TANIT
Arcuate Line Source Column

Keep these important operating instructions.
Check www.tecnare.com for updates.
General Information

TANIT Operation Manual

Ver.: 1.1 UK 09/2019

©EXEL ACOUSTICS SL; all right reserved

The information contained in this manual has been carefully checked for accuracy, at the time of going to press, however no guarantee is given with respect to the correctness.

Exel Acoustics SL accepts no responsibility for any errors or inaccuracies that may appear in this manual or the products and software described in it. Technical specifications, dimensions, weights and properties do not represent guaranteed qualities. As manufacturers we reserve the right to make alterations and modifications within the framework of legal provisions, as well as changes aimed at improving quality.

EXEL ACOUSTICS SL
CL Encinar, 282 – Pol. Ind. Monte Boyal
45950 Casarrubios del Monte (Toledo) Spain
Phone: (+34) 918 170 110 Fax:

e-mail: support@tecnare.com www.tecnare.com
IMPORTANT SAFE INSTRUCTIONS

Before using our product, be sure to carefully read the manual and safe Instructions. Keep this document with the device all time.

1. Read these instructions
2. Keep these instructions.
3. Heed all warnings.
4. Follow all SAFETY INSTRUCTIONS as well DANGER and OBLIGATION warnings.
5. Only use attachments / accessories specified by the manufacturer.
6. Use only with the cart, 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.
7. If the equipment is used in a manner not specified by the Exel Acoustic, the protection of the equipment may be impaired.
8. Read all the Product Information document before exploiting the system.
9. Read the Rigging Manual before installing the system. Use the rigging accessories described in the rigging manual a follow the associated procedures.
10. This speaker enclosure is capable of creating a strong magnetic field. Please use caution around the enclosure with data storage devices such as phones, computers or hard drives.
11. Handles are for moving the system only.
12. Beware of sound levels. Never stand in the immediate vicinity of loudspeaker driven at high level. Professional loudspeaker systems are capable of causing a sound pressure level (SPL) harmful to human health. Hearing damage can also occur with prolonged exposure to sound: 8h at 90 dB(A), 30 min at 110 dB(A), less than 4 min at 130 dB(A)
Source: European Directive relating to the assessment and management of noise 2002/49/CE
13. When setting up the loudspeaker or loudspeaker stand, make sure they are standing on a firm surface. If you place several enclosure on top of one another, use straps to secure them against movement.

CAUTION: Rigging should only be done by experience professionals.

www.tecnare.com
## SYMBOL USED

<table>
<thead>
<tr>
<th>!</th>
<th>i</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important operating instructions</td>
<td>Additional information</td>
<td>OBLIGATION. This instructions must be strictly followed</td>
</tr>
<tr>
<td>Pour indequer important Instructions</td>
<td>Information complémentaire</td>
<td>Obligation. Cela doit être strictement instructions Suivi</td>
</tr>
<tr>
<td>Wichtige Betriebsanweisung oder Gebrauchsanleitung</td>
<td>Informationen. Zusätzliche Informationen</td>
<td>Pflicht. Diese Anweisungen müssen strikt befolgt</td>
</tr>
<tr>
<td>Importantes instrucciones operativas</td>
<td>Información complementaria</td>
<td>Obligación. Estas instrucciones deben ser estrictamente seguidas</td>
</tr>
</tbody>
</table>
DECLARACIÓN DE CONFORMIDAD

DECLARATION OF CONFORMITY

EXEL ACOUSTICS SL

CL Encinar, 282. Polígono Industrial Monte Boyal. 45950 – Casarrubios del Monte (Toledo), España (Spain).

Declara que los productos TANIT, TANIT SUB y sus respectivas opciones, cumple con las Directivas:

Declare under our sole responsibility that devices in the TANIT range of products, comply with relating Directives:

(1) Directiva de Baja Tensión - 2006/95/CE
(2) Directiva de Compatibilidad Electromagnética - 2004/108/CE
(3) Directiva RoHS - 2011/65/UE
(4) Directiva RAEE - 2012/19/UE

