

EAAW[®]

EASTERN ACOUSTIC WORKS



AC6 **User Manual**

AC6 User Manual

IMPORTANT SAFETY INSTRUCTIONS - READ THIS FIRST

Read and heed all warnings and safety instructions in this manual before using this product. Failure to follow these precautions may result in damage, injury, or death.

- 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 a dry cloth.
- 7) Do not block any amplifier 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 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 is 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) Use only with the Caster Pallets and flybars specified by the manufacturer, or sold with the apparatus. When a Caster Pallet is used, use caution when moving the apparatus

combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) 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, does not operate normally, or has been dropped.

CAUTION: Danger of explosion if lithium battery is incorrectly replaced. Do not attempt to replace the battery yourself.

CONSIGNES DE SÉCURITÉ - À LIRE EN PREMIER

Lisez et respectez toutes les consignes de sécurité et les mises en garde fournies dans le manuel des enceintes EAW avant d'utiliser ce produit. Le non-respect de ces consignes et mises en garde peut entraîner des dommages aux équipements et des accidents aux personnes pouvant être fatals.

ATTENTION: L'enceinte est fournie avec un cordon secteur. Selon la tension du modèle commandé, ce câble est fourni avec la fiche la plus communément utilisée avec cette tension. Si la fiche n'est pas compatible avec les prises secteur de votre région, faites appel à un électricien agréé pour modifier le cordon secteur en fonction du format local. Vérifiez que la fiche secteur dispose d'une mise à la terre. Le non-respect de la mise à la terre peut entraîner des dommages aux équipements et des accidents aux personnes pouvant être fatals.

ATTENTION: Danger d'explosion si la batterie au lithium n'est pas remplacé. N'essayez pas de remplacer la batterie vous-même.

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PRECAUZIONI DI SICUREZZA - DA LEGGERE PER PRIMO

Norme di Sicurezza

Prima di procedere con l'utilizzo del prodotto, leggere e rispettare ogni avvertenza e norma di sicurezza riportata nel "Manuale EAW Loudspeaker". Il mancato rispetto di ogni precauzione può causare danni all'apparecchiatura, nonché infortuni alle persone o la morte.

ATTENZIONE: Il diffusore è completo di cavo d'alimentazione ac fornito in dotazione. In base la voltaggio del modello di diffusore acquistato, il cavo è configurato con il connettore ac più adeguato. Nel caso in cui il connettore non sia compatibile con le prese di corrente adottate nell'area d'impiego, rivolgersi ad un elettricista qualificato per ri-configurare il cavo con il connettore più appropriato. Assicurarsi che la presa di corrente sia adeguatamente collegata a terra. Il mancato rispetto di tali norme può causare danni all'apparecchiatura, nonché infortuni alle persone o la morte.

ATTENZIONE: Pericolo di esplosione se la batteria al litio non è sostituita correttamente. Non tentare di sostituire la batteria da soli.

PRECAUCIONES DE SEGURIDAD - LEA ESTO PRIMERO

Instrucciones de Seguridad

Lea y observe todos los avisos e instrucciones de seguridad que aparecen en el "Manual de altavoces EAW" adjunto antes de usar este aparato. El no observar esta precaución puede dar lugar a averías en el aparato, daños en las personas o incluso la muerte.

PRECAUCION: El altavoz viene de fábrica con un cable de corriente. Dependiendo del voltaje que use el modelo solicitado, este

cable estará configurado con el enchufe más habitual para ese tipo de corriente. Si ese enchufe no es compatible con su salida de corriente, contacte con un electricista profesional para que cambie el enchufe del cable por el tipo adecuado. Asegúrese de que la salida de corriente tenga una conexión a tierra adecuada. El no observar esta advertencia puede dar lugar a averías en el aparato, daños en las personas o incluso la muerte.

PRECAUCIÓN: Peligro de explosión si la batería de litio se sustituye de forma incorrecta. No intente cambiar la batería usted mismo.

SICHERHEITSHINWEISE - LESEN SIE DIESEN ABSCHNITT ZUERST

Sicherheitsanweisungen

Lesen und beachten Sie alle Warnungen und Sicherheitsanweisungen der mitgelieferten "EAW Lautsprecher Bedienungsanleitung" vor der Benutzung des Produkts. Nichtbeachtung dieser Hinweise können möglicherweise zu Schäden am Equipment oder zu Verletzungen bzw. zum Tod von Personen führen.

WARNUNG: Der Lautsprecher wird mit einem Netzkabel geliefert. Abhängig von der jeweiligen Netzspannung wird das Kabel mit dem für die jeweilige Netzspannung gängigsten Netzstecker ausgeliefert. Sollte der Netzstecker nicht in Ihre Netzsteckdose passen, dann lassen Sie von einem zugelassenen Elektrobetrieb einen passenden Netzstecker montieren. Stellen Sie sicher, dass der Schutzkontakt der Netzsteckdose einen guten Kontakt zur Erde hat. Nichtbeachtung dieser Hinweise können möglicherweise zu Schäden am Equipment oder zu Verletzungen bzw. zum Tod von Personen führen.

ACHTUNG: Explosionsgefahr bei Lithium-Batterie falsch eingesetzt wird. Versuchen Sie nicht, den Akku selbst zu ersetzen.

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CAUTION: Changes or modifications not expressly approved by EAW® North America INC could void the user's authority to operate the equipment.



Correct Disposal of this Product

This symbol indicates that this product should not be disposed of with your household waste, according to the WEEE Directive (2002/96/EC) and your national law. This product should be handed over to an authorized collection site for recycling waste electrical and electronic equipment (WEEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with WEEE.

At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, or your household waste disposal service.

AC6™ System Overview

Adaptive Systems™ are one of the most technologically advanced loudspeakers ever created, including the latest advances in transducer, DSP, mechanical, amplification, and software technology. Through the close integration of these disciplines, the user is free to simply define the coverage, consistency and sound pressure level (SPL) required of the system. With a minimal amount of user-provided information, the AC6 system will use Adaptive Performance to provide optimal sound reinforcement for that specific requirement.

The AC6 system workflow offers a range of entry points and allows the user to assess options for deploying the system. New users may wish to create a model of the venue and ask the Anna system to recommend array configurations based on available inventory. Experienced users may design their own arrays as models and ask the AC6 system to adapt performance to the venue. Masterful users may simply deploy arrays and then ask the system to adapt performance.

On-site, users can readily and quickly manipulate system performance using digital signal processing (DSP) only.

Features and Benefits

The feature set designed into the AC6 offers users a range of advantages in system application and maintenance.

Internal Processing & Amplification

As is true of all professional loudspeaker systems, the performance of the AC6 depends on amplifiers delivering an adequate supply of clean power. To maximize performance, each module includes powerful, built-in, high-efficiency amplifiers that are exactly matched to their transducers. AC6 modules include 36 independent channels of amplification and DSP in order to provide independent control of each transducer. Even though extremely lightweight compared to other products in the same output category, these amplifiers are designed to meet and exceed the exceptionally high output requirements of professional applications.

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Infrared (IR) Transceivers

Each time a user powers on an AC6 array, the modules immediately use the IR transceivers on the top and bottom of the cabinet to announce themselves to their neighbors and recognize the announcements of their neighbors. AC6 recognizes each individual and the array as a whole and presents that to Resolution software. Identifying specific modules is not necessary. All that is needed is identifying where each array is located within the venue (left, right, etc.). The AC6 will determine which modules are within each array and how that array is configured.

LEDs

The top of each acoustic module houses a bright white LED that is used for identifying AC6 arrays. It is triggered when the Identify function in Resolution software is activated. In addition, a Fault or Limiter Activation mode can be selected in Resolution and the LED will illuminate when one of these two conditions is met.

***NOTE:** The bottom acoustic module is inverted. The resulting LED arrangement can be used to confirm orientation of the loudspeaker.*

Using the Loudspeaker

Users will need to perform the following general tasks to properly put the AC6 into use. This manual includes details for each task.

1. Design the system using the Resolution™ 2
2. Design & Control Software ([see the program Help File for further information about using Resolution](#)).
3. Design and install suspension points to support the array(s)/rigging in intended locations and aimed in the desired

directions. If ground-stacked, provide a level surface capable of supporting the total weight of the array(s).

4. Connect an audio signal to the loudspeakers in the array or to a Dante™ source.
5. Connect the loudspeakers to a power source.
6. Connect a control computer with Resolution software to the AC6 network.
7. Set-up and adjust overall system gain and signal processing, as needed to maximize the array's performance for the application.
8. Provide training to operate the loudspeakers within their limits.
9. Provide regular inspection and maintenance to maintain the integrity of the installation and the performance of the loudspeakers.

