



T E S S E N

TNA-2800S

USER MANUAL



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OVERVIEW

FEATURES

- High performance Dual 18 inch woofers for extended low-frequency output
- High power capacity to ensure impressive coverage without compression
- Robust all wood construction, hard wearing finish
- 4pcs Heavy duty 100mm PU castors included
- Large front ports reduced distortion
- Ergonomic Side Carry Handles

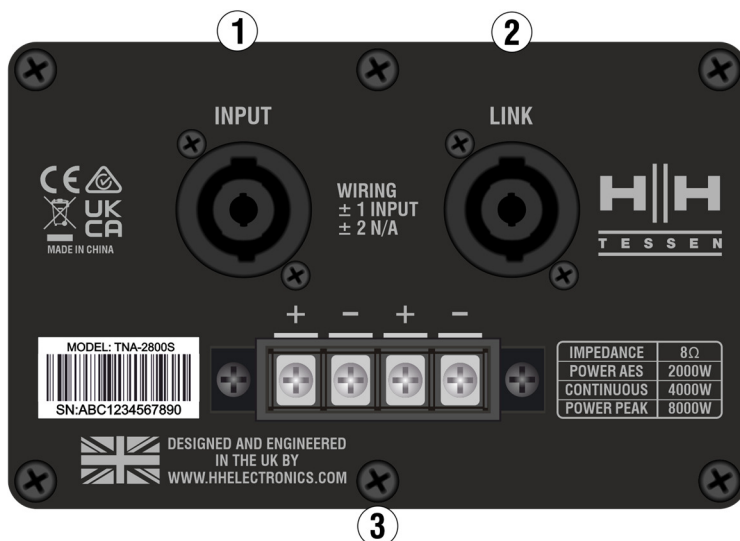


The TNA-2800S passive subwoofer harnesses two HH-designed 18" low-frequency woofers with 4" voice coils providing a max SPL of 138 dB SPL peak and a frequency response as low as 32Hz. The acoustically optimised cabinet is constructed of 18mm plywood with extensive internal bracing. Integrated rigging hardware makes the TNA-2800S the perfect solution for installed use in clubs, live music venues, and places of worship where high-output bass reinforcement is required. The included heavy-duty castors allow for easy transportation making the TNA-2800S suitable for touring.

APPLICATIONS

- Bars And Clubs
- Live Sound Reinforcement
- Sound system rental
- Worship

SPEAKER PANEL



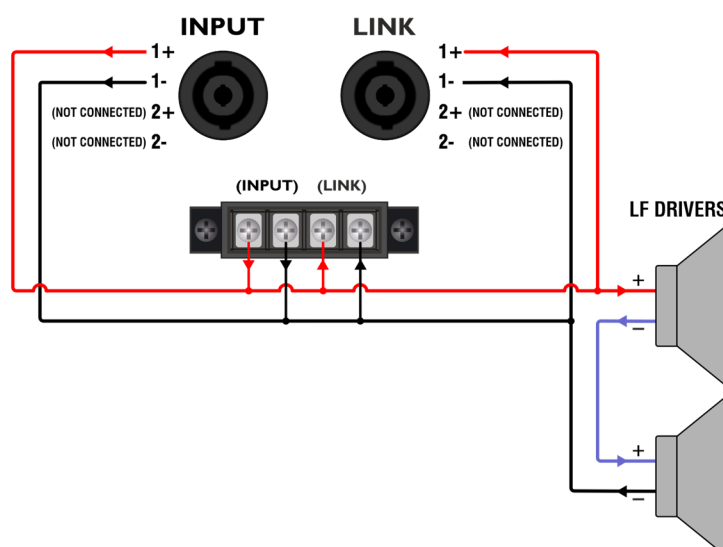
1: INPUT: To be connected to the output of your chosen amplifier. Check the technical specification of your amplifier to ensure its drive capability and output power are suitable for use with a TNA-2800S cabinet.

2: LINK: Connected in parallel with the Input connector allowing for additional cabinets to be added to the speaker chain.

