



S Y N T H E S I S[®]

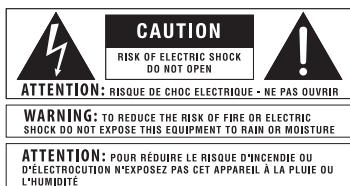
SDEC-3500

SDEC-4500

SDEC-5500

DIGITAL EQUALIZER

IMPORTANT SAFETY INSTRUCTIONS



The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the owner's manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

The following is indicative of low altitude use; do not use this product above 2000m.



SAFETY INSTRUCTIONS

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

THE CORES IN THE MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

GREEN AND YELLOW - EARTH BLUE - NEUTRAL BROWN - LIVE

AS COLOURS OF THE CORES IN THE MAINS LEAD OF THIS APPLIANCE MAY NOT CORRESPOND WITH THE COLOURED MARKINGS IDENTIFYING THE TERMINALS IN YOUR PLUG, PROCEED AS FOLLOWS:

- THE CORE WHICH IS COLOURED GREEN AND YELLOW MUST BE CONNECTED TO THE TERMINAL IN THE PLUG MARKED WITH THE LETTER E, OR WITH THE EARTH SYMBOL, OR COLOURED GREEN, OR GREEN AND YELLOW.
- THE CORE WHICH IS COLOURED BLUE MUST BE CONNECTED TO THE TERMINAL MARKED N OR COLOURED BLACK.
- THE CORE WHICH IS COLOURED BROWN MUST BE CONNECTED TO THE TERMINAL MARKED L OR COLOURED RED.

THIS EQUIPMENT MAY REQUIRE THE USE OF A DIFFERENT LINE CORD, ATTACHMENT PLUG, OR BOTH, DEPENDING ON THE AVAILABLE POWER SOURCE AT INSTALLATION. IF THE ATTACHMENT PLUG NEEDS TO BE CHANGED, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL WHO SHOULD REFER TO THE TABLE BELOW. THE GREEN/YELLOW WIRE SHALL BE CONNECTED DIRECTLY TO THE UNITS CHASSIS.

| CONDUCTOR | | WIRE COLOR | |
|-----------|-----------|------------|-------|
| | | Normal | Alt |
| L | LIVE | BROWN | BLACK |
| N | NEUTRAL | BLUE | WHITE |
| E | EARTH GND | GREEN/YEL | GREEN |

WARNING: IF THE GROUND IS DEFEATED, CERTAIN FAULT CONDITIONS IN THE UNIT OR IN THE SYSTEM TO WHICH IT IS CONNECTED CAN RESULT IN FULL LINE VOLTAGE BETWEEN CHASSIS AND EARTH GROUND. SEVERE INJURY OR DEATH CAN THEN RESULT IF THE CHASSIS AND EARTH GROUND ARE TOUCHED SIMULTANEOUSLY.

WARNING:

- APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.
- APPARATEN SKALL ANSLUTAS TILL JORDAT UTTAG.
- LAITE ON LIITETTÄVÄ SUOJAKOSKETTIMILLA VARUSTETTUUN PISTORASIAAN.

DECLARATION OF CONFORMITY

Manufacturer's Name: BSS Audio
Manufacturer's Address: 10653 South River Front Parkway, Suite 300 South Jordan, Utah 84095, USA

declares that the product:

Product name: JBL Synthesis SDEC3500, 4500, 5500

Note: Product name may be suffixed by the EU.

Product option: None

conforms to the following Product Specifications:

Safety: IEC 60065 -01+Amd 1+ 2

EMC: EN 55022:2010
EN 55024:2010
FCC Part 15

Supplementary Information:

The product herewith complies with the requirements of the:
Low Voltage Directive 2006/95/EC
EMC Directive 2004/108/EC
RoHS Directive 2011/65/EC
WEEE Directive 2002/96/EC

With regard to Directive 2005/32/EC and EC Regulation 1275/2008 of 17 December 2008, this product is designed, produced, and classified as Professional Audio Equipment and thus is exempt from this Directive.

C. Rex Reed
Director, Engineering
Signal Processing
10653 South River Front Parkway,
Suite 300
South Jordan, Utah 84095, USA
Date: April 10, 2015

European Contact: Your local BSS Audio Sales and Service Office or:

Harman Signal Processing
10653 South River Front Parkway,
Suite 300
South Jordan, Utah 84095, USA
Ph: (801) 566-8800
Fax: (801) 568-7583

U.K. MAINS PLUG WARNING

A MOLDED MAINS PLUG THAT HAS BEEN CUT OFF FROM THE CORD IS UNSAFE. DISCARD THE MAINS PLUG AT A SUITABLE DISPOSAL FACILITY.

NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAINS PLUG INTO A 13 AMP POWER SOCKET.

DO NOT USE THE MAINS PLUG WITHOUT THE FUSE COVER IN PLACE. REPLACEMENT FUSE COVERS CAN BE OBTAINED FROM YOUR LOCAL RETAILER. REPLACEMENT FUSES ARE 13 AMPS AND MUST BE ASTA APPROVED TO BS1362.

ELECTROMAGNETIC COMPATIBILITY

This device complies with part 15 of the FCC Rules and the Product Specifications noted on the **Declaration of Conformity**. Operation is subject to the following two conditions:

- this device may not cause harmful interference, and
 - this device must accept any interference received, including interference that may cause undesired operation.
- Operation of this unit within significant electromagnetic fields should be avoided.
- use only shielded interconnecting cables.



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling.

Private households in the 25 member states of the EU, in Switzerland and Norway may return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For Countries not mentioned above, please contact your local authorities for a correct method of disposal.

