INSTALLATION INSTRUCTIONS

SR21
SPEAKER RELAY MODULE

The SR21, **Fig. 1**, is an IR Remote Controlled A/B Speaker Relay Module. It allows the installer and user to switch the output of one stereo amplifier between two speaker pairs, or, to switch one speaker pair between the outputs of two stereo amplifiers. The switching is accomplished by way of infrared commands originating from a Xantech RC68+ (or RC68) Programmer. It can also be switched by a DC voltage applied between the **CI** (control input) and **GND** terminals. The RC68+ commands are "taught" to learning devices and passed to the **IR IN** and **GND** input terminals of the SR21 via Xantech IR Receiver's, Keypads and Connecting Blocks.
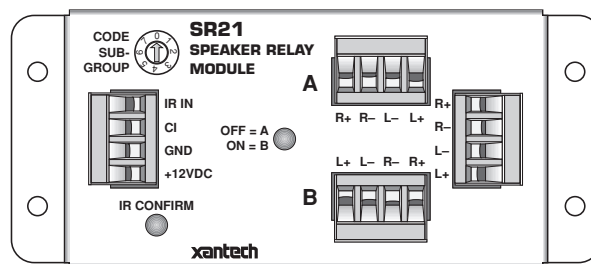

Fig. 1 *The SR21*

NOTE: The SR21 can also be used as an IR router.

FEATURES AND SPECIFICATIONS

• 4-terminal IR input (**IR IN** = IR Signal, **CI** = Control Input, **GND** and **+12VDC**) for connection of Xantech IR Receivers, Smart Pads, Connecting Blocks and other devices.

• Three 4-terminal plug-in connectors for stereo amplifier and speaker connections.

• Isolated Left and Right grounds. Allows use of bridging type power amplifiers.

• 5 Amp/30V DC relay contact rating; provides 200 watts per channel capability into 8 Ohms.

• All plug-in connectors accept wire sizes from 24 to 12 gauge.

• **IR CONFIRM LED** goes ON only when an RC68 IR command signal activates unit.

• LED indicates **A** or **B** switching status.

• Four RC68+ IR commands permit **OFF=A, ON=B, Pair**, **Toggle (A or B)**, and **Momentary** operation of the switching relay.

• IR activated ON condition (ON=B) goes OFF (Off=A) if power is interrupted.

• **+3V** to **+30V** DC 1 mA applied to **CI** terminal will switch unit, instead of IR, if desired.

• Factory preset Group Code number: **50**.

• **CODE SUB-GROUP** switch allows a choice of 8 different groups of the four RC68+ (or RC68) commands that operate the SR21. This prevents mutual interaction in common IR systems when using more than one SR21. Also, internal E^2 PROM can be set to different code groups, allowing up to 240 different IR code combinations if the system uses more than eight SR21's or in combination with CC12's.

• Power: +12V DC @ 50 mA. Use the 781RG Power Supply for each SR21. If IR receivers or keypads are used on the same 12V line, use the 782-00 Power Supply.

• Flanges, plus supplied screws, permits easy mounting to flat surfaces.

• Dimensions: 5-1/4" x 2-3/8" x 1-7/8" (133mm x 60mm x 46mm)

RC68+ PROGRAMMER / REMOTE CONTROL

The RC68+ (and RC68) Programmer (available separately) contains all the commands necessary to operate the SR21.

- You will need it to program universal learning devices such as the Xantech URC series learning remote, the Xantech Smart Pads, the 590 Programmable Controller, the 710 Fone Link, etc., with commands that operate the SR21.

- **NOTE:** The RC68+ codes operate several other Xantech models as well, such as the RS41AV, RP41AV, ZPR68, etc. Therefore, **only the button descriptions that apply to the operation of the SR21 (Overlay "B") are listed below**. All others should be ignored..

CAUTION: While the RC68+ will operate as a separate remote control, it is highly recommended it not be given to the final user for the following reasons:

- Since it includes setable code groups, the user may inadvertently alter the installer configurations.