Array Design

See [Resolution Help File](#) for assistance in properly designing AC6 arrays.

Software

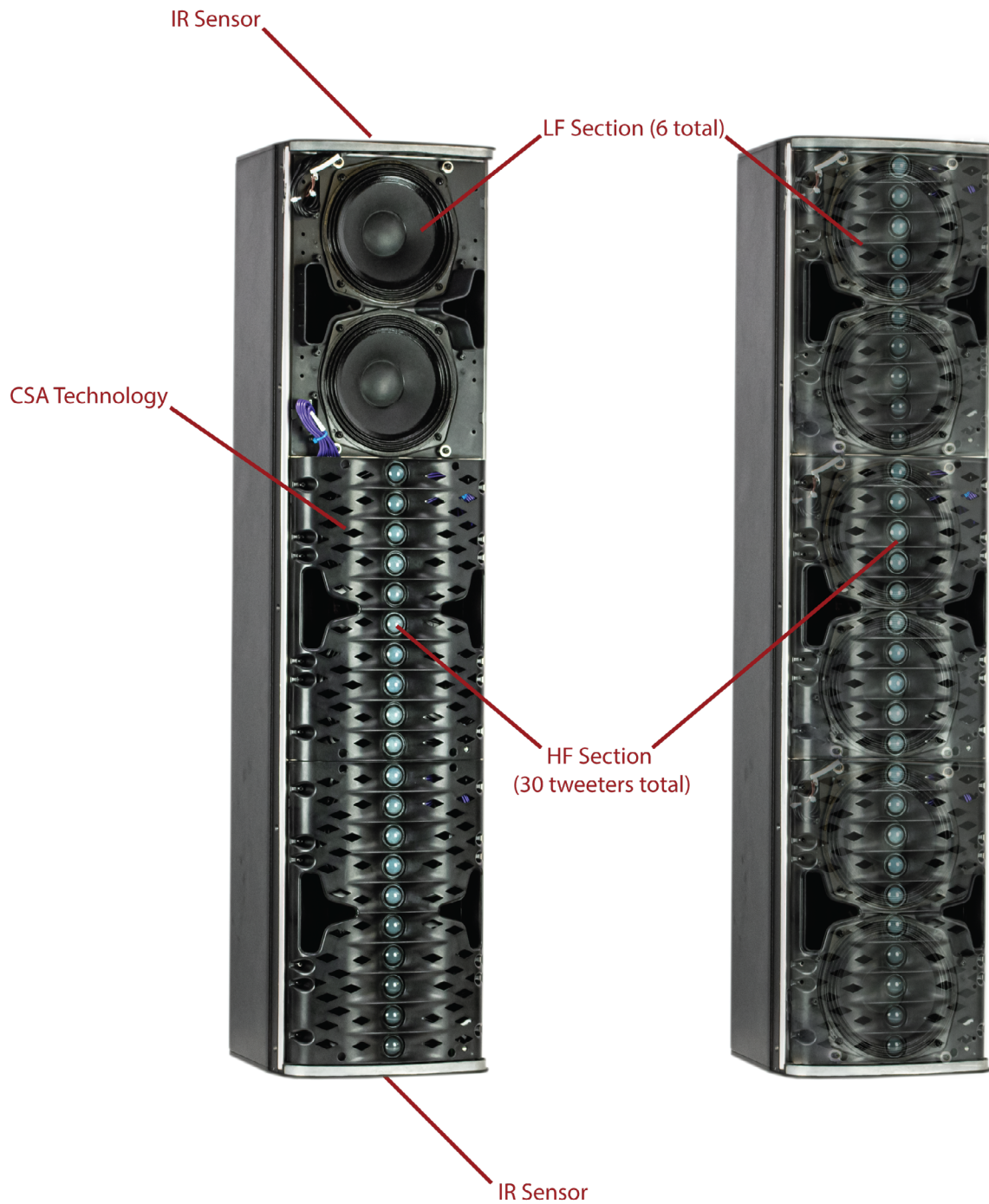
EAW Resolution 2 software is designed to control ADAPTive systems. For advanced functions like in-venue optimization, supplemental software such as Rational Acoustics® Smaart™ may be desired, but this is not required for basic system operation.

Always ensure that your EAW Resolution software and AC6 firmware are up-to-date.

For a complete list of recommended system requirements, please refer to the [Resolution 2 help file](#).

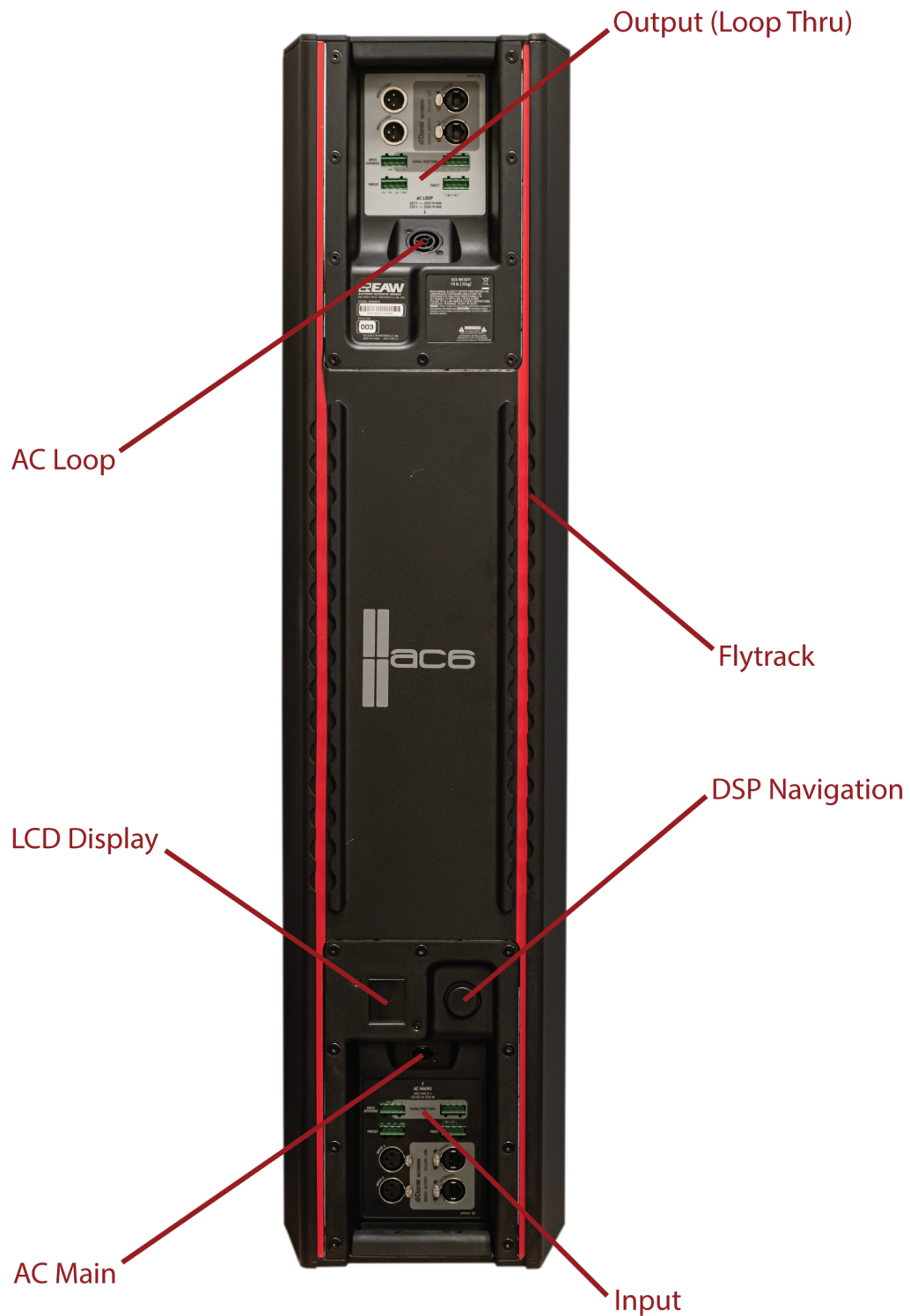
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AC6 Walkaround (Front)