By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

WARNING FOR YOUR PROTECTION READ THE FOLLOWING:

READ THESE INSTRUCTIONS.
KEEP THESE INSTRUCTIONS.
HEED ALL WARNINGS.
FOLLOW ALL INSTRUCTIONS.
DO NOT USE THIS APPARATUS NEAR WATER.
CLEAN ONLY WITH A DRY CLOTH.
FOR INDOOR USE ONLY.

DO NOT BLOCK ANY OF THE VENTILATION OPENINGS. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.

ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.

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 third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only with the cart stand, tripod bracket, or table specified by the manufacture, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



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, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

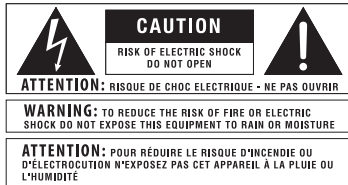
POWER ON/OFF SWITCH: The Power switch used in this piece of equipment DOES NOT break the connection from the mains.

MAINS DISCONNECT: The plug shall remain readily operable. For rack-mount or installation where plug is not accessible, an all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated into the electrical installation of the rack or building.

If connected to 240V supply, a suitable CSA/UL certified power cord shall be used for this supply.

This Equipment is intended for rack mount use only.

CONSIGNES DE SÉCURITÉ IMPORTANTES



Les symboles illustrés ci-dessus sont des symboles acceptés internationalement qui avertissent des dangers potentiels relatifs à l'utilisation de produits électriques. Le voyant clignotant avec une flèche dans un triangle équilatéral signifie la présence de tensions dangereuses dans l'appareil. Le point d'exclamation dans un triangle équilatéral indique que l'utilisateur doit se référer au manuel d'utilisation.

Ces symboles indiquent qu'il n'y a aucune pièce utilisable par l'utilisateur à l'intérieur de l'appareil. Ne pas ouvrir l'appareil. Ne pas essayer de réparer soi-même l'appareil. Confier toute réparation à du personnel qualifié. Ouvrir la structure de l'appareil pour quelque raison que ce soit annulera la garantie du fabricant. Ne pas mouiller l'appareil. Si du liquide est renversé sur l'appareil, fermer immédiatement l'appareil et l'apporter chez un réparateur. Débrancher l'appareil pendant les tempêtes afin d'éviter des dommages.

Ce qui suit est représentatif d'une utilisation à basse altitude ; ne pas utiliser ce produit au-dessus de 2000 m.



CONSIGNES DE SÉCURITÉ

NOTICE ADRESSÉE AUX CONSOMMATEURS ÉQUIPÉS D'UN MATÉRIEL AVEC CORDON D'ALIMENTATION FOURNI.

AVERTISSEMENT : CET APPAREIL DOIT ÊTRE BRANCHÉ SUR UNE PRISE SECTEUR DOTÉE D'UNE PROTECTION PAR MISE À LA TERRE.

LES COULEURS DES NOYAUX DANS LES FILS SECTEURS DOIVENT RESPECTER LES CODES SUIVANTS :

VERT et JAUNE - Terre **BLEU - Neutre** **MARRON - Phase**

LES COULEURS DES NOYAUX DANS LES FILS SECTEURS DE CET APPAREIL PEUVENT NE PAS CORRESPONDRE AUX INSCRIPTIONS COLORÉES IDENTIFIANT LES TERMINAUX DANS VOTRE FICHE ; IL FAUT DONC PROCÉDER DE LA FAÇON SUIVANTE :

- LE NOYAU VERT ET JAUNE DOIT ÊTRE BRANCHÉ AU TERMINAL DE LA FICHE OÙ APPARAÎT LA LETTRE E OU LE SYMBOLE DE MISE À LA TERRE, OU AU TERMINAL VERT OU VERT ET JAUNE.
- LE NOYAU BLEU DOIT ÊTRE BRANCHÉ AU TERMINAL MARQUÉ D'UN N OU DE COULEUR NOIR.
- LE NOYAU MARRON DOIT ÊTRE BRANCHÉ AU TERMINAL MARQUÉ D'UN L OU DE COULEUR ROUGE.

CE MATÉRIEL PEUT NÉCESSITER L'UTILISATION D'UN CORDON D'ALIMENTATION DIFFÉRENT ET/OU D'UNE FICHE DE BRANCHEMENT DIFFÉRENTE SELON LA SOURCE D'ALIMENTATION DISPONIBLE À L'INSTALLATION. SI LA FICHE DE BRANCHEMENT DOIT ÊTRE CHANGÉE, FAIRE APPEL À UN TECHNICIEN QUALIFIÉ QUI DEVRA SE RÉFÉRER AU TABLEAU CI-DESSOUS. LE FIL VERT/JAUNE DOIT ÊTRE BRANCHÉ DIRECTEMENT AU CHÂSSIS DE L'APPAREIL.

| CONNECTEURS | | COULEUR DU FIL | |
|-------------|--------|----------------|-------|
| | | normal | Alt |
| L | PHASE | MARRON | NOIR |
| N | NEUTRE | BLEU | BLANC |
| E | TERRE | VERT/JAU | VERT |

ATTENTION : UN DÉFAUT DE MISE À LA TERRE PEUT PROVOQUER CERTAINS DYSFONCTIONNEMENTS DE L'APPAREIL OU DU SYSTÈME AUQUEL IL EST RELIÉ, POUVANT SE TRADUIRE PAR UNE TENSION COMPOSÉE ENTRE LA MASSE ET LA PRISE DE TERRE. CELA PEUT PROVOQUER DES BLESSURES SÉRIEUSES OU FATALES SI LA MASSE ET LA PRISE DE TERRE SONT TOUCHÉES EN MÊME TEMPS.