- Also, since the user will require IR commands from other brands of equipment to control the total system, in addition to those of the SR21, all commands should be consolidated into one learning device, for ease of use.
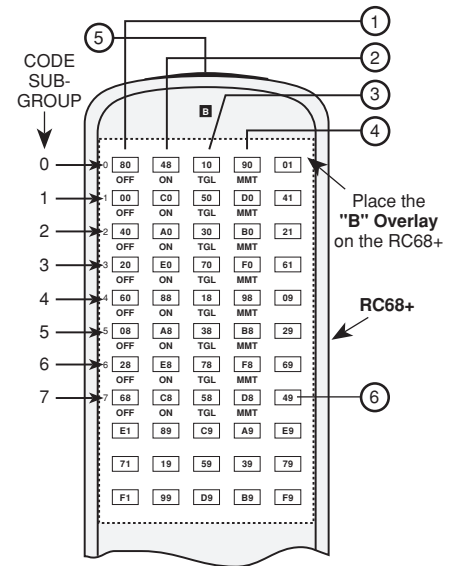

Fig. 2 *The RC68 Programmer*

APPLICABLE RC68 BUTTON DESCRIPTIONS

1. **Pair OFF Command.** This button activates the IR command that turns the internal relay of the SR21 to the OFF position (the **A** selection).

2. **Pair ON Command.** This button activates the IR command that turns the internal relay of the SR21 to the ON position (the **B** selection).

3. **TGL (toggle) Command.** The first press of this button turns the relay ON (the **B** selection) -the second press turns it OFF (the **A** selection).

4. **MMT (momentary) Command.** Pressing this button causes the SR21 relay to go ON (the **B** selection) but stays ON only as long as the button is held down. When released, the relay returns to the OFF position (the **A** selection).

5. **IR** Emitter Lens.

CODE SUB-GROUP

The RC6+8 has 11 rows of 5 buttons each. Each row, identified by the numbers **0** through **7** (see **Fig. 2**), will execute the same set of 4 commands listed above, when selected by the **CODE SUB-GROUP** switch on the SR21. This is useful to prevent mutual interaction in common IR systems when using more than one SR21, or if CC12's are used with SR21's.

To change the CODE SUB-GROUP, simply rotate the **CODE SUB-GROUP switch** on the SR21 to the number that corresponds to the desired row on the RC68+. **Remove and reapply power** (after 20 seconds), then use the chosen row to execute the commands for that particular SR21.

NOTE: No changes are needed on the RC68+!

6. **Code Group Numbers.** The SR21 is also capable of being set to different basic code groups as well as the sub-groups.

   NOTE: *When shipped from the factory, the SR21 is   to code group number 50. Be sure to set the RC68+ to the same number!*

It may be necessary to change the SR21 to a different code group if it is used in a common IR bus controlled system with many SR21's, CC12'S, etc., to avoid mutual interaction.

Refer to the RC68+ instructions for code group setting procedures.

INSTALLATION

Fig. 3 is a simple installation where the amplifier speaker outputs of an AM/FM receiver are switched, by IR control, between the speakers in a main room and those in a remote room.

- This system allows speakers to play in the main room *or* the remote room, depending on the IR remote command sent to the SR21. **They can not play simultaneously!**

Fig. 3 *Main/Remote Speaker Switching Using an SR21*

- A 780-80 provides IR control from the Remote Room. It includes a STATUS LED indicator that can be driven by a +12V System Status (ON/OFF) source, such as an adapter plugged into the Switched AC outlet on the AM/FM receiver.

- IR control in the Main Room is provided with a 490-30 Micro Link IR Receiver as shown (other Xantech models could also be used).

- The 781C-00 powers the IR receivers as well as the SR21 through the 789-44 Connecting Block.

- In this type of system, you would "teach" either the **Pair** or the **Toggle** commands from the RC68 into a learning remote to operate the SR21 (along with your other system commands).

