

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 15W, the line output of the amplifier connected to the primary pole is assumed to be 100V (using a 70.7V 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 amplifier is 670Ω.

■ Connection

1. Turn the power switch OFF on the amplifier you are going to connect the ST15 to.
2. Use two 4mm (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 100V or 70.7V negative (-) pole, connect the Black cord to the 100V or 70.7V 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 the 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	15W 670Ω	×	×
Yellow	11.3W 890Ω	15W 670Ω	×
Orange	7.5W 1330Ω	10W 1000Ω	15W 670Ω
Brown	3.8W 2670Ω	5W 2000Ω	7.5W 1330Ω

● 70.7 V Line Connections

	8Ω Speaker Input Impedance	6Ω Speaker Input Impedance	4Ω Speaker Input Impedance
Blue	7.5W 670Ω	×	×
Yellow	5.65W 890Ω	7.5W 670Ω	×
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 amplifier's specifications.

1. The total input for the speakers that are being used should not exceed the 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 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

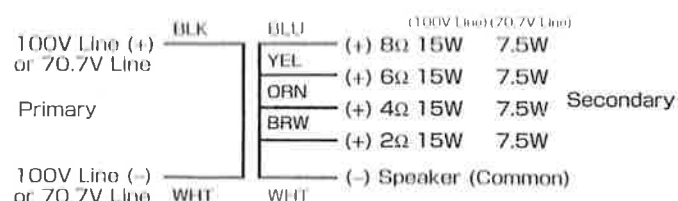
Capacity	15W Continuous
Frequency Response	50Hz-20kHz
Total Harmonic Distortion	≤ 1% (1kHz, 15W)
Insertion Loss	≤ 1.5dB
Dimensions (W x H x D)	80 x 48 x 46mm (3-1/8" x 1-7/8" x 1-13/16")
Weight	450g (15.8 oz)
Coil	Ratio Primary : Secondary Secondary Voltage Ratio
*BLU	1 : 0.110 0dB
*YEL	1 : 0.095 -1.25dB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

Specifications are subject to change without notice.

* Color Chart

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

■ Wiring Diagram



■ Dimensions