ATTENTION :

- APPARATET MÅ TILKOPLES JORDET STIKKONTAKT.
- APPARATEN SKALL ANSLUTAS TILL JORDAT UTTAG.
- LAITE ON LIITETTÄVÄ SUOJAKOSKETTIMILLA VARUSTETTUUN PISTORASIAAN.

DÉCLARATION DE CONFORMITÉ

Nom du fabricant : BSS Audio
Adresse du fabricant : 10653 South River Front Parkway, Suite 300 South Jordan, Utah 84095, ÉTATS-UNIS

Informations complémentaires :

Ce produit est conforme aux exigences suivantes :
Directive sur la basse tension 2006/95/CE
Directive 2004/108/CE
Directive RoHS 2011/65/UE
Directive DEEE 2002/96/CE

déclare que le produit :

Nom du produit : JBL Synthesis SDEC3500, 4500, 5500

Remarque : Le nom du produit peut être suivi des lettres UE.

Option du produit : Aucune

est conforme aux spécifications suivantes :

Sécurité : CEI/IEC 60065:2001 +Amd 1+ 2

CEM : EN 55022:2010
EN 55024:2010
Partie 15 des FCC

Ce produit appartenant à la catégorie Matériel audio professionnel, il n'est pas concerné par la directive 2005/32/CE ou par le règlement européen 1275/2008 du 17 décembre 2008.

C. Rex Reed
Directeur, Ingénierie
Traitement des signaux
10653 South River Front Parkway,
Suite 300
South Jordan, Utah 84095, ÉTATS-UNIS
Date : 10 avril 2015

Contact en Europe : votre revendeur BSS Audio local et le bureau d'assistance de :

Harman Signal Processing
10653 South River Front Parkway,
Suite 300
South Jordan, Utah 84095, ÉTATS-UNIS
Tél. : (801) 566-8800
Fax : (801) 568-7583

AVERTISSEMENT CONCERNANT LA FICHE SECTEUR

UNE FICHE SECTEUR MOULÉE QUI A ÉTÉ COUPÉE DU CORDON EST DANGEREUSE. JETER LA FICHE SECTEUR DANS UN CENTRE DE DÉCHETS ADAPTÉ.

VOUS NE DEVEZ EN AUCUNE CIRCONSTANCE INSÉRER UNE FICHE ENDOMMAGÉE OU COUPÉE DANS UNE PRISE SECTEUR 13 AMP.

NE PAS UTILISER LA FICHE SECTEUR SI LE COUVERCLE DU COFFRET À FUSIBLES N'EST PAS BIEN EN PLACE. VOUS POUVEZ VOUS PROCURER DES CAPOTS DE FUSIBLE DE RECHANGE AUPRÈS DE VOTRE DÉTAILLANT LOCAL. LES FUSIBLES DE REMPLACEMENT SONT DE 13 A ET DOIVENT ÊTRE APPROUVÉS ASTA, BS1362.

COMPATIBILITÉ ÉLECTROMAGNÉTIQUE

Cet appareil est conforme au volet 15 des règles du FCC et aux spécifications techniques évoquées dans la **Déclaration de conformité**. Son fonctionnement est soumis aux deux conditions suivantes :

- cet appareil ne doit pas causer d'interférences nuisibles et
- cet appareil doit accepter les interférences captées, y compris les interférences susceptibles de nuire à son fonctionnement.

L'utilisation de cet appareil à proximité de champs électromagnétiques puissants n'est pas recommandée.

- utiliser exclusivement des câbles d'interconnexion blindés.



Ne pas jeter ce produit avec les ordures ménagères. Il existe un système de collecte sélective pour les produits électroniques usagés en conformité avec les lois en vigueur en matière de traitement, de récupération et de recyclage.

Dans les 25 États membres de l'UE, en Norvège et en Suisse, les ménages peuvent envoyer leurs produits électroniques usagés sans frais vers des centres de collecte sélective ou chez un distributeur (contre l'achat d'un nouveau produit).

Contactez les autorités locales pour connaître les procédures de traitement des déchets adaptées dans les pays non mentionnés ci-dessus.

Non seulement cette précaution vous permettra d'être sûr que votre produit est correctement traité, récupéré et recyclé, mais elle vous évitera également de nuire involontairement à l'environnement et à la santé humaine.

AVERTISSEMENT POUR VOTRE SÉCURITÉ LIRE ATTENTIVEMENT :

LIRE CES CONSIGNES.

CONSERVER CES CONSIGNES.

RESPECTER TOUS LES AVERTISSEMENTS.

SUIVRE TOUTES LES CONSIGNES.

NE PAS UTILISER CET APPAREIL PRÈS DE L'EAU.

NETTOYER UNIQUEMENT AVEC UN CHIFFON SEC.

POUR USAGE INTÉRIEUR UNIQUEMENT.

NE PAS OBSTRUER LES OUIES D'AÉRATION. EFFECTUER L'INSTALLATION CONFORMÉMENT AUX INSTRUCTIONS DU FABRICANT.

NE PAS INSTALLER À PROXIMITÉ DE SOURCES DE CHALEUR TELLES QUE DES RADIATEURS, BOUCHES D'AÉRATION, PLAQUES CHAUFFANTES OU TOUT AUTRE APPAREIL (Y COMPRIS DES AMPLIFICATEURS) DÉGAGEANT DE LA CHALEUR.

UTILISER UNIQUEMENT LES PIÈCES/ACCESSOIRES MENTIONNÉS PAR LE FABRICANT.

DÉBRANCHER L'APPAREIL AU COURS DES ORAGES OU EN CAS DE NON-UTILISATION PENDANT UNE DURÉE PROLONGÉE.