(1) Low Voltage Directive 2006/95/CE
(2) EMC 2004/108/CE
(3) RoHS Directive 2011/65/UE
(4) WEEE Directive 2012/19/UE
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPORTANT SAFE INSTRUCTIONS</td>
<td>4</td>
</tr>
<tr>
<td>SYMBOL USED</td>
<td>5</td>
</tr>
<tr>
<td>DECLARACIÓN DE CONFORMIDAD</td>
<td>6</td>
</tr>
<tr>
<td>DECLARATION OF CONFORMITY</td>
<td>6</td>
</tr>
<tr>
<td><strong>1. INTRODUCTION</strong></td>
<td>8</td>
</tr>
<tr>
<td>1.1. Welcome to Tecnare</td>
<td>8</td>
</tr>
<tr>
<td>1.2. Overview the TANIT System</td>
<td>9</td>
</tr>
<tr>
<td>1.3. System Component List</td>
<td>10</td>
</tr>
<tr>
<td>1.4. Connections</td>
<td>11</td>
</tr>
<tr>
<td>1.5. Operation modes</td>
<td>13</td>
</tr>
<tr>
<td>1.6. Processing and amplification</td>
<td>14</td>
</tr>
<tr>
<td><strong>2. Loudspeaker Setup</strong></td>
<td>15</td>
</tr>
<tr>
<td>2.1. Standalone System</td>
<td>15</td>
</tr>
<tr>
<td>2.2. TANIT &amp; TANIT SUB</td>
<td>16</td>
</tr>
<tr>
<td>2.3. TANIT, TANIT SUB and Subwoofer Extension</td>
<td>17</td>
</tr>
<tr>
<td><strong>3. POWER AMPLIFIER SELECTION FOR USE WITH TANIT</strong></td>
<td>18</td>
</tr>
<tr>
<td>3.1. Recommended Amplifier Power</td>
<td>18</td>
</tr>
<tr>
<td><strong>4. LOUDSPEAKER CONNECTION DIAGRAMS</strong></td>
<td>19</td>
</tr>
<tr>
<td>4.1. Connection to PA3000</td>
<td>19</td>
</tr>
<tr>
<td>4.2. Connection to PA5000</td>
<td>20</td>
</tr>
<tr>
<td>4.3. Connection to PA4.1500</td>
<td>21</td>
</tr>
<tr>
<td>4.4. Connection to T Series Amplifier</td>
<td>22</td>
</tr>
<tr>
<td><strong>5. Inspection, Maintenance and Repair work</strong></td>
<td>24</td>
</tr>
<tr>
<td>5.1. TANIT</td>
<td>24</td>
</tr>
<tr>
<td>5.2. TANIT SUB</td>
<td>27</td>
</tr>
<tr>
<td><strong>6. Transport and storage</strong></td>
<td>28</td>
</tr>
<tr>
<td><strong>7. Technical specifications</strong></td>
<td>29</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

1.1. Welcome to Tecnare

Thank you for choosing the high-quality Tecnare® TANIT System “Made in Spain” from EXEL ACOUSTICS SL.

Please spare a little time to study the contents of this manual, so that you obtain the best possible performance from this unit.

All Tecnare® products are carefully engineered for world-class performance and reliability.

If you would like further information about this or any other Tecnare® product, please contact us. We look forward to helping you in the near future.

As part of a continuous evolution of techniques and standards, Exel Acoustics SL as manufacturer of Tecnare® products reserve the right to change the specifications of its products and the content of its documents without prior notice.

Updates and supplementary information are available on the Tecnare® website:

http://www.tecnare.com

Tecnare Technical Support is available at:

• (T): +34 918 170 110 - +34 918 171 001
• (e-mail): support@tecnare.com

Thank you again for placing your confidence in Tecnare® products.

Rigging element or procedure are no present in this document. Please refer to the TANIT rigging manual.
1.2. Overview the TANIT System

The Tecnare® TANIT Loudspeaker is a Hi-Performance 2-way passive “Arcuate Line Source Column” enclosure designed for professional sound reinforcement.

TANIT is equipped with six 5-inch MF neodymium cone drivers mounted in a vented enclosure, three above and three below the HF section and two 1-inch (1.5” voice coil) HF drivers attached to a waveguide and coupled to an exponential horn. The AES power capacity is 1040W at the nominal 6Ω impedance. The usable system bandwidth is 90 Hz to 18 kHz. The precise polar pattern of 120ºH x 35ºV (+10º/-25º) is achieved through the progressive acoustics coupling slightly arcuate ensuring a precise audience coverage, improved sound quality and outstanding speech intelligibility are assured.

The TANIT SUB is a bi-amp/passive high-power vented subwoofer housed with two 12-inch drivers in a compact enclosure designed to work altogether with TANIT Line Source Column. The AES power capacity is 1800W at the nominal 8Ω impedance. The low-frequency limit is 35 Hz.

The subwoofer is connected via 4-point speakON® connector. The Powering mode can be switched for passive operation using the internal passive crossover network or active through a dedicate preset. Self-powered version is also available.

Tanit SUB features an “Autoconnect” panel on top for stacking and connecting the companion TANIT Line Source Column enclosure.

TANIT and TANIT SUB system is particularly suitable for individual applications up to 25 metres (984,5”) distance.

TANIT enclosure features different integrated rigging inserts and safety insert. Accessories for flying, wall-mounting, pole mounting and stacking the enclosure is available. Other options include whether protection and custom colour finishes for fixed installations and applications with specific cosmetic requirements, FUND-TANIT and FUND-TANIT SUB protective cover for transporting and storage. Flight cases for transporting also could be ordered.