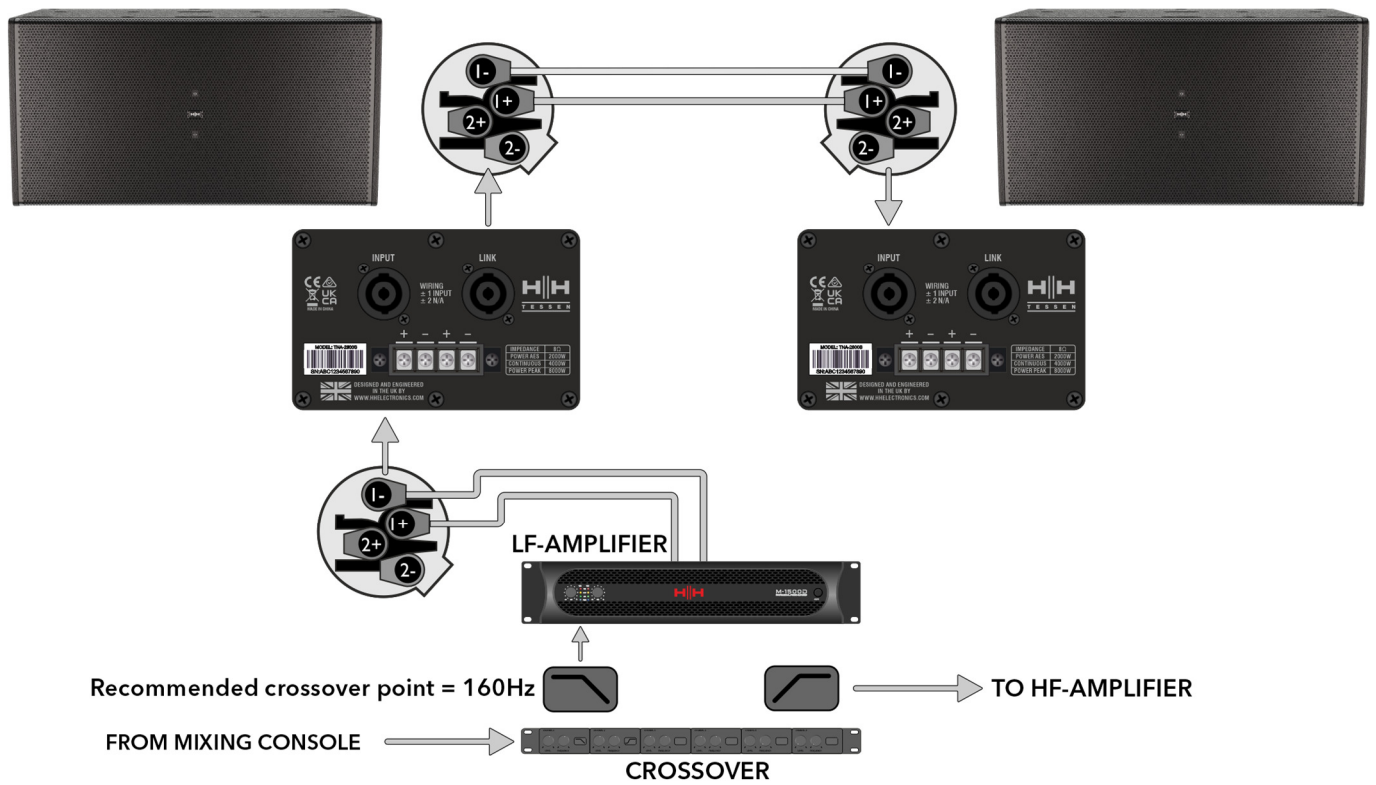
It is important to note when selecting the amplifier, drive capability and impedance, of loudspeakers connected to the LINK output also need to be considered.

3: M4 TERMINAL CONNECTORS: Provided for additional wiring flexibility. They are internally connected to the NL4 connectors as can be seen by the diagram below.