Ne pas détériorer la sécurité de la fiche polarisée ou de la fiche de terre. Les fiches polarisées sont équipées de deux bornes de largeurs différentes. Les fiches de terre comportent deux lames et une troisième broche de mise à la terre. La broche la plus large ou troisième broche de mise à la terre est prévue pour votre sécurité. Si la fiche fournie ne correspond pas à votre installation électrique, faire appel à un électricien pour remplacer la prise hors normes.

Protéger le cordon d'alimentation contre les risques de piétinement ou de pincement, notamment au niveau des fiches, des prises de courant et du point d'attache avec le matériel.

Utiliser uniquement le chariot, le support, le trépied ou la table spécifié(e) par le fabricant ou vendu(e) avec le matériel. Si vous utilisez un chariot pour déplacer l'appareil, soyez suffisamment prudent pour éviter une éventuelle blessure consécutive au basculement du chariot et de sa charge.



Les réparations doivent être confiées à un technicien S.A.V. qualifié. Une réparation est nécessaire en cas de dommage quelconque et en particulier en cas d'endommagement du cordon d'alimentation ou de la fiche électrique, d'infiltration liquide, d'introduction involontaire d'un objet dans l'appareil, d'exposition de l'appareil à la pluie ou à un milieu humide, de fonctionnement anormal ou de chute de l'appareil.

INTERRUPTEUR MARCHÉ/ARRÊT : l'interrupteur d'alimentation de cet équipement NE coupe PAS la connexion secteur.

DÉBRANCHEMENT DE L'APPAREIL : la prise de courant doit rester facilement accessible. Pour un montage en rack ou une installation avec une prise inaccessible, un interrupteur omnipolaire à distance d'ouverture de contact d'au moins 3 mm doit être intégré à l'installation électrique du rack ou du local.

Si le matériel est relié à une alimentation de 240 V, utiliser impérativement un cordon d'alimentation adapté certifié CSA/UL pour ce branchement.

Cet équipement est exclusivement destiné à un montage en rack.

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INTRODUCTION

Thank you for purchasing a JBL Synthesis SDEC Series Digital Equalizer. You now have at your command a unique product that enables your Synthesis System to deliver the best possible sonic performance regardless of the content being played and your room environment, whether you are playing the latest blockbuster movie, a major sporting event or your favorite music.

This Installer's Manual gives you the information needed to connect your Digital Equalizer to the other components in your home theater system as well as to describe its configuration, setup and operation. Additional support information may also be found in the Support Section of the JBL Synthesis web site at www.jblsynthesis.com. Of course, you may always contact JBL Synthesis Customer Service at 888-691-4171.

Welcome to the Synthesis family, we wish you many years of listening pleasure!

FEATURES

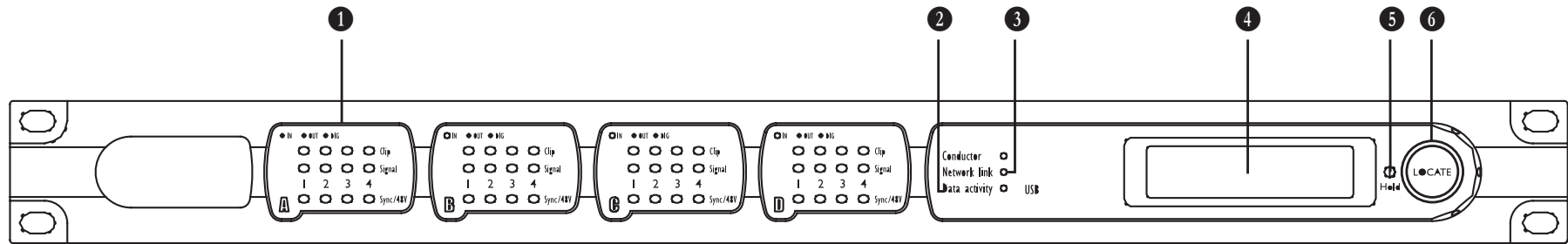
- Up to 512 bands of fully parametric EQ
- Built-in crossover for bi-amp outputs (SDEC-4500 and SDEC-5500 only)
- Delay adjustment for each output
- Delay adjustment for driver compensation
- Screen compensation
- Driver compensation
- Web-based Java remote for basic system setup
- Windows application for advanced system setup
- Custom configuration possible
- Four subwoofer outputs
- SDEC-4500 may array side channels up to two additional side channels (3 total) to cover multiple rows of seats
- SDEC-5500 may array (duplicate) side channels up to one additional pair to cover larger rooms
- 24-Bit DSP
- 96kHz sample rate on all inputs and outputs
- Balanced or single-ended (unbalanced) inputs and outputs

INSTALLATION CONSIDERATIONS

To ensure optimal performance, please pay attention to the instructions in this Manual.

- Install your SDEC on a solid, flat, level surface that is dry, well-ventilated and out of direct sunlight.
- Do not place your SDEC directly on a carpeted surface or cover any of the ventilation holes.
- Do not install your SDEC on a surface that is unstable or unable to support all four feet.
- Do not install it directly above another product, and do not put another product directly on top of the SDEC.
- Do not expose the SDEC to high temperatures or humidity, steam, smoke or excessive dampness or dust.

FRONT PANEL CONTROLS & INDICATORS



1 INPUT/OUTPUT CARD MONITORING: Each channel has three LED indicators showing:

CLIP – Indicates clipping in the analog domain for each channel of the fitted input or output card. The LED will light at +18.5dB.

SIGNAL – The signal LED will light for each channel of a fitted input or output card when the signal reaches or exceeds the signal threshold of – 20dB.

SYNC/48V – This feature is currently not supported by JBL Synthesis (lights to indicate that + 48V “phantom” power has been activated for the relevant channel of a fitted input card or that Digital Sync is valid).

2 DATA ACTIVITY: The data activity LED flashes when the SDEC is communicating with another control device, either on the network or via the serial or control ports.