Both cabinets are assembled from 16mm Ply Baltic birch. A steel grille protects the front of enclosures and backed by an acoustically neutral fabric is fixed on the back. Finish in polyurea coating and custom RAL code on special order. TANIT SUB incorporates a rigid metal handle.
1.3. System Component List

ENCLOSURES
TANIT  2-Way Passive 6x5-inch MF + 2x1-inch (1.5-inch voice coil) HF
TANIT SUB  High-Power subwoofer 2x12-inch (3.5-inch voice coil) LF

POWER AMPLIFIER & RACK
T20-44 / T10-44 / T06-44  Power amplifier with Advanced DSP and Network control
T20-48 / T10-48
PA3000 / PA5000 / PA4.1500 & DP4896  Class-H Power amplifier and Advanced System Controller
TSRACK3  Touring Rack containing 1xTSeries amplifier and power & audio distribution
TSRACK6  Touring Rack containing 2xTSeries amplifier, TPD32 power distributor and TPB2U connection panel for audio & network distribution

Refer to TSeries amplifiers user manual for operating instructions

LOUDSPEAKER CABLE
TCQ44 cables  Loudspeaker cable 4x4mm² assembled with Neutrik®. Available sizes (1m, 5m, 10m, 25m / 3.2ft, 16.4ft, 32.4ft, 82ft )
TCQ82 cable  Loudspeaker cable 8x2.4mm² assembled with Neutrik®. Available size 10m (32.4ft)
TYSP-NL4  Loudspeaker Y-split cable for two passive enclosures. NLT4MX to 2x NL4FC cable
TYSP-NL8  Loudspeaker Y-split cable for four passive enclosures. NLT8MX to 4x NL4FC cable

See "Loudspeaker Connection Diagrams" to get more information about connection enclosures, given in this manual.

TRANSPORT & STORAGE
FUND-TANIT  Protective cover 1xTANIT enclosure
FUND- TANIT SUB  Protective cover 1xTANIT SUB enclosure
FC-TANIT  Touring Flight Case for 2xTANIT enclosures
FC-TANIT SUB  Touring Flight Case for 1xTANIT SUB enclosure

RIGGING ACCESSORIES: Rigging accessories or procedures are not present in this document. Refer to TANIT rigging assembly guide
1.4. Connections

TANIT loudspeaker offers multiple ways to connect it. Use one type of connection at a time.

Use the speakON® connector to connect one TANIT, or linked TANIT couple with a speakON® cable when it is used in Standalone.

1.4.1. TANIT

TANIT uses Neutrik® SpeakON® connectors. There are two NLT4 connectors on the rear of each TANIT. These connectors made with Neutrik® NL-4 or NL-4 compatible in-line cable connectors. All four pins of both connectors are wired in parallel to link multiple loudspeakers on a single amplifier output. However, note that all four pins on each connector – even that are unused by the speaker itself are wired in parallel (pin-to-pin) to all the other connectors on the cabinet. Remember that parallel connection reduces the total impedance (Ω) seen by the amplifier.

**CAUTION:** The total impedance of the loudspeaker connected in parallel must not drop below the minimum operating impedance of the amplifier. This will result in unsatisfactory performance and may cause damage to the amplifier.

The following subsections describe the electrical connections:

![Fig. 1: TANIT Connector Panel](image1)

<table>
<thead>
<tr>
<th>IN SpeakON port</th>
<th>1+</th>
<th>1-</th>
<th>2+</th>
<th>2-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>1+</td>
<td>1-</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Table 1: TANIT Connectors wiring

![Fig. 2: TANIT Connector & diagram wiring](image2)
1.4.2. TANIT SUB

TANIT SUB uses Neutrik® SpeakON® connectors. There are two NLT4 connectors on the rear of each TANIT SUB. These connectors made with Neutrik® NL-4 or NL-4 compatible in-line cable connectors. All four pins of both connectors are wired in parallel to link multiple loudspeakers on a single amplifier output. However, note that all four pins on each connector — even that are unused by the speaker itself—wire in parallel (pin-to-pin) to all the other connectors on the cabinet. Remember that parallel connection reduces the total impedance (Ω) seen by the amplifier.