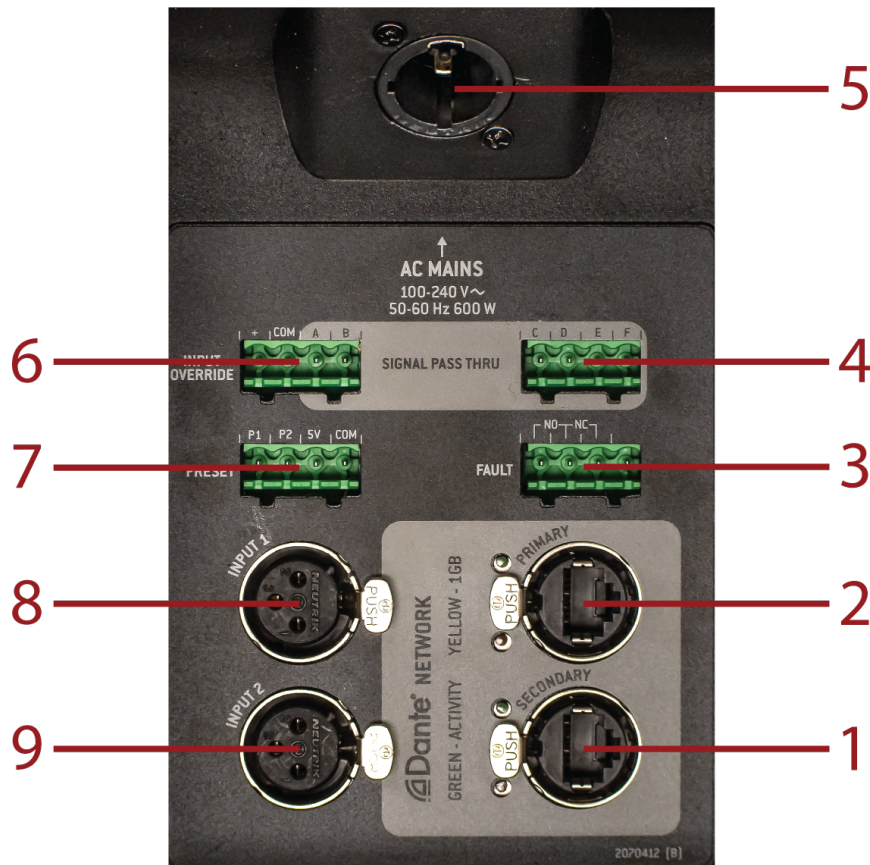
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AC6 Walkaround (back)



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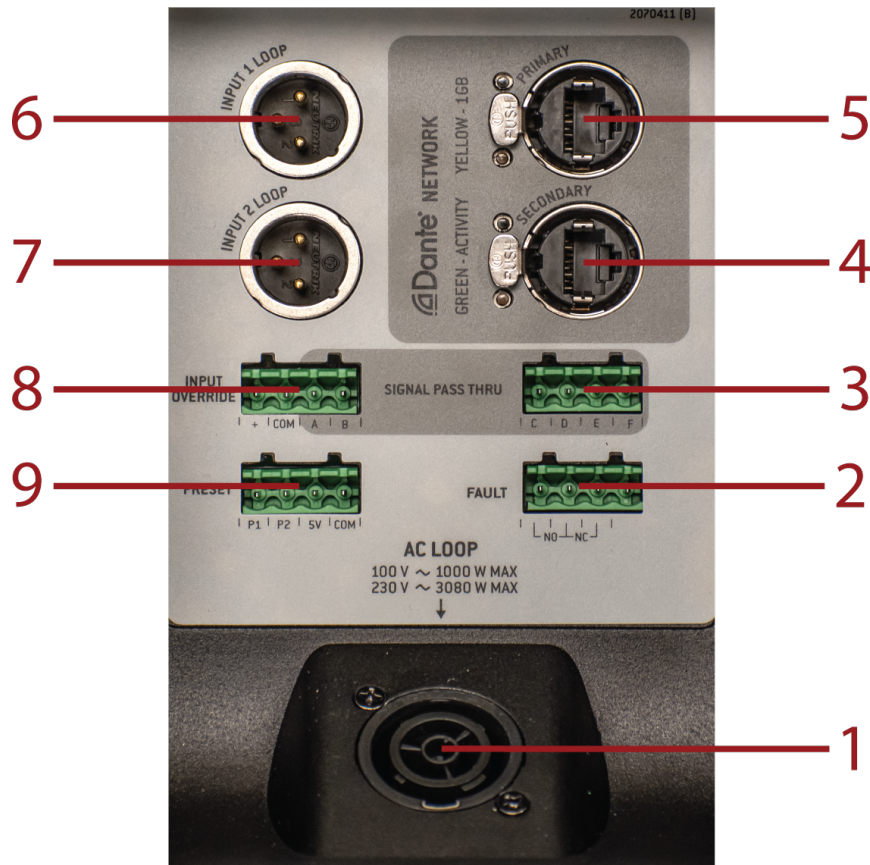
Input Panel



1. Secondary Dante EtherCON™ Connector
2. Primary Dante EtherCON™ Connector
3. Fault: Will set NC/NO open or closed respectively.
4. Signal Pass Thru: Can carry 5-28V control signals through up to 3x modules.
5. PowerCON™ TRUE1™ AC Mains Input
6. Input Override: Set to closed to override input. Input selection must occur within Resolution.
7. Preset: Using 00/01/10/11 logic to select presets 1/2/3/4.
8. XLR Audio Input Connector
9. XLR Audio Input Connector

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Loop/Thru Panel



1. PowerCON™ TRUE1™ AC Mains Output
2. Fault: Will set NC/NO open or closed respectively.
3. Signal Pass Thru: Can carry 5-28V control signals through up to 3x modules.
4. Secondary Dante EtherCON™ Connector
5. Primary Dante EtherCON™ Connector
6. XLR Audio Output Connector
7. XLR Audio Output Connector
8. Input Override: Set to closed to override input. Input selection must occur within Resolution.
9. Preset: Using 00/01/10/11 logic to select presets 1/2/3/4.

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AC Mains Connection

Connect the supplied AC mains cord to the powerCON® True1 socket on the rear of AC6.

The True1 system utilizes a locking connector. To lock, twist 1/4 turn clockwise after fully inserting it into the AC MAINS receptacle.

Connect the other end to an AC mains supply receptacle, nominally as seen on back panel. If necessary, have a qualified electrician change the cable plug as required for compatibility with the local AC mains receptacle.

WARNING: Before connecting AC6 to the AC mains supply, completely turn down the input signal. If not, there could be excessive and possibly damaging sound levels from the loudspeaker when energized.

There is no power switch. When connected to the AC mains, the loudspeaker will be fully operational, with the output level controlled by the signal source feeding it.

Linking Power

The Neutrik powerCON® True1 AC mains and AC loop connectors are wired in parallel to provide an AC mains inlet and outlet on each NTX & SBX. The AC mains inlet mates with a True1 female connector.

The AC Loop outlet mates with a True1 male



connector. Therefore, to loop the AC mains from enclosure to enclosure, connect an AC mains jumper cable.

A total of three AC6 may be looped in this fashion at 110v, and a total of six units may be looped at 220v. Use an AC loop connector to daisy-chain AC mains power from one enclosure to another.

The maximum ambient operating temperature for AC6 is 45°C.

Audio Connections

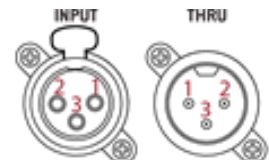
Analog Audio

Connect the output from your line-level signal source to the XLR-3F INPUT connector on the rear panel. This is an electronically balanced input. Users must provide their own XLR cables. The XLR-type connectors on the rear of each AC6 is designed for professional audio signal levels, nominally 0 dBu (= 0.775 V). Normally, use the female XLR as the signal input. Use a male XLR

as a loop-thru output to connect the same signal input to additional modules.

The wiring convention is as follows:

Pin 1 Shield
Pin 2: +/Hot
Pin 3: -/Cold



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Electrical Warnings

AC MAINS SUPPLY

WARNING: Read all instruction and cautionary notes concerning electrical power in the EAW Loudspeaker Owner's Manual.

Translations

ALIMENTATION SECTEUR

ATTENTION: Lisez toutes les instructions et notes de sécurité sur l'alimentation secteur, dans le mode d'emploi de l'enceinte EAW.

ALIMENTAZIONE AC

ATTENZIONE: Leggere tutte le istruzioni e le avvertenze riguardanti l'alimentazione elettrica, incluse nel Manuale EAW Loudspeaker.

