

tSc

USER'S  
MANUAL

Home Theater  
Speaker System

tSc *the **Speaker** company*

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The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of un-insulated “dangerous voltage” within the products enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important safety instructions in the literature accompanying the appliance.

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Maintain a minimum distance of 50 mm around the front, rear and sides of the apparatus for sufficient ventilation. The ventilation should not be impeded by covering the ventilation openings or placing on or around the apparatus items such as newspapers, table-cloths, curtains, etc.
15. No naked flame sources, such as lighted candles, should be placed on the apparatus.
16. The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.
17. Either the power inlet connector on the rear of the apparatus or the power plug at the wall must remain accessible, to be able to disconnect power from the apparatus.
18. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.

## Thank you. And congratulations!

Our thanks for buying your new speakers from TSC. We sincerely appreciate your confidence in us and our products.

Please read this Owner's Manual! It contains many tips on getting your new speakers set up, connected, and sounding as good as they should. We hope you find it clear, concise, and helpful.

Again, thank you.

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## Out of the Box

You should save the carton and the inserts your speakers came in. You may need to store or ship your TSC speakers in the future and the packaging is designed to protect them from damage.

## Where Should You Put Them?

We realize that the real world (family opinions, room traffic patterns, etc.) will have major impact on where you place your TSC speakers. That being said, here are some guidelines you should find useful.

For TSC *bookshelf/center channel/surround* speakers:

- 1) *Shelf mounting.* Logically, this may be your first consideration. That's fine if the shelf is sturdy enough and deep enough to hold your speakers securely. Remember that the shelf should be *at least 2"* deeper than the speaker itself to allow for cable connections, etc. So if your TSC speaker is 13" deep, you'll need a shelf about 15" deep to hold it safely.

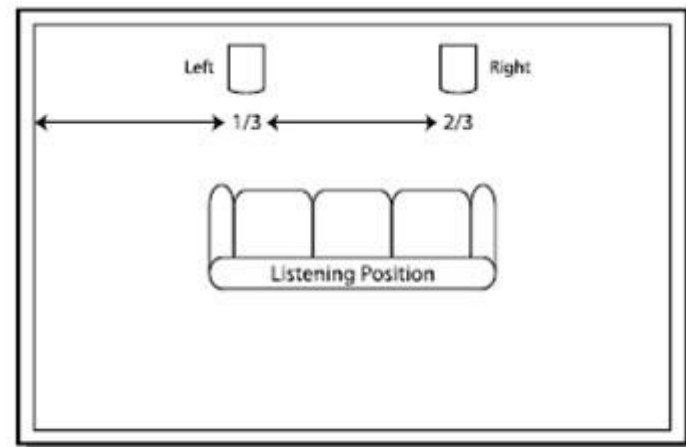
Remember that most TSC speakers are *bass reflex* enclosures. Some have ports on the rear panel. Because the port is very important for proper bass reproduction, please do not block it. In fact, if you're shelf-mounting your speakers and can leave 6" to 8" of open space behind the rear panel, so much the better.

- 2) *Stand mounting:* This is your second option and it's an attractive one for many owners. If you're placing your TSC *bookshelf speakers* on stands, you can use a material like Blu Tack®, a moldable, reusable adhesive compound, to keep your speakers firmly (but not permanently) attached to the stands. If you can't find Blu Tack, just ask your neighborhood hardware store for the generic equivalent.

## Placing Your Speakers Properly

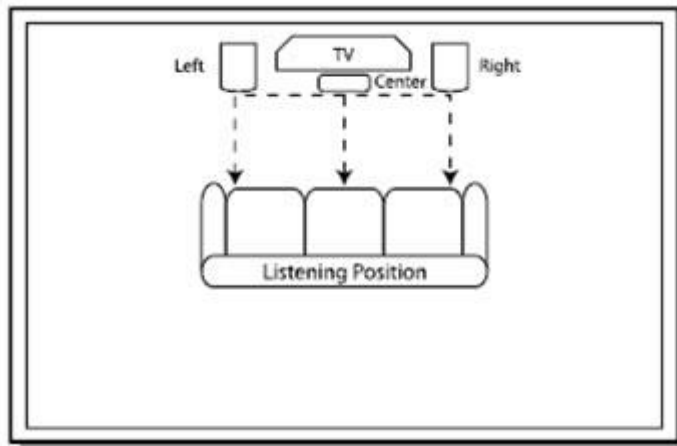
*Main Speakers:* Try to put the main speakers (Left and Right for stereo, Left, Center, and Right for home theater) along the same wall of your listening/viewing room. If you can place your speakers along the *long wall*, so much the better.