Table 2: TANIT Connectors wiring

<table>
<thead>
<tr>
<th>IN SpeakON port</th>
<th>1+</th>
<th>1-</th>
<th>2+</th>
<th>2-</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI-AMP (Autoconnect)</td>
<td>MF/HF+</td>
<td>MF/HF-</td>
<td>LF +</td>
<td>LF -</td>
</tr>
<tr>
<td>PASSIVE</td>
<td>FR+</td>
<td>FR-</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Fig. 3: TANIT SUB Connector Panel

Fig. 4: TANIT SUB Connector & diagram wiring

Fig. 5: TANIT System Passive Mode. Connector & diagram wiring
1.5. Operation modes

The TANIT system can be connected with the following configurations:

i. **TANIT Standalone**
ii. **TANIT SUB Bi-amp mode/passive**
iii. **CONNECTION THROUGH composite CONFIGURATION**
iv. **TANIT ON TANIT SUB FULL RANGE PASSIVE**

TANIT Standalone is a 2-way design with a built-in passive crossover network so a TANIT loudspeaker can be operated with a properly configured amplifier channel in Tecnare amplifier combination.

TANIT SUB can run in two ways: Bi-amp or passive mode. The TANIT SUB can be switched from Bi-AMPING to PASSIVE by using the switch located in the back.

**CAUTION:** never switch the operation mode if the TANIT SUB loudspeakers are wired to an active signal source.

The subwoofer features an internal passive crossover network. Running the TANIT SUB in passive mode makes it ideally suited for working together TANIT. This way, you achieve an absolutely balanced sound characteristic. However, if you select the BI-AMPING mode offers several advantages: lower distortion, greater flexibility of signal transmissions as well as an improved overall performance of your system.

Only operate Tecnare Loudspeakers with a correctly configured Tecnare amplifier, otherwise there is a risk of damaging the loudspeaker components.

**PIN ASSIGNMENT IN TANIT SUB**

As we have described in the previous section, if you run the subwoofer in bi-amp mode the subwoofer signal will drive to pins 2. Pins 1 of the input are connected to pins 1 of the link connector, and can be used to loop the signal through to TANIT. Moreover, in this way, with TANIT on top of TANIT SUB, “Autoconnect” is enabling and signal is routed through the subwoofer connector place on the top. It will be the **Connection Through Composite Configuration** mode.

If you run the TANIT SUB in passive mode the subwoofer signal will drive to pins 1 +/- . In this way, the signal will feed TANIT SUB through a low-pass passive crossover network and to TANIT through a high-pass filter using the Autoconnect connector. Pins 2+/- serves as a signal link. It will be the **TANIT ON TANIT SUB full Range Passive** mode.

Note that when switching the TANIT SUB to Bi-amp mode, the speaker input signal changes to pins 2 +/- . The 1 +/- pins now work as a loop channel.

**CAUTION:** Never connect the output signals of different power amplifiers to both parallel inputs at the same time. This may permanently damage your setup.
1.6. Processing and amplification

Only operate Tecnare® loudspeakers with a correctly configured Tecnare preset. Tecnare offer a complete solution that guarantees the highest level of performance. A complete range of controllers, amplified and amplified controller with DSP are available to get this aim. Otherwise, there is a risk of damaging the loudspeaker components.

1.6.1. Processing

The Tecnare DP4896 is the approved processor for use with the TANIT loudspeaker. Refer to DP4896 user manual.

Presets for DP4896 processors and TSeries amplifiers have been developed for the TANIT. Three presets for TANIT System are available.

- TANIT (TANIT)
- TANIT SUB (TANIT_SUB)
- TANIT Passive System (TANIT_PASSIVE)

You may obtain the settings from the DP Series at http://www.tecnare.com website.

1.6.2. Amplification

To power TANIT Loudspeakers, Tecnare recommends amplifiers with the power ratings enough to feed the loudspeakers. For high power or live applications, it is recommended to oversize the amplifiers on to the nominal AES output of the loudspeaker. In certain specific cases it is possible to slightly under-power the loudspeakers as long as the amplifier will not be driven to its limits.

In any case, the Tecnare processors should be deployed in front of the amp to make sure that the amplifiers to not go into the clip.

The TSeries amplifier or DP4896 processors also include:

- Virtual Xover Limiter for passive systems
- Thermal protection from power surges or overload
- Xmax Excursion displacement protection

The TSeries amplifiers are the ideal companion for greatest performance of TANIT loudspeakers. These controller amplifiers with DSP offer a complete both preset and protection solution for any application. The TANIT Loudspeakers can be driven by T20-48, T10-48, T20-44, T10-44 and T06-44 amplifiers.
2. Loudspeaker Setup

2.1. Standalone System

When TANIT is working as standalone system, the TANIT system can be operate over the nominal bandwidth of the TANIT enclosure 90 Hz-18 KHz

Frequency Range

- 100-20 kHz (-3dB)
- 90-20 kHz (-10dB)
2.2. TANIT & TANIT SUB

If, higher SPL is necessary, or the program content requires low-frequency beyond that provided by the TANIT standalone, than subwoofers can be added to TANIT loudspeaker system to increase the low-frequency response and the overall acoustic power.

