

Thank you for purchasing the Yamaha ST15 Speaker Transformer. This device is a matching transformer that is used for the parallel connection of low impedance speakers to a high impedance type distribution power amplifier. Please read this manual carefully to get the most out of the ST15 and use in a safe manner.

**Outline**

This device has a capacity of 15 W, the line output of the power amplifier connected to the primary pole is assumed to be 100 V (using a 70 V line is also possible).

The blue, yellow, orange and brown secondary cords each correspond to speakers whose nominal impedance is 8, 6, 4 and 2Ω, while the input impedance of the connected power amplifier is 670Ω.

**Connection**

1. Turn the power switch OFF on the power amplifier you are going to connect the ST15 to.
2. Use two 4 mm (1/8") tapping screws, securely attach the unit to a speaker or some other convenient location.
3. Connect the ST15's white primary cord to the power amplifier's 100 V or 70 V negative (-) pole, connect the black cord to the power amplifier's 100 V or 70 V positive (+) pole.
4. Connect the white secondary cord to the speaker's negative (-) pole. From the blue (8Ω), yellow (6Ω), orange (4Ω) and brown (2Ω) cords, choose a cord that matches the speaker's impedance and connect the selected cord to speaker's positive (+) pole.
5. Bundle together the unused secondary cords to prevent short circuits, etc.

**Advanced Applications**

**Connecting Speakers of Different Impedance**

An 8Ω speaker can be connected to the lower impedance yellow (6Ω), orange (4Ω) cords however, low impedance speakers cannot be connected to higher impedance cords. The capacity will be exceeded creating a hazard.

When connecting speakers of different impedance, refer to the following chart. Please use caution when in such applications since speaker input dB and the input impedance will change.

**100 V Line Connections**

	8Ω Speaker Input Impedance	6Ω Speaker Input Impedance	4Ω Speaker Input Impedance
Blue	15 W 670Ω	x	x
Yellow	11.3 W 890Ω	15 W 670Ω	x
Orange	7.5 W 1330Ω	10 W 1000Ω	15 W 670Ω
Brown	3.8 W 2670Ω	5 W 2000Ω	7.5 W 1330Ω

**70 V Line Connections**

	8Ω Speaker Input Impedance	6Ω Speaker Input Impedance	4Ω Speaker Input Impedance
Blue	7.5W 670Ω	x	x
Yellow	5.65W 890Ω	7.5W 670Ω	x
Orange	3.75W 1330Ω	5W 1000Ω	7.5W 670Ω
Brown	1.9W 2670Ω	2.5W 2000Ω	3.75W 1330Ω

**Limitations for Parallel Use**

Depending upon the manner in which this device is used, the connection of multiple speakers is possible however; the number of speakers will be limited according to the power amplifier's specifications.

1. The total input for the speakers that are being used should not exceed the power amplifier's maximum output. When the line output transformer is used, its capacity should not be exceeded.

2. The total input impedance for the speakers that are being used should not be less than the minimum load impedance of the power amplifier, including the line output transformer.

The ST15 can be used in this manner as long as both conditions 1 and 2 are met.

**Specifications**

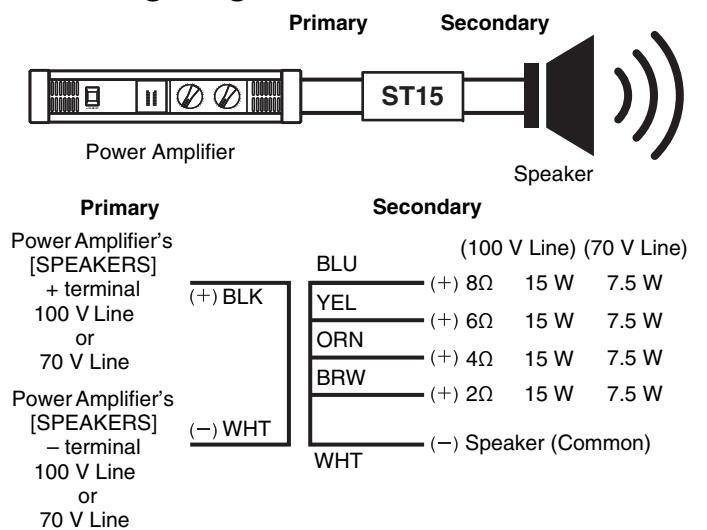
Capacity	15 W Continuous	
Frequency Response	50 Hz–20 kHz	
Total Harmonic Distortion	≤ 1% (1 kHz, 15 W)	
Insertion Loss	≤ 1.5 dB	
Dimensions (W × H × D)	80 × 48 × 46 mm (3-1/8" × 1-7/8" × 1-13/16")	
Weight	450 g (15.8 oz)	
Coil Ratio	Primary: Secondary	Secondary Voltage Ratio
*BLU	1:0.110	0 dB
*YEL	1:0.095	-1.25 dB
*ORN	1:0.077	-3.0 dB
*BRW	1:0.055	-6.0 dB

The contents of this manual apply to the latest specifications as of the printing date. Since Yamaha makes continuous improvements to the product, this manual may not apply to the specifications of your particular product. To obtain the latest manual, access the Yamaha website then download the manual file. Since specifications, equipment or separately sold accessories may not be the same in every locale, please check with your Yamaha dealer.

**\* Color Chart**

BLU: Blue      YEL: Yellow      ORN: Orange  
BRW: Brown    WHT: White      BLK: Black

**Wiring Diagram**



**Dimensions**