Fig. 4 is a basic system where the speaker outputs of two AM/FM receivers are made available, via A/B switching, to a stereo pair of speakers in a remote room.

- This system is a relatively low cost means of providing two different sources to a remote room.

- IR control in each room and power supply considerations are the same as described for **Fig. 3.**

- To simplify the illustration, other possible system components are not shown in **Fig. 4**.

- Again, you would "teach" either the **Pair** or the **Toggle** commands from the RC68+ into a learning remote to operate the SR21 (along with your other system commands).
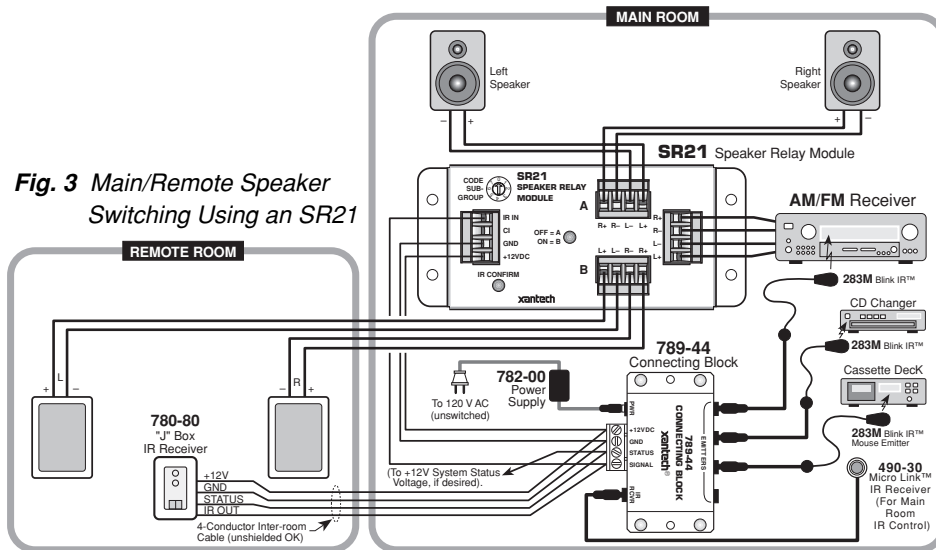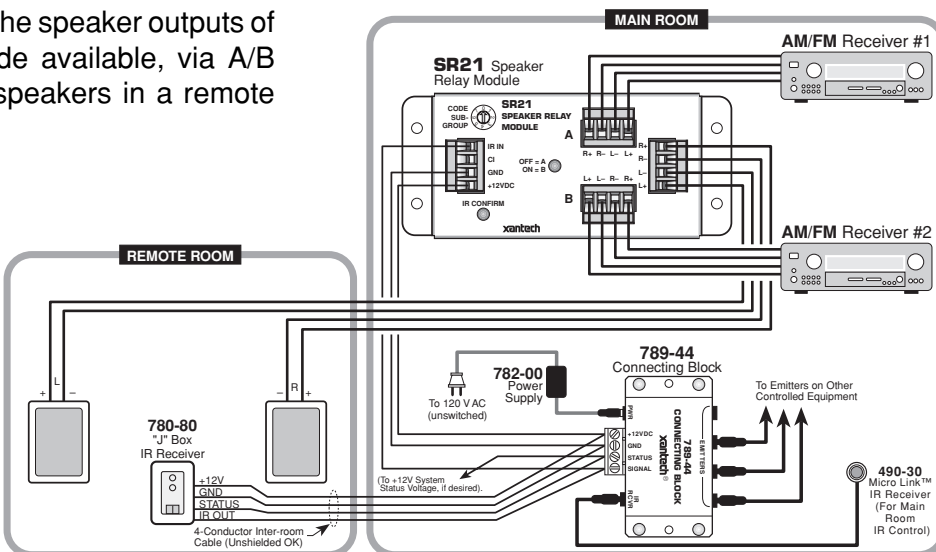

Fig. 4 *Amplifier A/B Switching Using an SR21*

Additional Remote Rooms

You may add more remote rooms to the system shown in **Fig. 4**. Proceed as follows:

- Use one additional SR21 for each additional remote room.