FUENTE DE ALIMENTACIÓN

PRECAUCION: Lea todas las instrucciones y advertencias relativas a la corriente eléctrica que aparecen en el manual de altavoces EAW.

NETZSTROMVERSORGUNG

WARNUNG: Lesen Sie alle Anweisungen und Sicherheitshinweise bezüglich der Netzspannung in der EAW Lautsprecher Bedienungsanleitung.

AC Mains Cable

The AC mains cables supplied mate with the Neutrik® powerCON™ True 1 AC MAINS jack on the loudspeaker. TRUE1 refers to both TRUE1™ and TRUE1 TOP™. Phase in date depends on product.

WARNING: Ensure that AC power supply has a properly grounded safety ground. Failure to follow this warning could cause equipment damage, injury, or death.

Translations

Cordon secteur

ATTENTION : Il se peut que le format de la fiche secteur ne corresponde pas à celui de votre situation géographique. Dans ce cas, faites appel à un électricien agréé pour qu'il remplace la fiche par une autre du bon format. Respectez les normes électriques de câblage locales.

ATTENTION: Assurez-vous que la ligne secteur dispose d'une terre. Le non-respect de cette précaution peut entraîner des dommages aux équipements et des accidents aux personnes pouvant être fatals.

Cavo d'alimentazione AC

CAUTELA: Il connettore del cavo d'alimentazione AC fornito in dotazione potrebbe non essere adeguato per le prese di corrente impiegate nell'area in cui il diffusore viene utilizzato. In questo caso, contattare un elettricista qualificato per sostituire la presa di corrente con una dotata di connessione adeguata. Per il cablaggio, occorre seguire la codifica corretta utilizzata nell'area d'utilizzo.

ATTENZIONE: Assicurarsi che la presa d'alimentazione sia correttamente collegata a terra. Il mancato rispetto di tali avvertenze potrebbe causare danni all'apparechiatura, nonché infortuni alle persone o la morte.

Cable de alimentación

PRECAUCION: El enchufe que viene en el cable de alimentación incluido puede que no encaje en las salidas de corriente de su zona. Si ocurre esto, contacte con un electricista profesional para que sustituya el enchufe problemático y lo cambie por uno adecuado para la salida de corriente. Compruebe que se sigan todas las normativas de seguridad aplicables.

PRECAUCION: Asegúrese que la fuente de alimentación tenga una conexión a tierra correcta. El no cumplir con esta advertencia puede dar lugar a daños en el equipo, en las personas que lo manejen o incluso la muerte.

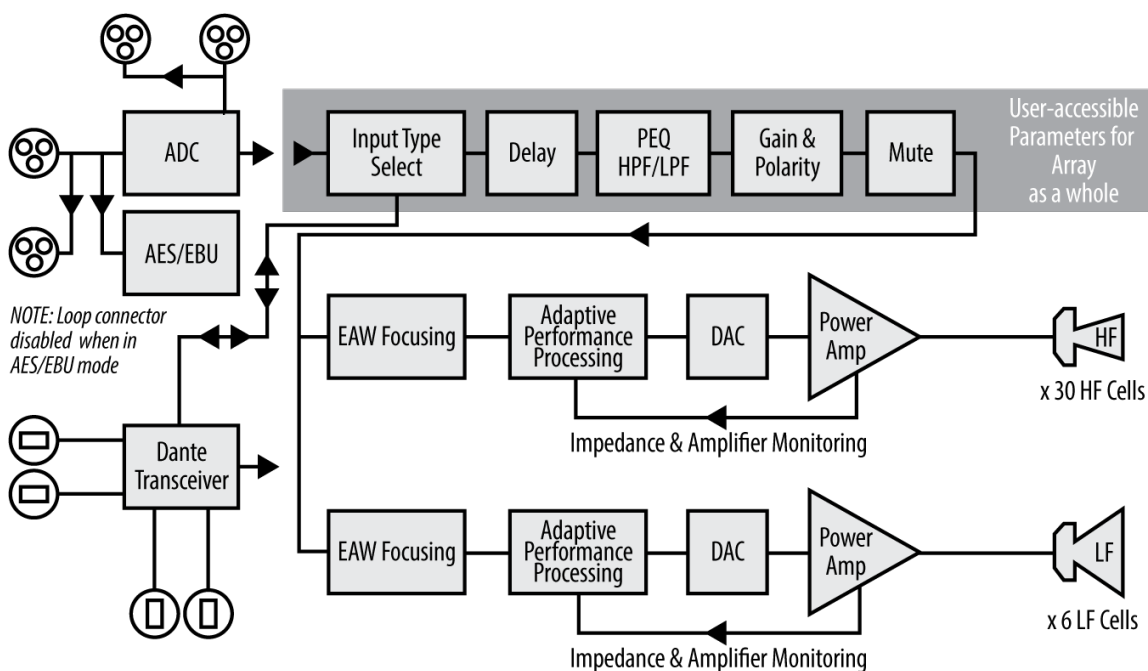
Netzkabel

VORSICHT: Das mitgelieferte Netzkabel besitzt möglicherweise einen Netzstecker, der nicht in Ihre Steckdose passt. In diesem Fall können Sie sich von einem zugelassenen Elektrobetrieb einen passenden Netzstecker unter Berücksichtigung der jeweils gültigen Vorschriften montieren lassen.

WARNUNG: Stellen Sie sicher, dass der Schutzleiter der Netzsteckdose eine gute Verbindung zur Erde hat. Nichtbeachtung dieses Hinweises kann zu Schäden am Equipment, zu Verletzungen oder zum Tod führen.

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Signal Processing



Each AC6 module contains three levels of signal processing: non-user-accessible, user-influenced, and user-accessible.

AC6 module performance (frequency response, beamwidth consistency, output level capability, etc.) depends on crossover and other processing settings fixed within the built-in digital processing. These parameters are not user-accessible.

Adaptive Performance™ translates venue parameters entered by users into Resolution into digital signal processing settings that optimize system response to provide the desired coverage. Though not directly editable by users, these parameters are calculated based directly on user input.

Resolution software also provides access to standard, user-adjustable DSP functions to modify the overall performance of the array to accommodate a particular program content, venue characteristics, or personal taste in voicing. These include low-pass filter, high-pass filter, shelving and parametric EQ, gain, delay, and polarity. It also provides access to signal routing (analog, AES/EBU or Dante™) options. Please note that signal processing is applied to each Anna array and cannot be user-implemented on individual loudspeakers because this would compromise directional performance.

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Operating Limits

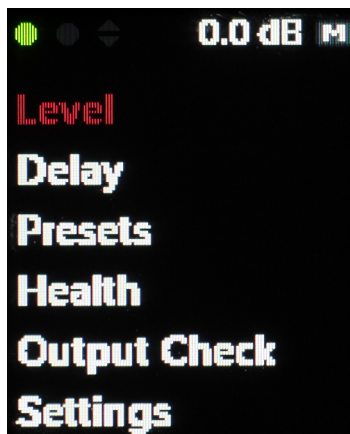
While the AC6 processing includes robust driver and amplifier protection algorithms and circuits, it is ultimately the responsibility of the audio system operator to operate the loudspeakers within their capabilities. This is the only way to ensure that loudspeakers are not stressed beyond their limits to the point of damage or failure.

Operation of loudspeakers beyond their capabilities usually includes, but is not limited to, one or more of the following conditions:

- ▶ Severe amplifier clipping
- ▶ Noticeable distortion
- ▶ Mechanical noise (such as cones bottoming out)

EAW strongly recommends that users only operate an AC6 system using Resolution 2 software to monitor output levels. Though the on-board DSP includes 'soft' limiting, IT WILL NOT PROTECT THE SYSTEM UNDER ALL CONDITIONS. It is still possible to damage an AC6 system with excessive drive levels.

Rear Panel Home Screen and Menu Navigation



The AC6 Loudspeaker's LCD Display and DSP Navigation / Edit Wheel are used to monitor the loudspeaker's status and adjust its DSP settings. Rotate the DSP Navigation / Edit Wheel to change the highlighted sub-menu or to change parameter values. Press it to select a sub-menu or to enter values.

Upon power on and initialization of the loudspeaker the Main Menu is displayed. Here the user can adjust the AC6 output level, alignment delay settings, voicing profile and user preferences, initiate a test of the loudspeaker's output and run the Array Optimization sequence.