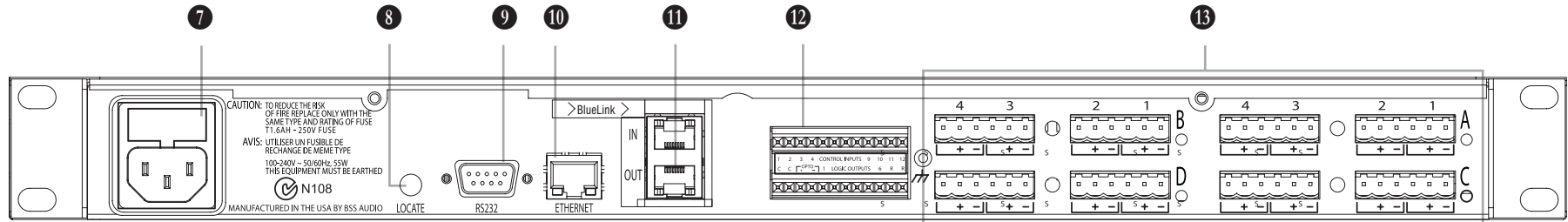
3 NETWORK LINK: The network link LED indicates the presence of Ethernet cables. If no cables are connected, the LED will be dark. The network link is used for configuring and calibrating the Synthesis system when using the DACS calibration.

4 INFORMATION DISPLAY: The information display indicates the name/ID and IP address of the unit.

5 HOLD: Press and hold this button to cycle the LCD through its contrast range.

6 LOCATE: Press this button to illuminate the Locate button on the rear panel.

REAR PANEL CONNECTIONS



- ⑦ **POWER CORD SOCKET:** Connect the power cord here and then connect to a mains output with voltage from 85V to 270V, 50/60Hz.
- ⑧ **LOCATE:** Press this button to illuminate the Locate button on the front and identify the device within the London Architect software.
- ⑨ **RS-232:** This connection for external calibration and configuration unit is not active at this time.
- ⑩ **ETHERNET:** This is the main connection for the proprietary system control network, and for third-party Ethernet control. The SDEC must be connected to an Ethernet hub during the calibration process.
- ⑪ **BLU-Link CONNECTORS:** Connect these ports to other JBL Synthesis BLU-Link products to enable BLU-Link to send and receive audio data. Please Note: When using the SDEC-4500X or SDA Series amplifiers with BLU-Link you must connect the two units through the BLU-Link connection, using a Cat. 5e patch cable.
- ⑫ **CONTROL INPUTS:** The SDEC-4500P and SDEC-5500 can be configured for full-range or bi-amp operation by using these control inputs. The SDEC-3500 does not need or use this connection. The SDEC05500 may be configured for factory channel settings or an alternate setting that enables 4 subwoofer outputs on the SDEC4500X analog expansion unit
- ⑬ **INPUT/OUTPUT CARD POSITIONS:** These connectors provide the balanced and unbalanced connections for the input/output card fitted in the four card slots in a JBL Synthesis SDEC device. A green LED next to the slot assignment letter A, B, C or D indicates that an input card is fitted and an amber LED when an output card is fitted. The analog connections are balanced/unbalanced, on Phoenix/Combicon connectors. Depending on which model and configuration you have purchased will determine which input/output card has been installed at the factory. Please make certain that you have ordered the correct wiring kit for your application and system configuration as designed and recommended by JBL Synthesis.

INPUT/OUTPUT ASSIGNMENTS

SDEC-3500 ANALOG CONNECTIONS

The SDEC-3500 supports up to 7.1 input with up to 7.1 output. The input and output assignments are described in the table below. You must make the correct connections from the surround processor output to the amplifier input for the system to work correctly.

The correct Synthesis Interconnect kit includes all the necessary connections for using the SDEC in the Synthesis system.

CONNECTION NOTES

- Please follow the Input/Output Assignments table for correct connections.
- You will need to use the Ethernet network port on the rear panel of the unit for the final calibration process. You can connect the SDEC-3500 through any standard Ethernet hub.

SDEC3500 BLU LINK CHANNELS

The SDEC3500 may output digital audio via the BLU-Link output connector including 4 discrete subwoofer channels.

SDEC-3500 INPUT/OUTPUT ASSIGNMENTS

| Surround Processor to SDEC-3500 Inputs | | |
|---|----------------|------------------|
| Number | Channel | SDEC-3500 |
| 1 | Left Front | A1 |
| 2 | Right Front | A2 |
| 3 | Center Front | A3 |
| 4 | Left Side | A4 |
| 5 | Right Side | B1 |
| 6 | Left Rear | B2 |
| 7 | Right Rear | B3 |
| 8 | Subwoofer | B4 |

| SDEC-3500 Outputs to Amplifiers | | |
|--|----------------|------------------|
| Number | Channel | SDEC-3500 |
| 9 | Left Front | C1 |
| 10 | Right Front | C2 |
| 11 | Center | C3 |
| 12 | Left Side | C4 |
| 13 | Right Side | D1 |
| 14 | Left Rear | D2 |
| 15 | Right Rear | D3 |
| 16 | Subwoofer | D4 |

SDEC-4500

The SDEC-4500 is comprised of one SDEC-4500P plus either an SDEC-4500X or a combination of SDA Series amplifiers with BLU-Link digital connection capability. The BLU-Link digital connection carries all necessary signals on a single Cat.5e cable.

The correct Synthesis Interconnect kit includes all the necessary connections for using the SDEC in the Synthesis system. Please contact JBL Synthesis Technical Support at 888-691-4171 (USA only) for more information.

The SDEC-4500 is capable of processing up to 12 inputs and up to 22 outputs. Depending on the type and number of outputs will determine which connections you should use to connect the SDEC to the rest of your system.