Use the "Rule of Thirds" whenever possible. This suggests that the best placement for your Left speaker is approximately 1/3 of the way along the wall behind your speakers. Similarly, the best place for the Right speaker is usually 2/3 of the way across the same wall. Remember that the "Rule of Thirds" is a guideline only.



Make sure that the speaker-to-listening/viewing position distance is the same for each speaker.

Some professionals recommend placing the main (Left and Right) speakers so that they form an equilateral triangle with the prime listening/viewing position.



*This is as close to ideal as you can get.  
If your room won't allow this, don't be overly concerned.  
Just place your speakers as close to this ideal as possible  
and enjoy the sound.*

Reflections from side walls have a major impact on your sound so try not to place your main speakers close to them. Try **not** to place your main speakers so they're *exactly* the same distance from the closest side wall. A bit of asymmetry here is actually preferable.

When you take the time to properly place your Main speakers, you'll enjoy better "imaging" (the apparent placement of individual instruments or voices), and more depth.

#### Center Channel Speakers

For a home theater system, place the center channel speaker between your Left and Right speakers as close to your TV screen as possible. Try to keep the tweeters of all three speakers (Left, Center, and Right) as close to the same height as possible. Tweeters at – or very close to

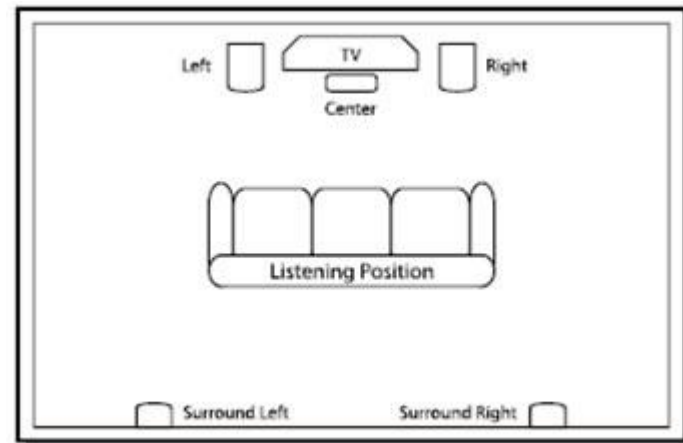
– your seated ear level are ideal. (This may pose a challenge if you have to place your Center Channel speaker either above or below your TV screen but you shouldn't worry too much.)

Try to place the center channel speaker at exactly the same distance from your listening/viewing position as the main Left and Right speakers. This helps create the most convincing image.

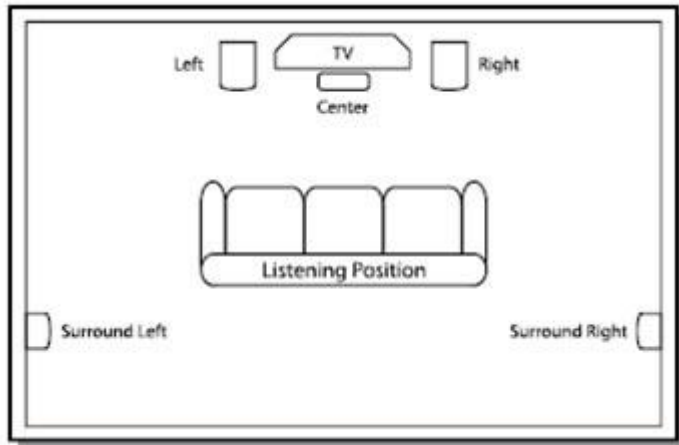
#### Surround Speakers

Surround speaker placement is challenging. If you're using a pair of TSC bookshelf speakers, you have two options.

**If you're primarily a music listener, place them on the back wall** of your listening/viewing room but a bit closer to the side walls than the "Rule of Thirds" indicates. Make sure the tweeters are at approximately the same height as are the tweeters of your front Left, Center, and Right speakers.