The network LEDs on the upper left that display during menu navigation indicate the following:

- ▶ **GRAY:** Not plugged in, or no signal on the cable (network is not active)
- ▶ **RED:** Link UP, Dante Input selected, Dante Mute is ON
- ▶ **AMBER:** Link Up, Network active

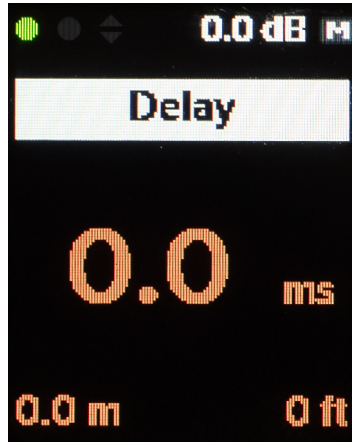
If the Home Screen is displayed, pressing or turning the DSP Navigation / Edit Wheel reveals the Main Menu.

Level

Selecting Level allows adjusting to the loudspeaker's output level in 0.5 dB increments ranging from -10 dB to +10 dB. Rotating the DSP Navigation / Edit Wheel changes the level value and pressing it returns to the Main Menu. After 5 seconds have passed with no change to the Level parameter the Home Screen is displayed.

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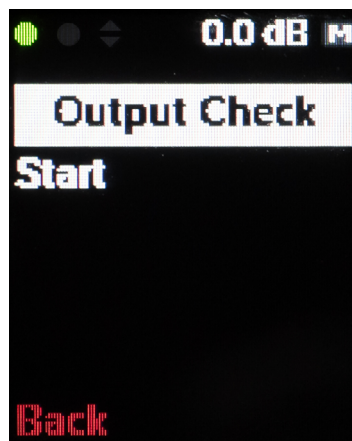
Delay



Selecting Delay allows adjusting to the loudspeaker's alignment delay in 1ms increments ranging from 0 to 150 ms in 0.1 ms increments between 0 and 10 ms and in 1 ms increments above 10 ms. For reference, the equivalent distance is displayed in meters and in feet.

Rotating the DSP Navigation / Edit Wheel changes the delay value, and pressing it returns to the Main Menu. After 5 seconds have passed with no change to the Delay parameter, the Home Screen is displayed.

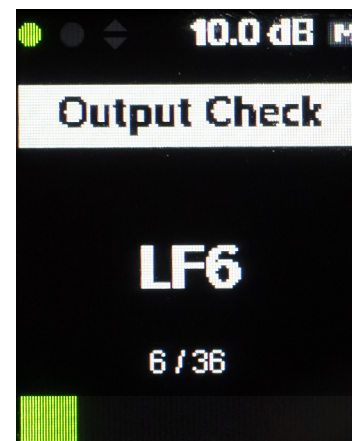
Output Check



Transducers and amplifier channels can quickly be checked without the need for an external noise generator and any associated cables or test equipment. Individual transducers and amplifier channels can be tested manually or via an automated sequence.

Initiating Output Check automatically or manually will cause the loudspeaker to emit pink noise. 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 use hearing protectors while the equipment is in operation.

1. Rotate the DSP Navigation / Edit Wheel to select Start.
2. Press the DSP Navigation / Edit Wheel to initiate the automatic test procedure.
3. A 2-second pink noise burst is emitted per transducer.
4. When a channel is emitting pink noise, its status changes to indicate exact transducer being tested
5. Auto status changes to "Start" to signify the end of the Output Check cycle.



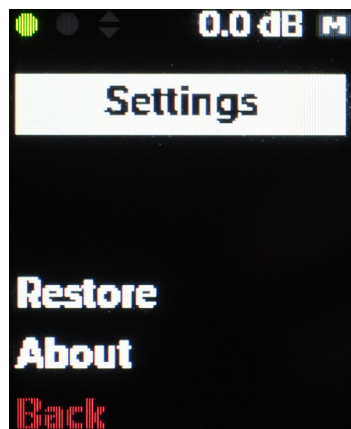
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Testing specific drivers or channels

Once the test has started, it's possible to navigate to a specific driver using the DSP wheel

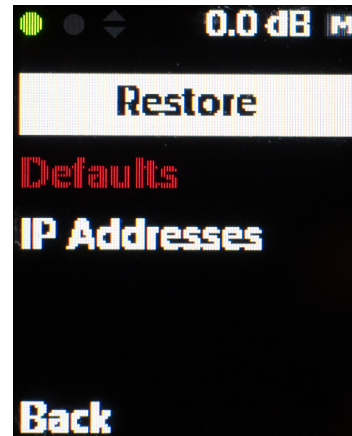
1. Rotate the DSP Navigation / Edit Wheel to select Start.
2. Press the DSP Navigation / Edit Wheel to initiate the automatic test procedure.
3. Use DSP Wheel either clockwise or counter clockwise to locate specific driver or channel.

Settings



From the Settings menu, it's possible to restore the loudspeaker to factory default settings, and view network address and firmware version information.

Restore:



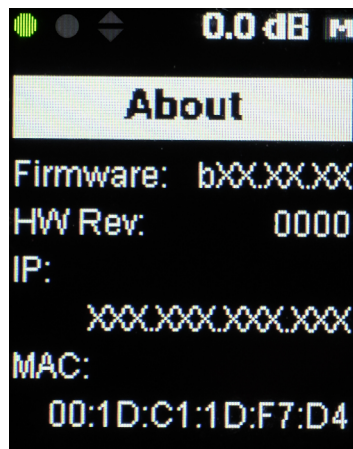
Factory or network settings can quickly and easily be restored. This is convenient for managing rental inventories or for resetting a mobile production system prior to deployment to the next venue or job site. It can also be used when troubleshooting loudspeakers exhibiting distorted audio, poor frequency response, low output, etc. Certain settings in the loudspeaker can only be accessed via EAW Resolution. These settings can be the cause of what may appear to be poor performance when the speaker is isolated on the test bench, or when compared to other units in inventory. All settings are reset to factory default when the Restore procedure is performed.

4. Rotate the DSP Navigation / Edit Wheel to select **Defaults** or **IP Addresses**.
5. Select No to prompt to return to the Settings sub-menu without changing any of the loudspeaker settings.
6. Select Yes to prompt to restore factory or network default settings and return to the Main Menu.

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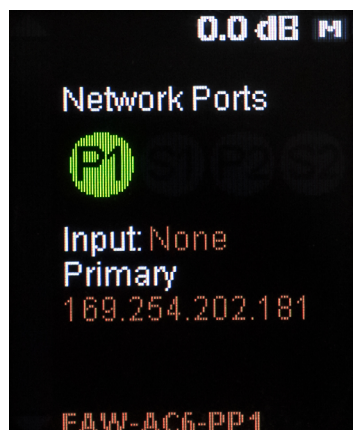
About:

The About screen provides information about the loudspeaker's current input source, model number, firmware and network address details.



Home Screen

After 5 seconds have passed with no turn or press of the DSP Navigation / Edit Wheel the Home Screen is displayed showing primary settings, levels and statuses at a glance.



The Control IP is the IP address assigned to the modules DSP.

Three indicators are listed below the Control IP. A & B represent the two Dante inputs.

- ▶ **GRAY:** Not plugged in, or no signal on the cable (network is not active)
- ▶ **RED:** Active network connection with speed
 - ▶ (ie two speakers connected together but not to anything else).
 - ▶ Normally, Ethernet Green LED ON, Yellow LED OFF
- ▶ **AMBER:** Active network connection, speed is less than 1Gbps
- ▶ **GREEN:** Active network connection with 1Gbps network speed

Input will indicate whether a Dante or Analog signal is being detected. This can be toggled in the Resolution or changed by assigning/unassigning in Dante Controller.

The Dante IP is both the primary and secondary IP address assigned to the Dante Card. Under the Dante IP, is the name that has been configured for the module in Dante Controller.

Network Topologies

Networks, by definition, offer flexibility to the user; many approaches can work. Users can create both redundant and non-redundant networks for control and audio signal. The cabling, equipment and setup requirements vary for any given design. The two examples below represent starting points from which individual users would build their own specific solutions.