CONNECTION NOTES

- The SDEC-4500 can process two outputs for the front left, center and right channels to output to an amplifier for a bi-amplified system. There are discrete outputs for a single high-frequency horn speaker and low-frequency speakers. These outputs can only be used with speakers designed to be used with an external crossover. Do not use the SDEC Digital Equalizer for any speakers other than the recommended Synthesis speaker packages.
- There are three pairs of outputs for side speakers. If you are only using one pair of side speakers, then you may leave the second or third pair of outputs with no connection. If you are using a second or third pair of side speakers, then you should connect the pair closest to the front speakers to Output 1, the pair in the middle of the room to Output 2, and the pair closest to the rear speakers to Output 3. The third pair of outputs may be switched to become the rear height pair when using the A.R.C.O.S. software.
- There are up to four subwoofer outputs. You should use them in pairs so that you either have two or four.
- When SDA Series amplifiers are used in a system with a BLU-Link connection from the SDP-4500P instead of the SDEC-4500X you must carefully follow the installation and connection diagrams contained in the SDA Series amplifier's Setup and Installation Manual.

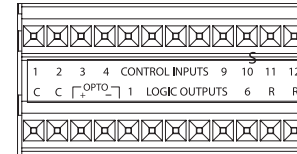
SELECTING FULL-RANGE OR BI-AMPED CONFIGURATION

There are two ways to select between bi-amped or full-range LCR operation.

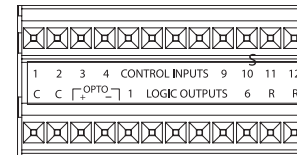
Please note: Only Method One can be done on the control ports (without a computer). Method Two requires a computer running the appropriate configuration software. Please contact JBL Synthesis Technical Support for more information.

METHOD ONE: WITHOUT A COMPUTER

Full Range: With the SDEC powered up and running, connect Control Input 1 to "C" (common) on the back of the unit for full range. This is a temporary contact and should not be left in place.



Bi-Amped: With the SDEC powered up and running, connect Control Input 2 to "C" for bi-amped. This is a temporary connection and should not be left in place.



METHOD TWO: WITH A COMPUTER

While online and in Operate mode from within London Architect™ or when using the Java remote, select the appropriate speaker configuration as your installation requires. The software will automatically configure the outputs correctly.

SDEC-4500 WITH BI-AMPLIFIED FRONT SPEAKERS

This configuration requires the selection of bi-amplified operation, as noted on page 6.

| Surround Processor to SDEC-4500P Inputs | | |
|--|--------------------|------------|
| Number | Channel | SDEC-4500P |
| 1 | Left Front | A1 |
| 2 | Right Front | A2 |
| 3 | Center Front | A3 |
| 4 | Left Side | A4 |
| 5 | Right Side | B1 |
| 6 | Left Rear | B2 |
| 7 | Right Rear | B3 |
| 8 | Subwoofer | B4 |
| 9 | Left Front Height | C1 |
| 10 | Right Front Height | C2 |
| 11 | Left Rear Height | C3 |
| 12 | Right Rear Height | C4 |

| SDEC-4500P Outputs to Amplifiers | | |
|---|-------------|------------|
| Number | Channel | SDEC-4500P |
| 13 | Subwoofer 1 | D1 |
| 14 | Subwoofer 2 | D2 |
| 15 | Subwoofer 3 | D3 |
| 16 | Subwoofer 4 | D4 |

| SDEC-4500X Outputs to Amplifiers | | |
|---|--------------------------------|------------|
| Number | Channel | SDEC-4500X |
| 17 | Left Front-Low | A1 |
| 18 | Left Front-Hi | A2 |
| 19 | Right Front-Low | A3 |
| 20 | Right Front-Hi | A4 |
| 21 | Center-Low | B1 |
| 22 | Center--Hi | B2 |
| 23 | Left Side 1 | B3 |
| 24 | Right Side 1 | B4 |
| 25 | Left Side 2 | C1 |
| 26 | Right Side 2 | C2 |
| 27 | Left Side 3/Left Rear Height | C3 |
| 28 | Right Side 3/Right Rear Height | C4 |
| 29 | Left Rear | D1 |
| 30 | Right Rear | D2 |
| 31 | Left Front Height | D3 |
| 32 | Right Front Height | D4 |

SDEC-4500 WITH FULL-RANGE FRONT SPEAKERS

This is the default configuration.

| Surround Processor to SDEC-4500P Inputs | | |
|--|--------------------|------------|
| Number | Channel | SDEC-4500P |
| 1 | Left Front | A1 |
| 2 | Right Front | A2 |
| 3 | Center Front | A3 |
| 4 | Left Side | A4 |
| 5 | Right Side | B1 |
| 6 | Left Rear | B2 |
| 7 | Right Rear | B3 |
| 8 | Subwoofer | B4 |
| 9 | Left Front Height | C1 |
| 10 | Right Front Height | C2 |
| 11 | Left Rear Height | C3 |
| 12 | Right Rear Height | C4 |

| SDEC-4500P Outputs to Amplifiers | | |
|---|-------------|------------|
| Number | Channel | SDEC-4500P |
| 13 | Subwoofer 1 | D1 |
| 14 | Subwoofer 2 | D2 |
| 15 | Subwoofer 3 | D3 |
| 16 | Subwoofer 4 | D4 |

| SDEC-4500X Outputs to Amplifiers | | |
|---|--------------------------------|------------|
| Number | Channel | SDEC-4500X |
| 17 | Left Front | A1 |
| 18 | (Not Used) | A2 |
| 19 | Right Front | A3 |
| 20 | (Not Used) | A4 |
| 21 | Center | B1 |
| 22 | (Not Used) | B2 |
| 23 | Left Side 1 | B3 |
| 24 | Right Side 1 | B4 |
| 25 | Left Side 2 | C1 |
| 26 | Right Side 2 | C2 |
| 27 | Left Side 3/Left Rear Height | C3 |
| 28 | Right Side 3/Right Rear Height | C4 |
| 29 | Left Rear | D1 |
| 30 | Right Rear | D2 |
| 31 | Left Front Height | D3 |
| 32 | Right Front Height | D4 |

SDEC-5500

The SDEC-5500 can be used by itself with SDA amplifiers or in combination with a SDEC-4500X. All of these products utilize the BLU-Link digital connection that carries all necessary signals on a single CAT 5e cable.