In a composite configuration with TANIT SUB, the TANIT system bandwidth is extended down to 40Hz and the system contour is reinforced around 8 dB

The (TANIT_SUB) preset is the setup available for combinations of TANIT on top of TANIT SUB (Using “Autoconnect” connexion) or when up to 60cm (24in) separation distance. If this distance is more than 60cm (24in) do not forget add its corresponding delay on the configuration. For more information, contact Tecnare Technical Support.

Fig. 7 TANIT & TANIT SUB Configuration
2.3. TANIT, TANIT SUB and Subwoofer Extension

Sometimes an extra amount of low-frequency would be needed. TANIT System can be deployed with a Tecnare subwoofer. These subwoofers achieve very low-frequency response and extend the frequency response.

The ideal ratio of TANIT System loudspeakers to subwoofer elements depends on the following variables:

- Subwoofer model
- System configuration
- Frequency content of source material
- Headroom required for low frequency

For most applications, the SW118M with a ratio of 1:1 (Number of TANIT SUB per SW118M) yield good result.

Subwoofer loudspeakers should be placed side by side. If it is not possible, the largest distance between two adjacent acoustics centres must be half-wavelength (it is considering a maximum phase offset of 180°) of upper frequency limit \( f_r \) of the subwoofer system to avoid one or more spurious side-lobes. It can be calculated through this equation:

The relationship of speed of sound its frequency and wavelength is:

\[
\lambda = \frac{c}{f}
\]

where \( \lambda \) is wavelength (in meters), \( c \) is speed of sound (in m/s), and \( f \) its frequency (in Hz).

The maximum distance of separation permitted \( (d_c) \) is:

\[
d_c = \frac{\left( \frac{1}{f_r} \right) \cdot 180^\circ \cdot c}{360^\circ}
\]

where:
- \( d_c \) is the maximum distance of separation between subwoofer in meter or inch,
- \( f_r \) is the upper frequency limit of subwoofer in hertz,
- \( c \) is the speed of sound in meters (inch) / second.
3. POWER AMPLIFIER SELECTION FOR USE WITH TANIT

3.1. Recommended Amplifier Power

The Tecnare® TANIT System has been developed in conjunction with the TSeries amplifiers. We recommend using the TSeries amplifiers with the TANIT loudspeaker. The Tecnare TSeries Advanced System Amplifier represents current state-of-the-art in amplifier technology. Offering a unique combination of massive power and peerless audio performance integrated with unique DSP, the TSeries represents an unmatched advancement in amplifier technology.

Also, Tecnare PA Series two and four channel power amplifiers are recommended for use with ALIS Series together with the DP4896 processors. These amplifiers work well at 4 ohms, making it possible to power one cabinet from each amplifier channel.

We recommend TSeries amplifiers if two and more TANIT loudspeaker needs to be connected in parallel, as these amplifiers can comfortably drive 2 ohm loads.

3.1.1. Maximum drive capability

- When using TANIT in STANDALONE, each PA-Series amplifiers can drive a maximum of ONE enclosure by channel and two enclosures by channel if you use a T44 Series.

- When using TANIT SUB in BI-AMP, each PA-Series amplifiers can drive a maximum of ONE enclosure by channel and two enclosures by channel if you use a T44 Series.

- When using TANIT SUB in PASSIVE version, with TANIT on the Top of TANIT SUB only the use of T20-44 is recommended, one enclosure by channel of T20-44 are available. Refer to section 4, "Loudspeaker Connection Diagrams".

Other manufacturers’ power amplifiers may be used provided they are capable of delivering the necessary power into the joined impedance of loudspeakers in use. Note that many amplifiers suffer sonic degradation when driving low load impedance or, worse still, shut down.

Always check your intended power amplifier’s specifications and conduct listening tests before committing to a very low impedance system design.
4. LOUDSPEAKER CONNECTION DIAGRAMS

Tecnare® Sound Systems recommends operating the TANIT loudspeaker together Tecnare loudspeaker controllers.

Tecnare® only recommends using preset/amplifier developed by Tecnare; otherwise there is a risk of damaging the loudspeaker components. DP Series Loudspeaker Controller, PA Series amplifier and T-Series amplifier are ideal for this purpose.

Ensure that the right preset was selected before connecting the loudspeaker with the amplifier.

Operating with an incorrect preset can damage part of the loudspeaker.

**CAUTION:** Ensure that the amplifier is properly sized according to the requirements. Under-power or oversize power amplifier without the supervision of an expert may damage the loudspeaker.

Please note the technical specification section.

4.1. Connection to PA3000

MAXIMUM OF 04 ENCLOSURES PER PA3000

01 x TANIT or TANIT SUB can be connected to each output channel on the PA3000. Therefore, a single PA3000 amplifier can drive up to 02 enclosures.