**If you're a movie fan, mount the surround speakers on the side walls** flanking your primary listening/viewing position. Make sure they're slightly behind your couch or chair and at least 1.5 to 2' above ear level.



Try not to place furniture between your speakers and your listening/viewing position. Make sure you can see all your speakers when seated there.

### Subwoofer Placement

Subwoofers are not as easy to place properly as some people might have you believe. Although bass frequencies are omnidirectional (they spread evenly into a room), you *cannot* place your subwoofer virtually anywhere and enjoy quality bass reproduction.

Here are some practical hints.

- For more bass, put the subwoofer in or close to a room corner. If you do, however, know that the resulting bass response will most likely be very uneven. Some frequencies will be emphasized. Others will be suppressed. And that pattern of exaggeration and repression will change as you move about the room!
- For a bit less bass but more even frequency response, move the subwoofer away from the corner along one wall.

- If that still doesn't please you, then move the subwoofer further out into the room. You'll have less overall "boom" but probably higher overall sound quality.

Once you've decided on general placement, there's another technique that will help you fine-tune your subwoofer's ideal location.

1. Identify your favorite listening/viewing position.
2. Put the Subwoofer *there*. (Yes, we mean put it on or in your favorite chair or sofa. Don't worry, the furniture will handle the weight.)
3. Play some music or a soundtrack with a lot of bass content.
4. Crawl around the room on all fours until you find the place where the bass sounds the best to you.
5. Put the Subwoofer *there*.

## Connecting Your Speaker System

Now that you have your speakers placed properly, it's time to connect them.

*Before you begin connecting your speakers, turn your system components **OFF**. That way, you won't run any chance of "shorting" your amplifier and possibly damaging it as you're hooking up your speakers. And, of course, turn your system back **ON** when you're done!*

### Method 1 (Line Level Connection)

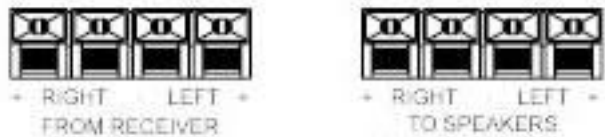
If your surround sound receiver has a line-level LFE (Low Frequency Effects) output – sometimes called a "subwoofer" output – connect it to the subwoofer's rear panel Subwoofer Input via a shielded RCA-to-RCA cable. See your receiver's instruction manual for more details.



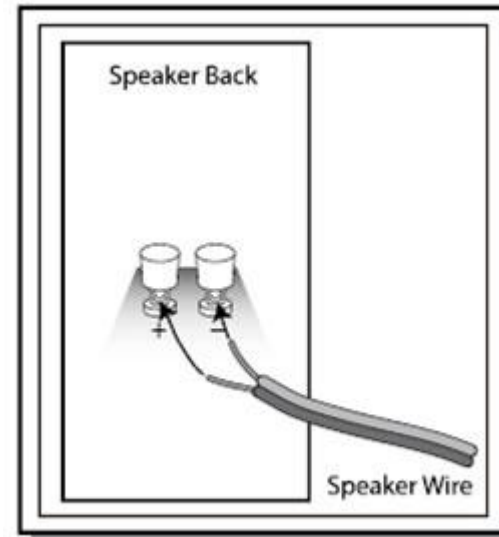
Next, connect your other speakers (Left, Center, Right, Left Surround, and Right Surround) directly to your receiver.

Note that your receiver's speaker connections are paired. One terminal in each pair is red (positive or "+"), the other black (negative or "-").

You'll notice a pair of spring-loaded terminals on each speaker. They are also red and black, respectively.



Speaker wire, in turn, has two conductors separated by insulation and identified by color (if the insulation is clear) or by differences in the insulation itself (ridged vs. plain is the most common). Choose one conductor to carry the "+" signal and the other for the negative signal. It makes no difference which one you pick – **just maintain that choice for all your connections.**



Prepare the wire by exposing about 3/8" of each conductor by removing the insulation with a wire stripper or sharp knife. Twist all the individual strands of each conductor together.

#### *Polarity and Proper Phasing*

Don't let these words scare you. They both refer to making sure you get all the sound your speakers are capable of giving you.

Here are step-by-step instructions for connecting the Left front output from your receiver or amplifier to the Left front speaker.