The correct Synthesis Interconnect kit includes all the necessary connections for using the SDEC in the Synthesis system. Please contact JBL Synthesis Technical Support at 888-691-4171 (USA only) for more information.

CONNECTION NOTES

- The SDEC-5500 can process two outputs for the front left, center and right channels to output to an amplifier for a bi-amplified system. There are discrete outputs for a single high-frequency horn speaker and low-frequency speakers. These outputs can only be used with speakers designed to be used with an external crossover. Do not use the SDEC Digital Equalizer for any speakers other than the recommended Synthesis speaker packages.
- There are two pairs of outputs for side speakers. If you are only using one pair of side speakers, then you may leave the second pair of outputs with no connection. If you are using a second pair of side speakers, then you should connect the pair closest to the front speakers to Output 1 and the pair closest to the rear speakers to Output 2.
- There are up to four subwoofer outputs. You should use them in pairs so that you either have two or four.
- When SDA Series amplifiers are used in a system with a BLU-Link connection from the SDP-5500 instead of the SDEC-4500X you must carefully follow the installation and connection diagrams contained in the SDA Series amplifier's Setup and Installation Manual.

Below shows the SDEC-5500 connections both standard and configurable when used with the SDP-75-16

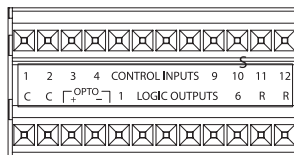
| SDEC 5500 Connections | | | | | |
|--|----------------------------|-----------------------------|-------------------------------|---------------------|-------------------------|
| SDP-75 -16 Output Connections | | | SDEC-5500 Outputs | | |
| IC Cable # | SDP 75 Output # | SDEC-5500 Inputs | Standard | Configurable | Blu-Link Channel |
| 1 | 1 | A1 | N1 Left Full Range | N1 Left Low Freq | 1 |
| | | | X | N1 Left High Freq | 3 |
| 2 | 2 | A2 | N2 Right Full Range | N2 Right Low Freq | 2 |
| | | | X | N2 Right High Freq | 4 |
| 3 | 3 | A3 | N3 Center Full Range | N3 Center Low Freq | 7 |
| | | | X | N3 Center High Freq | 8 |
| 4 | 4 | A4 | N4 Side Left | | 10 |
| | | | N4 Side Left 2 (array left) | | 23 |
| 5 | 5 | B1 | N5 Side Right | | 13 |
| | | | N5 Side Right 2 (array right) | | 24 |
| 6 | 6 | B2 | N6 Rear Left | | 16 |
| 7 | 7 | B3 | N7 Rear Right | | 17 |
| 8 | 8 | B4 | N8 Sub 1, 2, 3,4 | | 25, 26, 27,28 |
| 9 | 9 | C1 | N9 | | 11 |
| 10 | 10 | C2 | N10 | | 14 |
| 11 | 11 | C3 | N11 | | 12 |
| 12 | 12 | C4 | N12 | | 15 |
| 13 | 13 | D1 | N13 | | 5 |
| 14 | 14 | D2 | N14 | | 6 |
| 15 | 15 | D3 | N15 | | 18 |
| 16 | 16 | D4 | N16 | | 19 |

Below shows the SDEC-4500X connections for both factory and alternate settings when used with the SDEC-5500

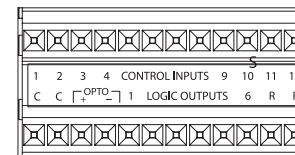
| SDEC 4500X with SDEC 5500 (Factory Setting) | | |
|--|------------|--------------------|
| Standard | IC Cable # | Output Connections |
| Left Front-Low / Full Range | 1 | A1 |
| Left Front -Hi (n/c Full Range) | 2 | A2 |
| Right Front -Low / Full Range | 3 | A3 |
| Right Front -Hi (n/c Full Range) | 4 | A4 |
| Center Front -Low /Full Range | 5 | B1 |
| Center Front -Hi (n/c Full Range) | 6 | B2 |
| Side Left | 7 | B3 |
| Side Right | 9 | B4 |
| CH9 | 9 | C1 |
| CH10 | 10 | C2 |
| CH11 (CH15) | 11 | C3 |
| CH12 (CH16) | 12 | C4 |
| Rear Left | 13 | D1 |
| Rear Right | 14 | D2 |
| CH13 | 15 | D3 |
| CH14 | 16 | D4 |

| Alt Output SDEC 4500X with SDEC 5500 (Alternate Setting) | | |
|---|------------|--------------------|
| Alternate Output | IC Cable # | Output Connections |
| Left Front-Low / Full Range | 1 | A1 |
| Left Front -Hi (n/c Full Range) | 2 | A2 |
| Right Front -Low / Full Range | 3 | A3 |
| Right Front -Hi (n/c Full Range) | 4 | A4 |
| Center Front -Low /Full Range | 5 | B1 |
| Center Front -Hi (n/c Full Range) | 6 | B2 |
| Side Left | 7 | B3 |
| Side Right | 9 | B4 |
| CH9 | 9 | C1 |
| CH10 | 10 | C2 |
| Rear Left | 11 | C3 |
| Rear Right | 12 | C4 |
| Subwoofer 1 | 13 | D1 |
| Subwoofer 2 | 14 | D2 |
| Subwoofer 3 | 15 | D3 |
| Subwoofer 4 | 16 | D4 |

Factory Setting: With the SDEC powered up and running, connect Control Input C11 to “C”. This is a temporary connection and should not be left in place.