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Fully Redundant - Recommended

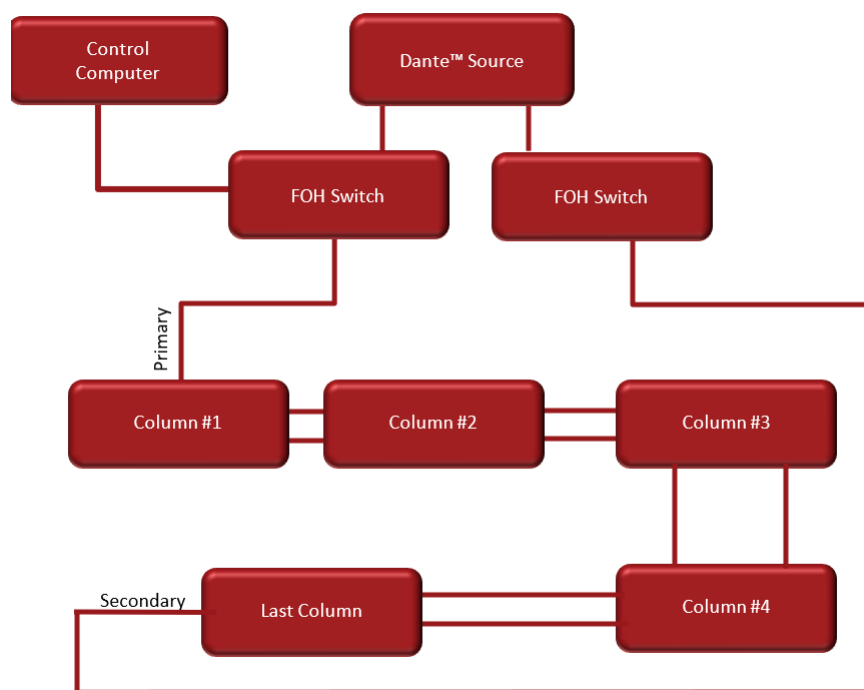
The fully redundant system uses two network pathways from the on-ramp to each AC6 module. EAW recommends that users employ two independent on-ramps, as well as a computer with two independent network interface cards (NICs) for complete redundancy. Otherwise, a single Dante™

on-ramp would connect to both the primary and secondary networks. This would create a single point of failure, as would a single computer network interface.

By connecting from FOH to the network at two different locations (Primary at one end of the network, and Secondary at the other), the redundant method also protects the system against failures of an entire Distro Rack.

Below is one example of how a redundant network can be configured, and is our recommendation. However, there are other various methods to achieve redundancy. To learn more, please refer to

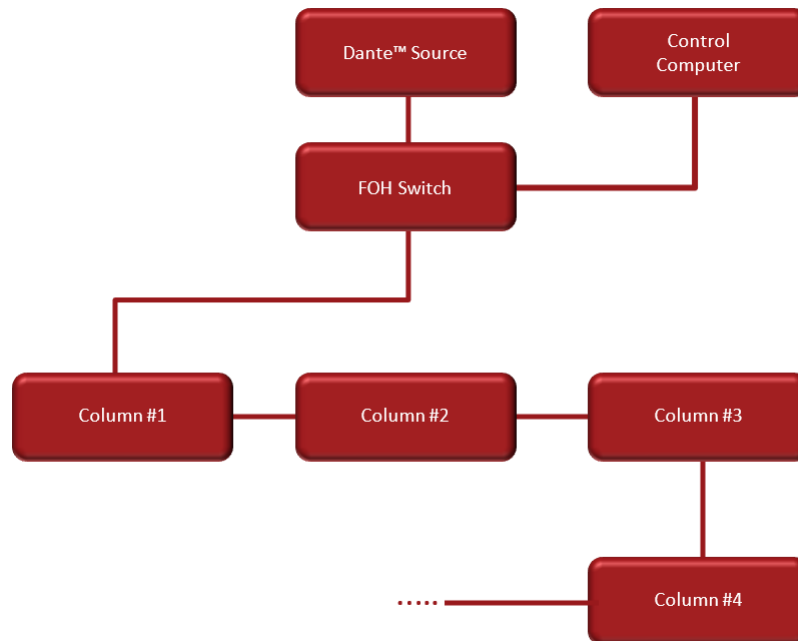
[Audinate](#)



AC6 User Manual

Non-Redundant

In this scenario, each AC6 module uses a single connection to the network. A switch at the front-of-house (FOH) position connects both the control computer and Dante™ on-ramp to the network. A single CAT5e connection links the FOH position to the first column and subsequent columns are linked using the “Thru” ports. All connections carrying audio data should be 1000BASE-T (Gigabit), including the control computer.



A Further Look into Dante™

Introduction

Dante – Digital Audio Network Through Ethernet – is an industry standard in digital audio networking, delivering unmatched audio quality, extremely flexible routing and offers significant cost savings compared to traditional analog cable runs.

AC6 loudspeakers may be connected to any Dante-enabled audio network. As such, it is a perfect solution for connecting

to a Dante-enabled mixer.

With flawless interoperation with hundreds of Dante-enabled products, the Dante connectors truly expand the AC6Series' functionality and application-flexibility in any professional environment.

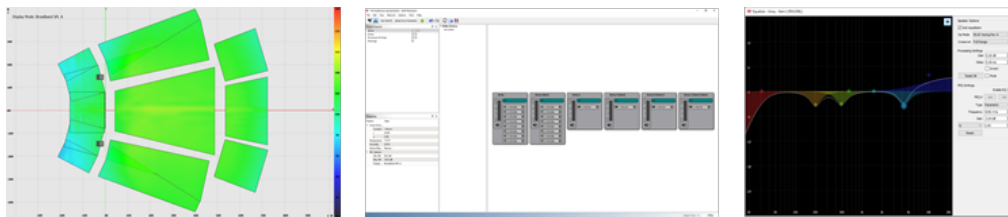
AC6 User Manual

Why use Dante?

Why use Dante? There simply isn't enough space here to explain all the benefits of Dante, but here's a small sampling:

- ▶ Automatic configuration
- ▶ Uncompressed low latency digital audio: >150 μ s
- ▶ High channel count: up to 1024 (512 x 512) channels per link
- ▶ Maximum sampling rate: 192 kHz
- ▶ Maximum bit depth: 32 bits
- ▶ Switchable and routable
- ▶ Can easily handle long distances and/or multiple locations
- ▶ Daisy-chain or use for system redundancy
- ▶ Massive cost savings

Using Resolution 2



What is Resolution 2?

EAW Resolution™ 2 is a tool to assist sound system designers and engineers to select, configure, and implement EAW loudspeaker products. Resolution™ 2 predicts direct sound pressure level (SPL) in a 'virtual' venue. Signal processing can be applied in software, and the resulting frequency response calculated for 'virtual microphones' throughout the model.

Additionally, Resolution™ 2 performs mechanical calculations for a given array or loudspeaker configuration to assist the user in correctly rigging their sound system.

Why use Resolution 2?

It helps predetermine any issues that may arise, including safety, weight, angle, flybar

and more.

Resolution determines coverage, allowing the user to place microphones on the surfaces and the options to choose specific passbands.

Resolution's venue view (prediction) and network view (control) work hand in hand. NTX line items coupling and HF shading may be determined by the venue model and array configuration.

It also is a great tool for pre-sales. Customers will be able to see the final setup prior to any purchase. Therefore, realistic expectations have been set for all interested parties which results in a better relationship between the buyer and seller. Resolution 2 is free, and all future improvements and updates are free of charge as well.

AC6 User Manual

System Requirements

EAW Resolution 2 requires an IBM®-compatible PC with Windows 10® operating systems, including a standard Ethernet port to connect the computer to the network and control NTX & SBX loudspeaker modules. Though processor speed and memory size primarily impact only calculation time, the following specifications are recommended for useful operation:

	MINIMUM REQUIREMENTS	RECOMMENDED SPECIFICATIONS
Processor	2.2 GHz Dual Core Processor	2.8 GHz Quad Core Processor
Memory	2 GB RAM	8 GB RAM
Screen Resolution	1024 x 768 display resolution	1920 x 1080 display resolution
Operating System	Windows 10	Windows 10
Storage	1 GB available HD space	1 GB available HD space

****Currently, Resolution does not support 4k screens or Windows 11****

Mounting & Rigging AC6

IMPORTANT SAFETY INSTRUCTIONS – READ THIS FIRST

Safety Instructions

Read and heed all warnings and safety instructions in this manual before using this product. Failure to follow these precautions may result in damage, injury, or death.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Clean only with a dry cloth.
- 6) Install loudspeaker in accordance with the manufacturer's instructions.

7) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

8) Only use attachments/accessories specified by the manufacturer.

9) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, does not operate normally, or has been dropped.

10) Use personal protective equipment not limited to gloves, safety goggles, ear protection, and lifting supports.

AC6 User Manual

Suspension Warnings

WARNING: Suspending anything, especially overhead of people, should be done with extreme caution. Always engage the services of a certified professional who is qualified to determine the requirements for and to implement overhead rigging. Only persons with the knowledge of proper hardware and safe rigging techniques should attempt to suspend loudspeakers overhead. Failure to follow these precautions may result in damage, injury, or death.