- 1) Locate the Left front speaker output on the receiver or amplifier. Note the two connectors – one marked "+" (the positive terminal – usually red) and one marked "-" (the negative terminal – usually black).
- 2) Connect the "+" conductor of the speaker wire to the receiver's "+" terminal.
- 3) Connect the "-" conductor of the speaker wire to the receiver's "-" terminal.
- 4) At the speaker end of the same wire, connect the "+" conductor to the "+" terminal on the speaker by pressing the spring-loaded tab to reveal a hole in the connector. Insert the stripped end of

the wire into that hole. Release the tab to complete the connection.

- 5) Connect the “-“ conductor to the “-“ speaker terminal.

Then follow steps 1 through 5 for *all other* amplifier-speaker connections in your system. Maintain the same pattern for all amplifier-speaker connections!

Why are we placing as much emphasis on consistency here? We want you to get all the performance you’ve paid for!

When your amplifier-to-speaker connections are consistent (when “+” is always connected to “+” and “-“ is always connected to “-“), your speakers are connected “in phase.” That means the drivers in each speaker will push out when they get a common positive signal from an amplifier and pull in when they get a negative signal.

When speakers are connected “out of phase,” the drivers fight each other – some move out while others move in. The result? You’ll get less bass and blurred imaging. That’s a pretty heavy price to pay for not taking just a few extra seconds to make sure your connections are correct.

#### Some Advice On Speaker Wire

Please use 16 gauge wire if your amplifier-to-speaker runs are under 50’. For longer runs, we strongly suggest 14 gauge.

For your reference, standard “lamp cord” available at most hardware stores is 18 gauge. Better to use heavier wire such as 16 or 14 gauge.

#### Method 2 (Speaker Level Connection)

If your receiver does not have an LFE output, simply connect your receiver’s Left and Right speaker outputs to the subwoofer inputs marked “From Receiver.”

Then connect your main Left and Right speakers to the subwoofer’s “To Speakers” outputs.



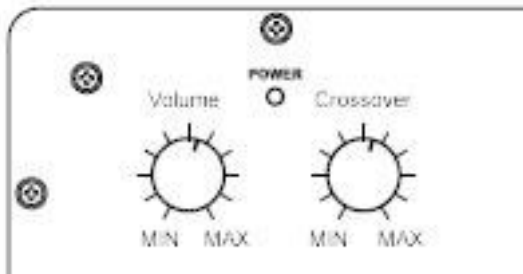
Note that all other speakers (Center Channel, Left Surround, and Right Surround) connect directly to the receiver’s speaker outputs as they did in **Method 1** above.

Make sure you observe proper polarity (“+” to “+” and “-“ to “-“) for *all* connections.

## Adjusting Your Subwoofer

Once everything is hooked up properly, you're ready to "fine tune" your system to your preferences.

The following suggestions will give you a good start. Remember that they are suggestions only. You may choose to vary the control settings to suit your room and speaker placement.



- Set the Crossover control to 150 Hz (all the way to the right). This will direct most of the deep bass information to the subwoofer.
- Set the Volume control (actually a "bass level" control) to maximum.
- Select "Auto On" by choosing the middle position of the three-position slider switch.
- Set the Phase switch to normal (NOR).
- Play a favorite music CD or DVD. Concentrate on the amount of bass you hear and decide if you like that sound.
- If you think there's too much bass, turn the Volume control down until you're satisfied with the sound. (You may also want to tweak the Crossover control by turning it slowly to the left.)
- Once you're pleased with the sound, flip the Phase switch between NOR and REV (reverse) to see if that makes a discernable difference.

You'll probably have to play with these adjustments several times until you achieve just the sound quality you really like. Don't worry – it's just part of the fun.

## Break-In

Many people believe speakers improve with age.

With TSC speakers, you'll notice a change in timbre, responsiveness, and sheer musicality as you use them because the drivers "settle in" with use.

How long should you wait? That depends, for example, on whether you listen AM radio at low volume or full orchestral music at live concert levels. In general, you'll begin to hear differences after 20-30 hours of us.

## Care

Your TSC speakers don't need much maintenance. Dust them occasionally. And don't your kids try to push in the drivers, either!

Above all, enjoy! That's what your TSC speakers were designed for and why we take such pride in bringing them to you!



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