Impedance load: TANIT 6Ω for 1 enclosure
TANIT SUB 8Ω for 1 enclosure

![Diagram of TANIT or TANIT SUB connected to PA3000](Fig. 8 Connecting TANIT or TANIT SUB to PA3000)
4.2. Connection to PA5000

MAXIMUM OF 04 ENCLOSURES PER PA3000

01 x TANIT can be connected to each output channel on the PA5000. 02 x TANIT SUB can be connected to each output on the PA500. Therefore, a single PA5000 amplifier can drive up to 02 TANIT enclosures or up to 04 TANIT SUB.

Impedance load: TANIT 6Ω for 1 enclosure
TANIT SUB 8Ω for 1 enclosure

Fig. 10 Connecting TANIT or TANIT SUB to PA5000
4.3. Connection to PA4.1500

**MAXIMUM OF 04 ENCLOSURES PER PA3000**

01 x TANIT or TANIT SUB can be connected to each output channel on the PA1.1500. Therefore, a single PA4.1500 amplifier can drive up to 04 TANIT enclosures or up to 04 TANIT SUB.
4.4. Connection to T Series Amplifier

MAXIMUM NUMBER OF ENCLOSURES PER T-SERIES AMPLIFIERS

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>Max enclosures in parallel</th>
<th>Max enclosures by amplifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>TANIT</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>TANIT SUB</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>TANIT PASSIVE</td>
<td>1</td>
<td>NR</td>
</tr>
</tbody>
</table>

Table 3. Maximum number of enclosures on T Series Amplifiers

Impedance load:
- **TANIT**: 1 Enclosure: 6Ω; 2 Enclosures: 3Ω
- **TANIT SUB**: 1 Enclosure: 4Ω; 2 Enclosures: 2Ω
- **TANIT PASSIVE MODE**: 1 System: 2.4Ω

Make sure the total amount of connected enclosures does not exceed the maximum number of enclosures per amplifier’s outputs
Fig. 14 connecting **TANIT** or **TANIT SUB** to **TSeries Amplifiers**

Fig. 15 connecting **through composite configuration to TSeries amplifiers**
5. Inspection, Maintenance and Repair work

This section illustrates the steps to follow when removing the TANIT Series loudspeaker components. To replace the components and reassemble the loudspeaker, reverse these instructions.

**CAUTION:** Any maintenance and/or repair work on the product must be carried out by qualified staff.

**TOOLS:**

- Torque Screwdriver
- Pack hex bit spherical head keys
- Pack screwdrivers
- Level

5.1. TANIT

**Procedure:**

Place protective material between the enclosure and the surface to avoid scratching the fins

5.1.1. Accessing to the woofer chamber

- Remove the grille and grille foam using a 3 mm allen wrench. During the removal, hold the grille and grille foam in place. This prevents the grille foam from tearing

![Fig. 16 Accessing to the woofer chamber](image)

5.1.2. Removing the woofer

- Gradually, remove the 4 woofer mounting screws with a Philips screwdriver, following a star pattern. Do not discard the mounting hardware
- Lift the woofer enough to get access and disconnect the two electrical leads
- Lift the woofer from the cabinet
Pay close attention to the polarity described in the connection diagram.

5.1.3. Accessing to the HF Diaphragm

- Place the enclosure with the back side facing up
- Remove the rear metal plate with a Phillips screwdriver and using a lever

5.1.4. Replacing the Diaphragm

- Remove the four M4 allen diaphragm's screws
- Disconnect the black lead (-) and blue lead (+) from the diaphragm connectors
- Lift the diaphragm from the magnet
- Use a blower or double face adhesive to remove any particle
- Position the new diaphragm assembly
5.1.5. Accessing to the HF Driver

- Remove the four mounting screws that hold the horn into the enclosure with an allen wrench. It is attached to the waveguide
- Lift the horn assembly until you can see the blue (+) and black (-) leads and disconnect these. The terminals are on the back of the driver
- Lift the horn assembly completely away from the enclosure

5.1.6. Removing the HF Driver

- Use a spherical head bit to remove the driver screws
- Reinstall the components listed in this section, reversing the disassembly procedure

**CAUTION:** For each speaker, make sure the driver exit and the waveguide mouth fit together

**CAUTION:** Make sure the air gap is perfectly clear before reassemble
5.2. TANIT SUB

Procedure.

Place protective material between the enclosure and the surface to avoid scratching the fins

5.2.1. Accessing to the woofer chamber

- Remove the grille and grille foam using a 3mm allen wrench. During the removal, hold the grille and grille foam in place. This prevents the grille foam from tearing.

![Fig. 24 Accessing to the TANIT SUB woofer chamber](image)

5.2.2. Removing the woofer

- Gradually, remove the 8 woofer mounting screws with a 4mm allen wrench, following a star pattern. Do not discard the mounting hardware.
- Lift the woofer enough to access and disconnect the two electrical leads.
- Lift the woofer from the cabinet.