Wall Bracket Instructions

Tools needed: 10mm wrench or hex driver, 4mm allen

1. Inventory

Before beginning installation, inventory your available hardware to items listed.

Item	Description		Quantity
A	AC6 Wall Bracket		1
B	AC6 Cabinet Bracket Assembly		1
C	Cosmetic Cover		1
D	M6 x 20 screws		2

2. AC6 wall bracket limits of use

a. The AC6 Wall bracket is designed to suspend each corresponding AC6 Series loudspeaker with a design factor of 10:1 to meet or exceed most global suspension regulations. Below are the maximum working load limits at 10:1, 7:1 and 5:1 Design Factors.

	Maximum Working Load Limit		
Design Factor	10:1	7:1	5:1
AC6 wall bracket	75lbs (333N)	107lbs (476N)	150lbs (667N)

These values have been confirmed with Finite Element Analysis

- b. The weight/mass is listed as the following: AC6 Wall Bracket (10.3lbs, 4.7kg)
- c. The AC6 Wall Mount bracket is designed to suspend only one loudspeaker per bracket.
- d. Any geometric or structural modifications to the AC6 Wall Bracket or hardware are not EAW-approved will void the warranty and may result in damage, injury, or death.
- e. **WARNING: Take care when lifting AC6 products to avoid harm or damage to product.**
- f. **WARNING: AC6 Wall Brackets are for suspension of loudspeakers only. Suspension of persons is prohibited.**

AC6 User Manual

3. Installation of AC6 wall bracket to mounting surface

a. The wall bracket must be mounted to secure structure sufficient to support the products weight. If you are unsure, please consult a qualified professional. **A minimum of two attachment points must be used, each point capable of supporting 350lb (160kg) If four points are to be used, each point can be rated at 175lb (80kg)**

b. Mark the wall or structure where brackets will be mounted. Refer to the included customer drawing (2071359-CD) for mounting pattern. Use the points that provide the highest amount of vertical spacing.

c. If multiple columns are being mounted, spacing should be 39.0" (990.6mm) from centerline to centerline. This can be measured from bracket top to bracket top.

d. Product is designed for vertical mounting only. Use of level is encouraged to ensure bracket is vertical, and adjacent brackets align correctly when multiple speakers are mounted.

e. Ensure the bracket is in the correct orientation. The tabs will face the intended pan direction. Use of a level is encouraged to ensure bracket is vertical.

f. Secure the bracket to the wall with minimum of two hardware points. Each point must be capable of supporting 350 lbs. If four points are to be used, each point can be rated at 175 lbs.

Note: For mounting to wooden studs, the below points must be used. Install ¼" x 3"lg 18-8 SS lag screw or M6 x 80mm lg 18-8 SS lag screw with flat washers. Mounting to metal studs is not recommend.

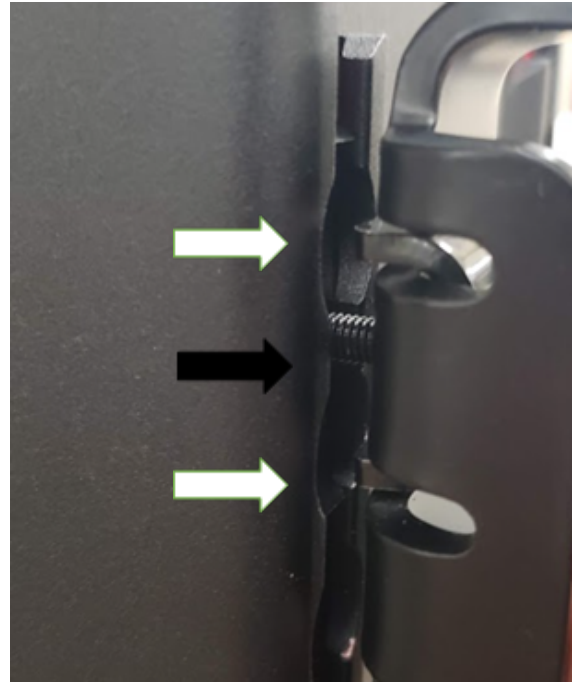


Detail: Two-point wooden stud installation

AC6 User Manual

4. Installation of cabinet bracket to the AC6 unit

- a. Using the desired cabinet orientation (input on bottom, or top), and desired pan direction (left or right) identify which side of the cabinet to mount the bracket.
- b. The bracket must be mounted on the side in which the pan is required. The bracket will not pan the opposite direction. For symmetrical L/R setups, the bracket will mount in mirror fashion.
- c. Locate the flytrack studs attached to the bracket inside the flytrack on the back of the cabinet. The two locating brackets on the outside of the bracket should sit inside the flytrack ridges.



Detail: Flytrack studs and locating brackets



- d. Using 10mm wrench or hex driver, tighten the lock nuts on the flytrack studs to secure the bracket to the cabinet. Do not overtighten. (see image to left)
- e. The pan locking arm can be moved to the opposite side of the bracket if needed for improved tool access.

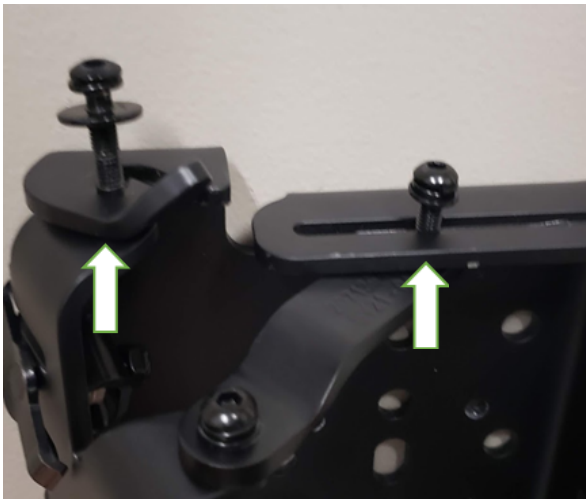
AC6 User Manual

5. Installation of AC6 to wall bracket

- a. Before mounting the AC6, wires should be run to the intended locations. Consider the orientation of mounting, power will either come from the top down, or the bottom up.
- b. Network, analog audio, and dry contacts can be looped from either end. Refer to user manual for more information.
- c. Starting from the bottom of the array and moving to the top, mount each AC6 to the respective wall bracket.
- d. The button head screws (M6x35) on the cabinet bracket are loose, it will be tightened once the cabinet is mounted to the wall bracket. Have a 4mm allen driver available to tighten immediately. **The cabinet should not be left unattended if this hardware has not been tightened.**



Attaching AC6 to wall bracket



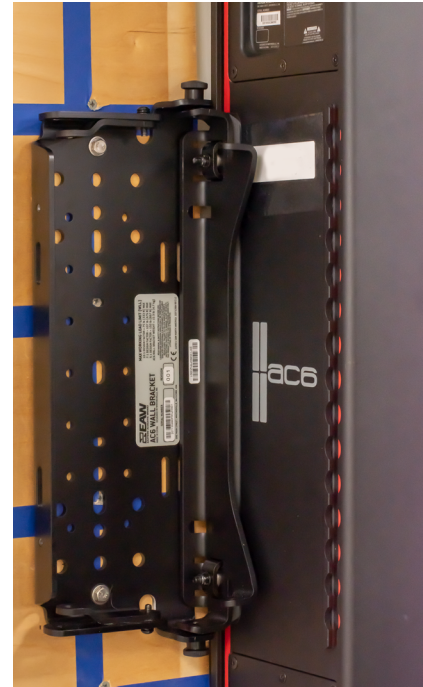
Detail: button head hardware positioning

- e. Lift the cabinet up to the mounting bracket and slide the button head screw shafts into the notches in the wall bracket. Slide the cabinet back so the hardware sits fully into the notches.
- f. Using 4mm allen, tighten the button head screws so the cabinet cannot be removed from the mount.
- g. Unscrew the button head (M6x20) screw from the pan locking arm and loosely attach the pan locking to the wall bracket.

AC6 User Manual

6. Cable the unit and set desired angle

- a. Using pre-wired cabling, wire the AC6 unit in both upper and lower locations.
- b. If WP covers are being used, install the covers at this stage.
- c. If additional cabinets are being mounted, repeat steps 5 and 6 until all units within an array are mounted.
- d. Rotate each cabinet in the array to the desired angle.
- e. Fully tighten hinge hardware and the pan lock to secure the cabinet in place. Do not overtighten.
- f. Mount the cosmetic cover (optional). Using the included M6x20 screws, attach the cover to the wall bracket to hide the hinge mechanism. Do not overtighten.