INTERNAL CONNECTIONS



CONNECTION EXAMPLE



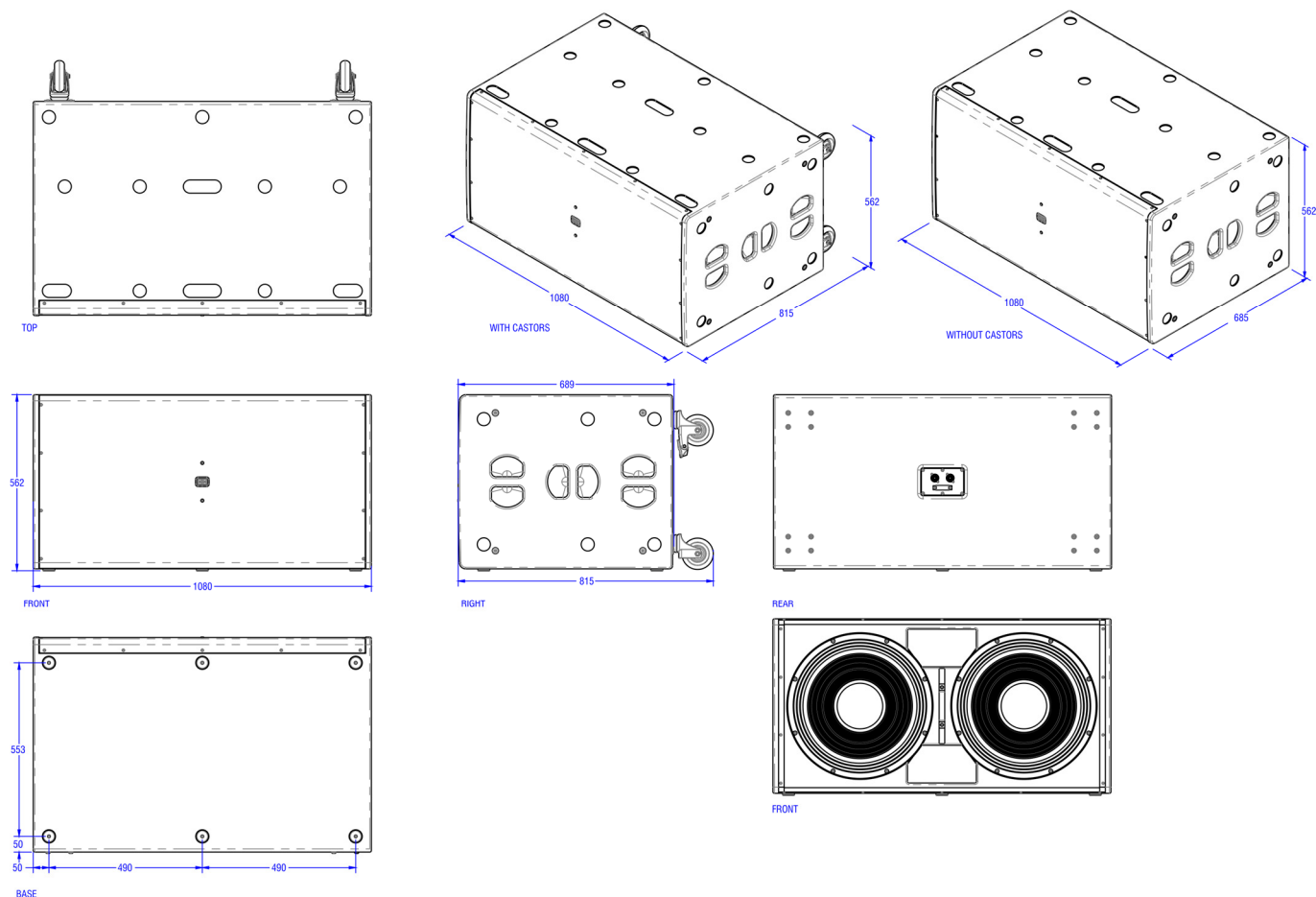


SPECIFICATIONS

Model	TNA-2800S
System Type	Dual 18" passive Subwoofer, Direct Radiating, Bass Reflex
Frequency Response2	32Hz - 120Hz (-10dB) 37Hz - 120Hz (-3dB)
Recommended Crossover	30Hz 24dB/Octave HPF, 80Hz 24dB/Octave LPF
Power Rating	8000W Peak, 4000W Continuous, 2000W RMS
Max SPL 1m3	138 db SPL Peak, 132 db SPL
Sensitivity (1W/1M)	99 dB SPL
LF Driver	2x18" High sensitivity HH designed driver. 4" Voice Coils
Nominal Impedance	8 Ohms
Input Connector	NL4 ± 1 Twist Lock Connector and M4 Barrier Strip Terminal (10mm Pitch)
Input Connector	NL4 ± 1 Twist Lock Connector and M4 Barrier Strip Terminal (10mm Pitch)
Enclosure	
Cabinet	Acoustically optimised 18mm plywood cabinet with extensive internal bracing
Finish	Painted Black (White finish optional, subject to MOQ)
Mounting Points	8x M10 Penn Elcom tie down/flying points. 16x M8 inserts for included transport wheels
Grille	1.5mm Thickness Steel, Hexagonal mesh, acoustic foam lined
Transport Wheels	4pcs Heavy duty 100mm PU castors included in the box
Unit dimensions (HWD)	562 x 1080 x 685mm, (22.1" x 42.5" x 27")
Unit weight	70.5Kg, 155 lbs
Carton dimensions (HWD)	700 x 1280 x 815mm, (27.6" x 50.4" x 32.1"), (0.73 M3)
Packed weight	83.7Kg, 185 lbs
EAN13	5060109459074

In the interest of continued development, HH Audio reserves the right to amend product specification without prior notification.