- Connect the A and B terminals of each additional SR21 in parallel to the A and B terminals of the preceding SR21 (daisy chain).

- Connect the center 4-terminal connector to the additional remote room speakers in the same manner as shown in **Fig. 4**.

  NOTE: Be careful not to overload the amplifiers as you add rooms. It is recommended that you use Xantech Match Maker speaker volume controls whenever you have three or more rooms connected in this way, to ensure correct impedance matching.

- Connect the IR IN, GNDn +12VDC terminals in parallel also and connect the IR receiver's to these same terminals, one from each room.

- Be sure to use the higher current power supply, model 782-00 (one only).

- Finally, set the CODE SUB-GROUP (refer to page 2) on each SR21 to a different number, to avoid mutual operation and "teach" the commands to dedicated learning remotes for each room.

  NOTE: To avoid the use of dedicated remotes, you could connect each SR21 to it's own dedicated power supply, connecting block and room IR receiver.

USING THE SR21 AS AN IR ROUTER

The SR21 can also be used as simple 2-way IR router - to switch between two satellite receivers, TV monitors, etc. **Fig. 5** is an example of how it can be used to improve the system shown in **Fig. 4** so that the IR control is automatically switched from one AM/FM receiver to the other when the speaker outputs of the AM/FM receivers are switched.

- In this case, be sure that both SR21's are set to **the same CODE SUB-GROUP!** This ensures that they switch together when the **Pair** or **Toggle** A/B commands are sent.
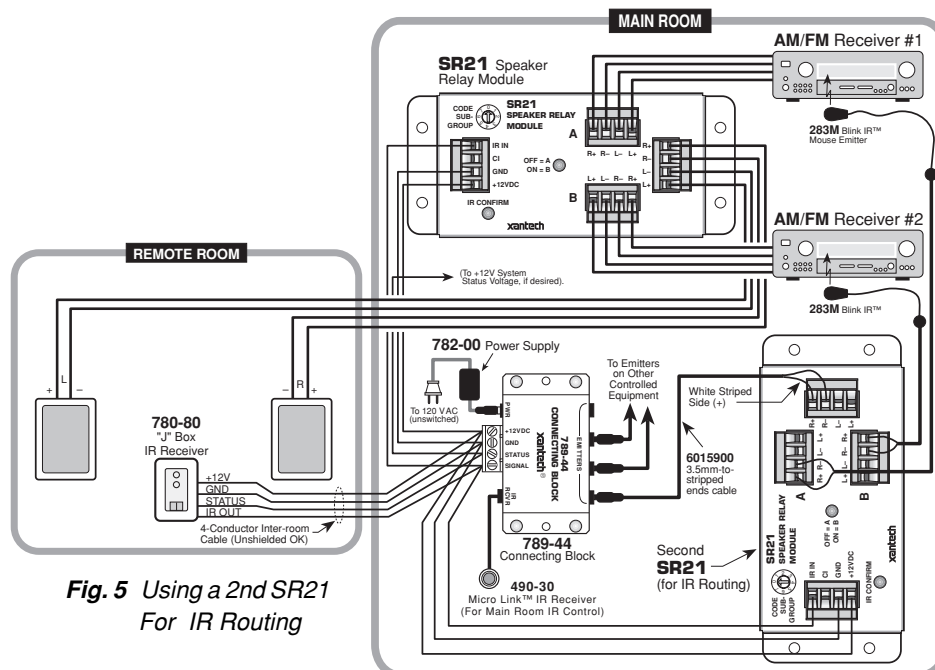
- Note that both operate from the same power supply.

Fig. 5 *Using a 2nd SR21 For IR Routing*