![Fig. 25 Removing the TANIT SUB woofer](image)
6. Transport and storage

As the Tecnare TANIT loudspeaker weighs over 23kg (50.7 lbs) and 31kg. (69.44lbs) for TANIT SUB, two people are recommended to move and transport the units.

To transport the unit with a single person, Tecnare recommends using the optional FC-TANIT & FC-TANIT SUB.

When transporting and storing the unit, it is important to make sure that the finish and front steel grille of the loudspeaker are not damaged. Moisture can penetrate exposed wood surfaces and cause the wood to swell. A bent or broken front grille will no longer adequately protect the sensitive speaker membranes.

In addition, appreciable dust deposits may considerably impair the functionality of a loudspeaker membrane. For this reason, the loudspeakers should be transported and stored in a safe, careful, dry and largely dust-free way.

FUND-TANIT (protective soft cover for two TANIT), FUND-TANIT SUB (protective soft cover for one TANIT SUB), FC-TANIT (Flightcase for two TANIT) and FC-TANIT SUB (Flightcase for one TANIT SUB) are the available accessory parts for transport and storage a TANIT System.

Other options include weather protection and custom colour finishes for fixed installations and applications with specific cosmetic requirements.

The original packaging don’t should use as permanent storage and transport packaging.
# 7. Technical specifications

## TANIT ARCUATE LINE SOURCE COLUMN SPECIFICATIONS

### ACOUSTICAL

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Frequency Range</td>
<td>75 Hz - 20 kHz ±3dB, measured on axys. 90Hz-18kHz. Recommended operating frequency range. Response depends on loading conditions and room acoustics</td>
</tr>
<tr>
<td>Axial Sensitivity</td>
<td>98 dB (1w/1m)</td>
</tr>
<tr>
<td>Calculated SPL</td>
<td>128 dB continuous/134 Peak</td>
</tr>
<tr>
<td>Nominal Dispersion</td>
<td>Asymmetric: horizontal 120º; vertical: 35º (+10/-25)</td>
</tr>
<tr>
<td>Nominal impedance</td>
<td>6 ohm</td>
</tr>
</tbody>
</table>

### COMPONENT

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Frequency</td>
<td>6 x 5-inch custom made cone drivers neodymium magnets, direct radiation, bass-reflex</td>
</tr>
<tr>
<td></td>
<td>Nominal impedance: 8Ω/loudspeaker</td>
</tr>
<tr>
<td></td>
<td>Power Handling Capability: 150 W AES / 300 W continuous / loudspeaker</td>
</tr>
<tr>
<td></td>
<td>Note: Power Handling measured using AES Standards= 2 hours test made with continuous pink noise signal (6 db crest factor) from the recommended xover point. Power on Continuous Program is defined as 3 dB greater than the Nominal rating</td>
</tr>
<tr>
<td>High Frequency</td>
<td>2 x 1-inch neodimium magnets motor - compression driver</td>
</tr>
<tr>
<td></td>
<td>Nominal impedance: 16Ω/driver</td>
</tr>
<tr>
<td></td>
<td>Voice coil size: 38 mm / 1.5-inch - keton polymer diaphragm</td>
</tr>
<tr>
<td></td>
<td>Power Handling Capability: 35 W AES / 70 W continuous</td>
</tr>
<tr>
<td></td>
<td>Note: Power Handling measured using AES Standards= 2 hours test made with continuous pink noise signal (6 db crest factor) from the recommended xover point. Power on Continuous Program is defined as 3 dB greater than the Nominal rating</td>
</tr>
</tbody>
</table>

### AUDIO INPUT

<table>
<thead>
<tr>
<th>Connectors</th>
<th>IN: 1 x NL4 SpeakON® LINK: 1 x NL4 SpeakON® IN: Autoconnect at bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiring</td>
<td>Pin 1+/−: LF+−; Pin 2+/−: N.A.;</td>
</tr>
</tbody>
</table>

### PHYSICAL

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure</td>
<td>16 mm birch plywood. Finished in Polyurea surface</td>
</tr>
<tr>
<td>Protective Grille</td>
<td>Black Powder-coated hex-stamped perforated steel with acoustically transparent black fabric</td>
</tr>
<tr>
<td>Fitting</td>
<td>13 x M8 integrate insert for rigging accessories. One recessed carrying handle on the back. One M8 insert for safety.</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>1274,5mm x 162,5mm x 230,3mm (50,18” x 6.40” x 9.07”)</td>
</tr>
<tr>
<td>Weight</td>
<td>23 Kg. (50.7 lbs)</td>
</tr>
</tbody>
</table>

