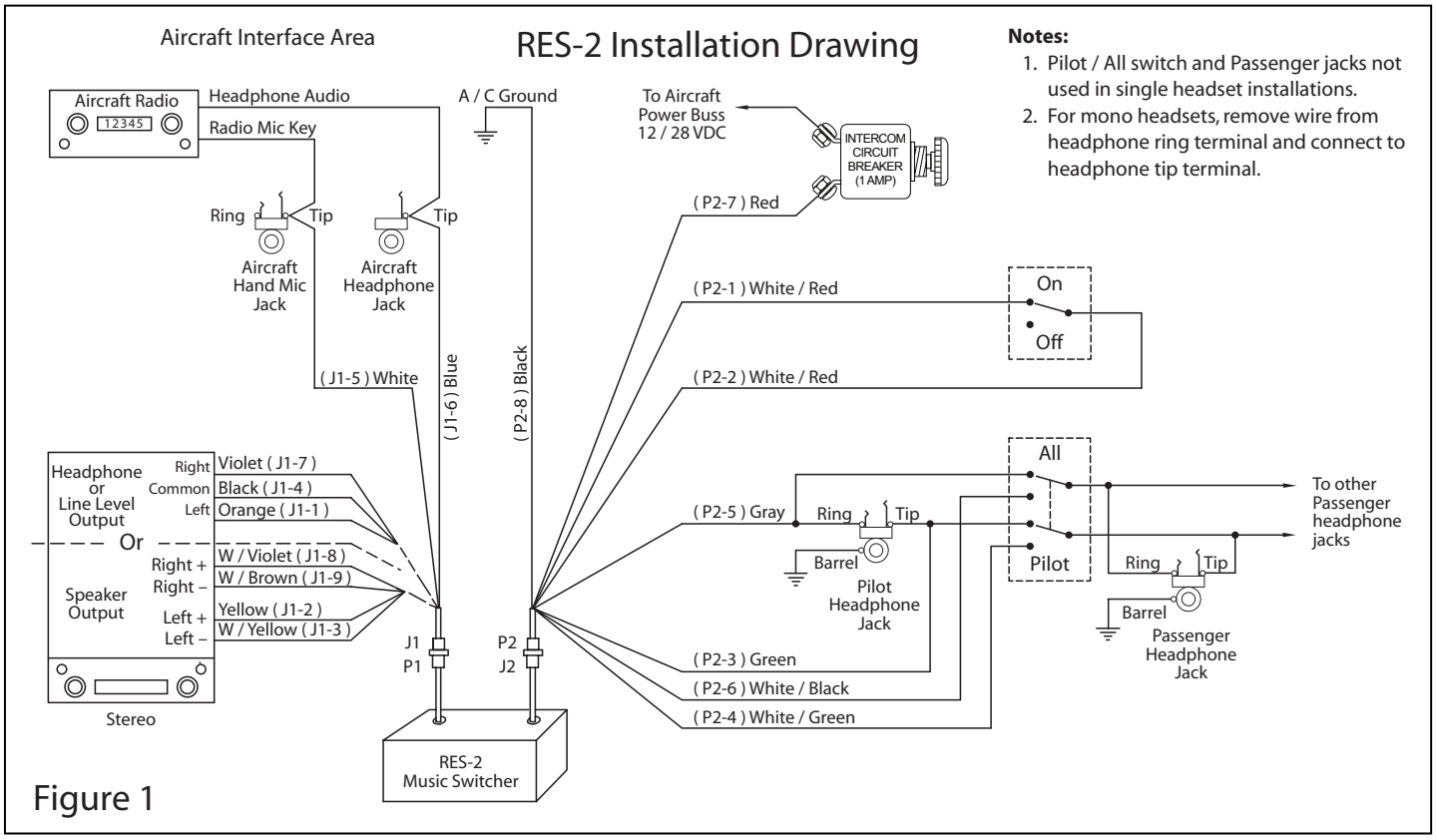

Figure 1

J1 Pin #	Wire Color	Function	Connect To:
J1-1	Orange	HDPH / Line output	Left Channel
J1-2	Yellow	Speaker Output	Left Channel Positive
J1-3	White / Yellow	Speaker Output	Left Channel Negative
J1-4	Black	HDPH / Line Common	HDPH / Line Common
J1-5	White	XMIT Music Disable	Tip of Aircraft Mic Jack
J1-6	Blue	Headphone Audio input output Jack Tip	Aircraft Radio Headphone
J1-7	Violet	HDPH / Line output	Right Channel
J1-8	White / Violet	Speaker Output	Right Channel Positive
J1-9	White / Brown	Speaker Output	Right Channel Negative

P2 Pin #	Wire Color	Function	Connect To:
P2-1	White / Red	Music ON / OFF	Music Switch ON
P2-2	White / Red	Music ON / OFF	Music Switch Common
P2-3	Green	Pilot Right Channel	Pilot Jack Tip
P2-4	White / Green	Passenger Right Channel	Pilot / All Mode Selector SW
P2-5	Gray	† Pilot Left Channel	Pilot Jack Ring
P2-6	White / Black Channel	† Passenger Left Selector SW	Pilot / All Mode
P2-7	Red	Power Input	Aircraft Circuit Breaker 1 Amp
P2-8	Black	Ground	Aircraft Ground
Note: † Relevant to Stereo Installation			**Table 2**

CHASSIS INSTALLATION

Select a mounting location which will not cause interference with flight controls. Four 6/32" screws with self locking nuts have been provided for mounting the chassis to the aircraft.

1. Remove the unit from the case.
2. After selecting a suitable mounting location in the aircraft, drill aircraft and switcher case with the same hole pattern. Use a No. 27 drill (Clearance drill for 6/32").
3. Secure case to the aircraft with the screw heads inside switcher case for circuit board clearance.
4. Replace the unit in the case and secure.

WIRING INSTRUCTIONS

Four feet of cable has been provided to connect the unit to the aircraft and entertainment system.

Figure 1 illustrates the connections to be made.

Table 2 lists the connector plugs and pin numbers, the color, function and destination of each wire connected to those pins. Connections should be made as shown in Figure 1 and as indicated in Table 2. Sigtronics should be contacted if other means of connecting the unit are contemplated.

OPERATING INSTRUCTIONS

Step 1. Turn aircraft radio "ON" and adjust both squelch (if manual) and volume to suitable listening level.

Step 2. Turn Audio Switcher and entertainment system "ON" and adjust entertainment to suitable listening level.

Step 3. Select Pilot or All position to suit switching mode desired.

Note: The Switcher controls can be changed from one mode to another at any time. (See Mode Selection Table 1)

TRANSMIT: Transmitting is accomplished in the conventional manner, by using your headset or hand-held microphone. Messages are received via the headphones being worn. If the pilot has a headset with a boom microphone and uses a push-to-talk switch, then the headset microphone plug should be connected to the aircraft microphone jack and the headphone should be connected to the switcher headphone jack.

Sigtronics Corporation
178 East Arrow Highway
San Dimas, CA 91773

Phone: (909) 305-9399
E-mail: info@sigtronics.com
Web Site: www.sigtronics.com