Panned wall bracket

Flush Mount Bracket Instructions

Tools needed: 10mm wrench or hex driver, 4mm allen

1. Inventory

Before beginning installation, inventory your available hardware to items listed.

Item	Description		Quantity
A	AC6 Wall Bracket		1
B	AC6 Cabinet Bracket Assembly		1
C	Cosmetic Cover		1
D	M6 x 20 screws		2

2. AC6 wall bracket limits of use

- a. The AC6 flush mount bracket is designed to suspend each corresponding AC6 Series loudspeaker with a design factor of 10:1 to meet or exceed most global suspension regulations. Below are the maximum working load limits at 10:1, 7:1 and 5:1 Design Factors.

AC6 User Manual

	Maximum Working Load Limit		
Design Factor	10:1	7:1	5:1
AC6 flush mount	75lbs (333N)	107lbs (476N)	150lbs (667N)

- b. The weight/mass is listed as the following: AC6 Flush Mount Bracket (10.3lbs, 4.7kg)
- c. The AC6 Flush Mount bracket is designed to suspend only one loudspeaker per bracket.
- d. Any geometric or structural modifications to the AC6 Flush Mount Bracket or hardware are not EAW-approved will void the warranty and may result in damage, injury, or death.
- e. **WARNING: Take care when lifting AC6 products to avoid harm or damage to product.**
- f. **WARNING: AC6 Flush Mount Brackets are for suspension of loudspeakers only. Suspension of persons is prohibited.**

3. Installation of AC6 flush mount bracket to surface

- a. The wall bracket must be mounted to secure structure sufficient to support the products weight. If you are unsure, please consult a qualified professional. **A minimum of two attachment points must be used, each point capable of supporting 350lb (160kg) If four points are to be used, each point can be rated at 175lb (80kg)**
- b. Mark the wall or structure where brackets will be mounted. Refer to the included customer drawing (2071359-CD) for mounting pattern. Use the points that provide the highest amount of vertical spacing.
- c. If multiple columns are being mounted, spacing should be 39.0" (990.6mm) from centerline to centerline. This can be measured from bracket top to bracket top.
- d. Product is designed for vertical mounting only. Use of level is encouraged to ensure bracket is vertical, and adjacent brackets align correctly when multiple speakers are mounted.
- e. Ensure the bracket is in the correct orientation. The wall bracket can be installed in different orientations to slide the cabinet bracket from the top or from either side.
- f. Secure the bracket to the wall with minimum of two hardware points. Each point must be capable of supporting 350 lbs. If four points are to be used, each point can be rated at 175 lbs.

Note: For mounting to wooden studs, two of the below points must be used depending on orientation of the bracket. Install 1/4" x 3"lg 18-8 SS lag screw or M6 x 80mm lg 18-8 SS lag screw with flat washers. Mounting to metal studs is not recommend.



AC6 User Manual

4. Installation of cabinet bracket to the AC6 unit

- a. Using the desired cabinet orientation (input on bottom, or top), and desired mounting method (left, right, top) identify position of the bracket on AC6. Note position on flytrack as this will need to remain uniform for all AC6 in column.
- b. The bracket must be mounted in the orientation in which they should be connected. Either from the top or from the left or right side.
- c. Locate the flytrack studs attached to the bracket inside the flytrack on the back of the cabinet. The two locating brackets on the outside of the bracket should sit inside the flytrack ridges.



AC6 cabinet flush mount for top installation



In this orientation bracket would join left > right

- d. Using 10mm wrench or hex driver, tighten the lock nuts on the flytrack studs to secure the bracket to the cabinet. Do not overtighten. (see image to left)

AC6 User Manual

5. Installation of AC6 to wall bracket

- a. Before mounting the AC6, wires should be run to the intended locations. Consider the orientation of mounting, power will either come from the top down, or the bottom up.
- b. Network, analog audio, and dry contacts can be looped from either end. Refer to user manual for more information.
- c. Using pre-wired cabling, wire the AC6 unit in both upper and lower locations.
- d. If WP covers are being used, install the covers at this stage.
- e. Using two people, line up the flush wall mount to the AC6 bracket, then slide into place.
- f. The button head screws (M6x35) on the cabinet bracket are loose, it will be tightened once the cabinet is mounted to the wall bracket. Have a 4mm allen driver available to tighten immediately. **The cabinet should not be left unattended if this hardware has not been tightened.**
- g. Using 4mm allen, tighten the button head screws so the cabinet cannot be removed from the mount.
- h. . If additional cabinets are being mounted, repeat steps 5 and 6 until all units within an array are mounted.



Installed flush mount bracket

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Suspend AC6 Vertically

1. Attach Mohawk to Stinger in order to array straight with no tilt angle.
 - a. M10 bolts or pins for portable use.
2. Using steps above, attach AC6 cabinet bracket for flush mount.
 - a. Lay down AC6 on a padded surface.
3. Attach stinger to AC6 using M10 bolts (Install) or knobs (portable).
 - a. C-Clamp may also be used on cabinet bracket.



AC6 User Manual

4. Attach 1/2" shackle to stinger or mohawk



5. Suspend AC6



AC6 User Manual

Maintenance of an AC6 Bracket installation

- a. **WARNING: Not following Maintenance instructions could result in equipment damage, serious injury or death.**
- b. Maintenance should only be performed by an experienced technician.
- c. As with any professional loudspeaker system, routine maintenance must be conducted in order to ensure the longevity and safe, consistent performance.
- d. Inspect the AC6 Wall Bracket for corrosion and other damage. Brackets with visible damage should be replaced and discarded.
- e. Inspect hardware securing the u-bracket to the mounting surface for corrosion or looseness. Tighten loose hardware and consider installing hardware locking methods. Replace and discard corroded hardware.
- f. Inspect hardware mounting the AC6 loudspeaker to the bracket for corrosion or looseness. Tighten loose hardware. Replace and discard corroded hardware.
- g. For weather protected applications (using WP Covers), inspect hardware sealants for cracking or gaps in sealant. Replace damaged sealant with user-supplied, waterproof, non-hardening, non-locking sealant per the sealant's instructions. Failure to do so could result in water ingress and damage to the loudspeaker.
- h. Clean the AC6 Wall Bracket and AC6 Loudspeaker with a dry cloth.

AC6 User Manual

Installing Weather Protection Covers

Be sure to reference the installation instructions for the mounting solution, since the sequence may vary depending on how the array will be suspended.

NOTE: Instructions must be followed completely to ensure water tight seal. Failure to properly install weather protection covers could result in premature product failure and/or void the warranty.

Preparation

1. Confirm the configuration of the AC6 arrays:
 - Number of AC6 modules
 - Location and quantity of audio, network, and power cabling. One end of each cable must be left unterminated to pass through the knockouts.
 - Identify if covers will be fitted before or after mounting (refer to mount instructions)
2. Based on the quantity of AC6 modules determine the quantity of covers required:
 - 2X End Cover – (1) per array
 - Joint Cover – One less than number of speakers in array [i.e. (2) for (3) speakers]



WARNING: Installation should only be done by an experienced technician. Wear safety glasses and take proper safety precautions when using tools.

Inventory your kit

End Cover (each kit)

Qty	Description
2	Input Cover
2	Input Cover Gasket
18	M5 x 18 Buttonhead Head Allen Drive Screws
3	3/4" Gland Nuts



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Joint Cover (each kit)

Qty	Description
1	Input Joint Cover
1	Input Joint Cover Gasket
1	Joint Gasket
18	M5 x 18 Buttonhead Head Allen Drive Screws
3	3/4" Gland Nuts



Required Tools & Supplies

- 3mm Allen Wrench
- Flat head screw driver
- Mallet or Hammer
- Torque Driver (with 3mm Hex/Allen bit)
- Thread locker, Medium Strength - Loctite 242, Hernon 423, or equivalent.

Remove cable knock outs (as needed)

- Place a flat head screwdriver into the slot of a 3/4" knockout that is to be removed.
- Hit the end of the screw driver to shear the knockout and remove the rest of the knockout by hand if necessary.
- If burrs remain, remove them with a countersink or deburring tool.



Note: 1/2" knockout size is for reference only and must be drilled out.

- To make the connection water tight, a 3/4" (or 1/2" as needed) gland nut (included), rigid conduit adapter or flexible conduit adapter (not included) should be fitted to each knockout prior to installing cables.
- Silicone sealant should be used as needed to make any cable connections water tight.