Application information is presented for guidance only. Exel Acoustics SL reserves the right to make any necessary changes to the products and the published specifications. As part of the ongoing development program Exel Acoustics SL tries to maintain the highest degree of product compatibility.
TANIT SUB Dimensions
### TANIT SUB SPECIFICATIONS

#### ACOUSTICAL

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Frequency Range</strong></td>
<td>35 Hz - 195 kHz ±4 dB, measured on axys. 45Hz-120kHz Recommended operating frequency range. Response depends on loading conditions and room acoustics</td>
</tr>
<tr>
<td><strong>Axial Sensitivity</strong></td>
<td>96 dB (1w/1m) @ half-space</td>
</tr>
<tr>
<td><strong>Calculated SPL</strong></td>
<td>131 dB continuous/137 Peak</td>
</tr>
<tr>
<td><strong>Nominal Dispersion</strong></td>
<td>360°</td>
</tr>
<tr>
<td><strong>Nominal impedance</strong></td>
<td>8 ohm</td>
</tr>
</tbody>
</table>

#### COMPONENT

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Frequency</strong></td>
<td>2 x 12-inch cone drivers neodymium magnets, direct radiation, bass-reflex</td>
</tr>
</tbody>
</table>

**Nominal impedance:** 16Ω/loudspeaker  
**Voice coil size:** 88 mm / 3.5-inch  
**Power Handling Capability:** 900 W AES / 1800 W continuous / loudspeaker  
**Note:** Power Handling measured using AES Standards= 2 hours test made with continuous pink noise signal (6 db crest factor) from the recommended xover point. Power on Continuous Program is defined as 3 dB greater than the Nominal rating

#### AUDIO INPUT

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Wiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN: 1 x NL4 SpeakON®</td>
<td>Pin 1+/-: LF+/- (passive mode); Pin 2+/-: LF+/- (bi-amp mode)</td>
</tr>
<tr>
<td>LINK: 1 x NL4 SpeakON®</td>
<td></td>
</tr>
<tr>
<td>OUT: Autoconnect at top</td>
<td></td>
</tr>
</tbody>
</table>

#### PHYSICAL

<table>
<thead>
<tr>
<th>Enclosure</th>
<th>16 mm birch plywood. Finished in Polyurea surface</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protective Grille</strong></td>
<td>Black Powder-coated hex-stamped perforated steel with acoustically transparent black fabric</td>
</tr>
<tr>
<td><strong>Fitting</strong></td>
<td>One / side rigid metal handle.</td>
</tr>
<tr>
<td><strong>Dimensions (HxWxD)</strong></td>
<td>825mm x 348mm x 423,3mm (32.48” x 17.71” x 16.67”)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>31,5 Kg. (69.44 lbs)</td>
</tr>
</tbody>
</table>

Application information is presented for guidance only. Exel Acoustics SL reserves the right to make any necessary changes to the products and the published specifications. As part of the ongoing development program Exel Acoustics SL tries to maintain the highest degree of product compatibility.
TANIT Dimensions

825mm [32,48"]

423,3mm [16,67"]

348,2mm [13,71"]
**TANIT ON TANIT SUB SPECIFICATIONS**

<table>
<thead>
<tr>
<th>ACoustical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Frequency Range</td>
<td>40 Hz - 20 kHz ±3dB, measured on axys. 90Hz-18kHz Recommended operating frequency range. Response depends on loading conditions and room acoustics</td>
</tr>
<tr>
<td>Calculated SPL</td>
<td>135 dB continuous/141 Peak</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audio Input</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectors</td>
<td>IN: 1 x NL4 SpeakON®; LINK: 1 x NL4 SpeakON®</td>
</tr>
<tr>
<td>Wiring</td>
<td>Pin 1+/-: LF+/-; Pin 2+/-: N.A.;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure</td>
<td>16 mm birch plywood. Finished in Polyurea surface</td>
</tr>
<tr>
<td>Protective Grille</td>
<td>Black Powder-coated hex-stamped perforated steel with acoustically transparent black fabric</td>
</tr>
<tr>
<td>Dimensions (HxWxD)</td>
<td>2078.8mm x 355mm x 427.9mm (81.32&quot; x 13.98&quot; x 16.85&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>54.5 Kg. (120.51 lbs)</td>
</tr>
</tbody>
</table>
The contents of this manual are furnished for informational purposes only, are subject to change without notice, and should not be construed as a commitment by Exel Acoustics SL. Exel Acoustics assumes no responsibility or liability for any errors or inaccuracies that may appear in this manual. Except as permitted by applicable copyright law, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, recording or otherwise, without prior written permission from Exel Acoustics. Tecnare and PCC-Net are trademarks of Exel Acoustics SL. System Engineer, BvNet and all third-party trademarks mentioned herein are the property of their respective trademark holders.

Printed in Spain.