DIMENSIONS










SAFETY AND WARNINGS

To take full advantage of your new product and enjoy long and trouble-free performance, please read this owner's manual carefully, and keep it in a safe place for future reference.

- 1) Unpacking: On unpacking your product, please check carefully for any signs of damage that may have occurred whilst in transit from the Laney factory to your dealer. In the unlikely event that there has been damage, please re-pack your unit in its original carton and consult your dealer. We strongly advise you to keep your original transit carton, since in the unlikely event that your unit should develop a fault, you will be able to return it to you dealer for rectification securely packed.
- 2) Amplifier Connection: To avoid damage, generally it is advisable to establish and follow a pattern for turning on and off your system. With all system parts connected, turn on source equipment, mixers, effects processors etc, BEFORE turning on your amplifier. Many products have large transient surges at turn on and off which can cause damage to your speakers. By turning on your amplifier LAST and making sure its level control is set to a minimum, any transients from other equipment should not reach your loudspeakers. Wait till all system parts have stabilised, usually a couple of seconds. Similarly, when turning off your system always turn down the level controls on your amplifier and then turn off its power before turning off other equipment.
- 3) Cables: Never use shielded or microphone cable for any speaker connections as this will not be substantial enough to handle the amplifier load and could cause damage to your complete system. Use good quality shielded cables everywhere else.
- 4) Servicing: The user should not attempt to service these products. Refer all servicing to qualified service personnel.
- 5) Heed all warnings.
- 6) Follow all instructions.
- 7) Do not use this apparatus near water.
- 8) Clean only with a dry cloth.
- 9) Do not block any of the ventilation openings. Install in accordance with manufacturer's instructions.
- 10) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 11) An apparatus with Class I construction shall be connected to a mains socket outlet with a protective connection. 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 of plug has two blades and a third grounding prong. The wide blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 12) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point they exit from the apparatus.
- 13) Only use attachments/accessories provided by the manufacturer.
- 14) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 15) The mains plug or appliance coupler is used as the disconnect device and shall remain readily operable. The user should allow easy access to any mains plug, mains coupler and mains switch used in conjunction with this unit thus making it readily operable. Unplug this apparatus during lightning storms or when unused for long periods of time.
- 16) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when 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.
- 17) Never break off the ground pin. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
- 18) If this product is to be mounted in an equipment rack, rear support should be provided.
- 19) Note for UK only: If the colours of the wires in the mains lead of this unit do not correspond with the terminals in your plug, proceed as follows:
 - o The wire that is coloured green and yellow must be connected to the terminal that is marked by the letter E, the earth symbol, coloured green or coloured green and yellow.
 - o The wire that is coloured blue must be connected to the terminal that is marked with the letter N or the colour black.
 - o The wire that is coloured brown must be connected to the terminal that is marked with the letter L or the colour red.
- 20) This electrical apparatus should not be exposed to dripping or splashing and care should be taken not to place objects containing liquids, such as vases, upon the apparatus.
- 21) Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures: According to OSHA, any exposure more than the above permissible limits could result in some hearing loss. Earplugs or protectors to the ear canals or over the ears must be worn when operating this amplification system to prevent a permanent hearing loss, if exposure is more than the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.
- 22) If your appliance features a tilting mechanism or a kickback style cabinet, please use this design feature with caution. Due to the ease with which the amplifier can be moved between straight and tilted back positions, only use the amplifier on a level, stable surface. DO NOT operate the amplifier on a desk, table, shelf or otherwise unsuitable non-stable platform.
- 23) Symbols & nomenclature used on the product and in the product manuals, intended to alert the operator to areas where extra caution may be necessary, are as follows:

Duration Per Day in Hours	Sound Level dBA, slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 ou inférieur	115