Alternate Setting: With the SDEC powered up and running, connect Control Input C12 to “C”. This is a temporary contact and should not be left in place.



Below shows the connections on the second SDEC-5500 when used with the SDP-75-32. The changes shown on the first SDEC-5500 and SDEC-4500x should not be applied without first contacting JBL Synthesis Technical Support.

| SDEC 5500 | | | | |
|--|----------------------------|-----------------------------|--------------------------|-----------------------------|
| SDP-75-32 Ouput Connections | | SDEC-5500 Inputs | SDEC-5500 Outputs | |
| IC Cable # | SDP 75 Output # | | Standard | Blu-Link Channel |
| 1 | 17 | A1 | N17 | 1 |
| 2 | 18 | A2 | N18 | 2 |
| 3 | 19 | A3 | N19 | 7 |
| 4 | 20 | A4 | N20 | 10 |
| 5 | 21 | B1 | N21 | 13 |
| 6 | 22 | B2 | N22 | 16 |
| 7 | 23 | B3 | N23 | 17 |
| 8 | 24 | B4 | N24 Conditional | 25, 26, 27,28 |
| 9 | 25 | C1 | N25 | 11 |
| 10 | 26 | C2 | N26 | 14 |
| 11 | 27 | C3 | N27 | 12 |
| 12 | 28 | C4 | N28 | 15 |
| 13 | 29 | D1 | N29 | 5 |
| 14 | 30 | D2 | N30 | 6 |
| 15 | 31 | D3 | N31 | 18 |
| 16 | 32 | D4 | N32 | 19 |

* No auto EQ on the SDEC 5500 output

| SDEC 4500X with 2nd SDEC 5500 (Factory Setting) | | |
|--|-----------------------|-------------------------------|
| Standard | IC Cable # | Output Connections |
| Left Front-Low / Full Range | 1 | A1 |
| Right Front -Low / Full Range | 3 | A3 |
| Center Front -Low /Full Range | 5 | B1 |
| N20 | 7 | B3 |
| N21 | 9 | B4 |
| N25 | 9 | C1 |
| N26 | 10 | C2 |
| N27 | 11 | C3 |
| N28 | 12 | C4 |
| N29 | 13 | D1 |
| N30 | 14 | D2 |
| N31 | 15 | D3 |
| N32 | 16 | D4 |

SPECIFICATIONS

INPUTS

ELECTRONICALLY BALANCED ON PHOENIX/COMBICON REMOVABLE SCREW CONNECTORS

| | |
|---------------------------|---|
| MIC/LINE INPUTS: | NOMINAL GAIN 0DB, ELECTRONICALLY SWITCHABLE UP TO +48DB, IN +6DB STEPS, INPUT IMPEDANCE 3.5K OHMS |
| MAXIMUM INPUT LEVEL: | +20DBU WITH 0DB INPUT GAIN (+8DBU WITH 12DB GAIN) |
| CMRR: | >75DB AT 1KHZ |
| EQUIV. INPUT NOISE (EIN): | <-128DBU TYPICAL WITH 150 OHMS SOURCE |
| SDEC-3500: | 8 INPUTS |
| SDEC-4500P: | 12 INPUTS |
| SDEC-5500: | 16 INPUTS |

OUTPUTS:

ELECTRONICALLY BALANCED ON PHOENIX/COMBICON REMOVABLE SCREW CONNECTORS

| | |
|-----------------------|--|
| MAXIMUM OUTPUT LEVEL: | +19DBU |
| FREQUENCY RESPONSE: | 20HZ – 20KHZ (+0.5/-1DB) |
| THD: | <0.01% (20HZ – 20KHZ, +10DBU OUTPUT) |
| DYNAMIC RANGE: | 108DB TYPICAL (22HZ – 22KHZ UNWEIGHTED) |
| CROSSTALK: | <-75DB |
| SDEC-3500: | 8 OUTPUTS |
| SDEC-4500P: | 4 OUTPUTS WITH EXPANSION TO 20 WITH SDEC-4500X OR 22 WITH SDA AMPLIFIERS |
| SDEC-4500X: | 16 OUTPUTS |

CONTROL NETWORK

| | |
|-----------------------|---|
| BLU-Link | RJ45 CONNECTOR |
| MAXIMUM CABLE LENGTH: | 100M/300 FT. BETWEEN DEVICE AND ETHERNET SWITCH |
| ETHERNET: | 2 X RJ45 CONNECTORS |
| MAXIMUM CABLE LENGTH: | 100M/300 FT. BETWEEN DEVICE AND ETHERNET SWITCH |
| PANEL LED INDICATORS: | SIGNAL PRESENT (PER INPUT), CLIP (PER INPUT), SYNC/48V (PER INPUT), LCD, CONDUCTOR ACTIVE, NET LINK ACTIVE, DATA ACTIVITY |
| MAINS VOLTAGE: | 85 – 270V AC, 50/60HZ |
| POWER CONSUMPTION: | <35VA |

GENERAL:

| | |
|-------------------------|--|
| DIMENSIONS (H X W X D): | 1-3/4" X 19" X 9-1/4" (44MM X 483MM X 235MM) |
| WEIGHT: | 6.5 LB (3KG) |



S Y N T H E S I S[®]

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