 CAUTION:	<p>Intended to alert the user to the presence of uninsulated 'Dangerous Voltage' within the products enclosure that may be sufficient to constitute a risk of electrical shock to persons.</p> <p>Ce symbole est utilis��s pur indiquer a l'utilisateur de ce produit de tension non-isol��e dangereuse pouvant ��tre d'intensit�� suffisante pour constituer un risque de choc ��lectrique.</p> <p>Este s��mbolo tiene el prop��sito de alertar al usuario de la presencia de '(voltaje) peligroso' que no tiene aislamiento dentro de la caja del producto que puede tener una magnitud suficiente como para constituir riesgo de corrientazo.</p> <p>Dieses Symbol soll den Anwender vor unisolierten gef��hrlichen Spannungen innerhalb des Geh��uses warnen, die von ausreichender Starke sind, um einen elektrischen Schlag verursachen zu k��nnen.</p>
 WARNING:	<p>Intended to alert the user of the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the product.</p> <p>Dieses Symbol soll den Anwender vor unisolierten gef��hrlichen Spannungen innerhalb des Geh��uses warnen, die von ausreichender Starke sind, um einen elektrischen Schlag verursachen zu k��nnen.</p> <p>Este s��mbolo tiene el prop��sito de la alertar al usuario de las presencias de instrucciones importantes sobre la operaci��n y mantenimiento en la literatura que viene con el producto.</p> <p>Dieses Symbol soll den Benutzer auf wichtige Instruktionen in der Bedienungsanleitung aufmerksam machen, die Handhabung und Wartung des Produkts betreffen.</p>
<p>CAUTION:</p> <p>ATTENTION :</p> <p>PRECAUCION:</p> <p>VORSICHT:</p>	<p>Risk of electrical shock - DO NOT OPEN. To reduce the risk of electrical shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified personnel.</p> <p>Risques de choc ��lectrique - NE PAS OUVIRIR. Afin de r��duire le risque de choc ��lectrique, ne pas enlever le couvercle. Il ne se trouve a l'int��rieur aucune pi��ce pouvant ��tre r��par��e par l'utilisateur. Confier l'entretien a un personnel qualifi��.</p> <p>Riesgo de descarga el��ctrica - NO ABRIR. Para reducir el riesgo de descarga el��ctrica, no quite la cubierta. No hay piezas reparables por el usuario en el interior. Remita el servicio a personal calificado.</p> <p>Risiko - Elektrischer Schlag! Nicht offen! Um das Risiko eines elektrischen Schlages zu vermeiden, nicht die Abdeckung entfernen. Es befinden sich keine Teile darin, die vor Anwender repariert werden konnten. Reparaturen nur von qualifiziertem Fachpersonal durchf��hren lassen.</p>
<p>WARNING:</p> <p>ADVERTISSEMENT :</p> <p>ADVERTENCIA:</p> <p>ACHTUNG:</p>	<p>To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance, please read the operating instructions for further warnings.</p> <p>Afin de pr��venir les risques de d��charge ��lectrique ou de feu, n'exposez pas cet appareil a la pluie ou a l'humidit��. Avant d'utiliser cet appareil, lisez les avertissements supplantais situes dans le guide.</p> <p>Para evitar descargas el��ctricas o peligro de incendio, no exponga este aparato a la lluvia ni a la humedad. Antes de usar este aparato, lea las instrucciones de funcionamiento para conocer m��s advertencias.</p> <p>Um einen elektrischen Schlag oder Feuergefahr zu vermeiden, sollte dieses Gerat nicht dem Regen oder Feuchtigkeit ausgesetzt werden. Vor Inbetriebnahme unbedingt die Bedienungsanleitung lesen.</p>
	<p>This device complies with Part 15 of the FCC rules Operation is subject to the following two conditions:</p> <ol style="list-style-type: none"> 1) This device may not cause harmful interference. 2) This device must accept any interference received, that may cause undesired operation. <p>Warning: Changes or modification to the equipment not approved by Laney can void the user's authority to use the equipment.</p> <p>Note: This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures. Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.</p>
	<p>This product conforms to the requirements of the following European Regulations, Directives & Rules: CE Mark (93/68/EEC), Low Voltage (2014/35/EU), EMC (2014/30/EU), RoHS (2011/65/EU), ErP (2009/125/EU)</p> <p>SIMPLIFIED EU DECLARATION OF CONFORMITY</p> <p>Hereby, Laney Electronics Ltd. declares that the radio equipment is in compliance with Directives 2014/53/EU, 2011/65/EU, 2009/125/EU. Full text of the EU declaration of conformity is available at the following internet address:</p> <p>https://support.hhaudio.com/approvals</p>
	<p>The object of the declaration described above is in conformity with the relevant statutory requirement Electrical Equipment (Safety) Regulations 2016, Electromagnetic Compatibility Regulations 2016, The Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012, The Ecodesign for Energy-Related Products and Energy Information, (Amendment) (EU Exit) Regulations 2012</p>

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