

KUSTOM®

AMPLIFICATION



PA150TFX & PA150TFXBT

Owner's Manual

**Congratulations on the
purchase of your Kustom PA.**

Your PA Model draws on decades of amp design and manufacturing experience at Kustom. This model was built from the ground up to offer world-class tone, useful features and reliable performance. Inside this manual, you'll find valuable information about your product's controls and specifications. Being familiar with its features will help you effectively use your system. We wish you many years of enjoyment with your Kustom PA

Caution:

This device complies with Part 15 of the FCC Rules / Industrie Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2)

l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following

measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

MPE Reminding

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne. La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

IMPORTANT SAFETY INSTRUCTIONS

Danger

Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

| DURATION PER DAY (HOURS) | 8 | 6 | 4 | 3 | 2 | 1 |
|--------------------------|----|----|----|----|-----|-----|
| SOUND LEVEL (dB) | 90 | 93 | 95 | 97 | 100 | 103 |

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Earplugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of inducing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.



APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan
Apparatet må tilkoples jordet stikkontakt
Apparaten skall anslutas till jordat uttag

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. Bathtub, sink, swimming pool, wet basement, etc.
6. Only use dry cloth to clean this product.
7. Do not block any ventilation openings. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
8. Do not install this product near any heat sources; such as, radiators, heat registers, stove or other apparatus (including heat producing amplifiers) 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 are 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 being walked on or pinched, particularly at Plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. 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.
16. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. When the MAINS plug, or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
18. Protective Ground Terminal: The apparatus shall be connected to an AC main socket with a protective earth ground connection.



IMPORTANT SAFETY INSTRUCTIONS

FRENCH

Danger

L'exposition a des niveaux eleves de bruit peut provoquer une perte permanente de l'audition, Chaque organisme humain reagit differemment quant a la perte de l'audition, mais quasiment tout le monde subit une diminution de l'acuite auditive lors d'une exposition suffisamment longue au bruit intense. Les autorites competentes en reglementation de bruit ont defini les expositions tolerees aux niveaux de bruits:

| | | | | | | |
|--------------------------|----|----|----|----|-----|-----|
| DURATION PER DAY (HOURS) | 8 | 6 | 4 | 3 | 2 | 1 |
| SOUND LEVEL (dB) | 90 | 93 | 95 | 97 | 100 | 103 |

Selon les autorites, toute exposition dans les limites citees ci-dessus, peuvent provoquer certaines pertes d'audition. Des bouchons ou protections dans l'appareil auditif ou sur l'oreille doivent etre portes lors de l'utilisation de ce systeme d'amplification afin de prevenir le risque de perte permanente de l'audition. Dans le cas d'expositions superieures aux limites precitees il est recommande, afin de se premunir contre les expositions aux pressions acoustiques eLevees potentiellement dangeureuses, aux personnes exposees aux equipements capables de delivrer de telles puissances, tels ce systeme d'amplification en fonctionnement, de proteger l'appareil auditif.



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE DE VOLTAGE DANGEREUX NON-ISOLE A L'INTERIEUR DE CE PRODUIT QUI PEUT ETRE DE PUISSANCE SUFFISAMMENT IMPORTANTE POUR PROVOQUER UN CHOC ELECTRIQUE AUX PERSONNES.



CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE D'INSTRUCTIONS D'UTILISATION ET DE MAINTENANCE DANS LES DOCUMENTS FOURNIS AVEC CE PRODUIT.



AFIN DE REDUIRE LES RISQUÉ D'INCENDIE ET DE DECHARGE ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

1. Lire avec attention toutes les recommandations et précautions d'emploi avant d'utiliser ce produit.
2. Toutes les recommandations et précautions d'emploi doivent être conservées afin de pouvoir s'y reporter si nécessaire.
3. Lire et comprendre tous les avertissements énumérés dans les précautions d'emploi.
4. Suivre toutes les précautions d'emploi pour utiliser ce produit.
5. Ce produit ne doit pas être utilisé près d'eau, comme par exemple baignoires, évier, piscine, sous-sol humides ... Etc.
6. Utiliser exclusivement un chiffon sec pour nettoyer ce produit.
7. Ne bloquer aucune ouverture de ventilation. Ne pas placer le produit tout contre un mur ou dans une enceinte fermée, cela générerait le flux d'air nécessaire au refroidissement.
8. Ne pas placer le produit près de toute source de chaleur telle que radiateurs, arrivées d'air chaud, fourneaux ou autres appareils générant de la chaleur (incluant les amplificateurs producteurs de chaleur).
9. Ne pas négliger la sécurité que procure un branchement polarisé ou avec raccordement à la terre. Un branchement polarisé comprend deux fiches dont l'une est plus large que l'autre. Un branchement à la terre comprend deux fiches plus une troisième reliée à la terre. Si la fiche secteur fournie ne s'insère pas dans votre prise de courant, consulter un électricien afin de remplacer votre prise obsolète.
10. Protéger le cordon d'alimentation de tout écrasement ou pincement, particulièrement au niveau des fiches, des réceptacles utilisés et à l'endroit de sortie de l'appareil. Ne pas casser la fiche de terre du cordon d'alimentation.
11. Utiliser uniquement les accessoires spécifiés par le constructeur.
12. Utiliser uniquement avec le chariot de transport, le support, le trépied, la console ou la table spécifiés par le constructeur ou vendus avec l'appareil. Lors de l'utilisation d'un chariot, bouger avec précaution l'ensemble chariot/appareil afin d'éviter les dommages d'un renversement.
13. Débrancher cet appareil lors d'orages ou s'il n'est pas utilisé pendant une longue période.
14. Des précautions doivent être prises afin qu'aucun objet ne tombe et qu'aucun liquide ne se répande à l'intérieur de l'appareil par les orifices de ventilation ou n'importe quelle autre ouverture.
15. Pour toutes interventions techniques s'adresser à un technicien qualifié. L'intervention technique est nécessaire lorsque l'appareil a été endommagé de n'importe quelle façon, comme par exemple si le cordon secteur ou sa fiche sont détériorés, si du liquide a coulé ou si des objets sont tombés à l'intérieur de l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas normalement ou s'il est tombé.
16. ATTENTION: Pour réduire le risque d'incendie ou de choc électrique ne pas exposer l'appareil à la pluie ou à l'humidité.
17. Quand La prise MAINS, au coupler, est utilisé pour la source d'alimentation électrique. Il est conseillé de garder cette prise facilement accessible.
18. Borne de terre de protection: L'appareil doit être connecté à un connecteur AC principale avec un raccordement à la terre de protection.



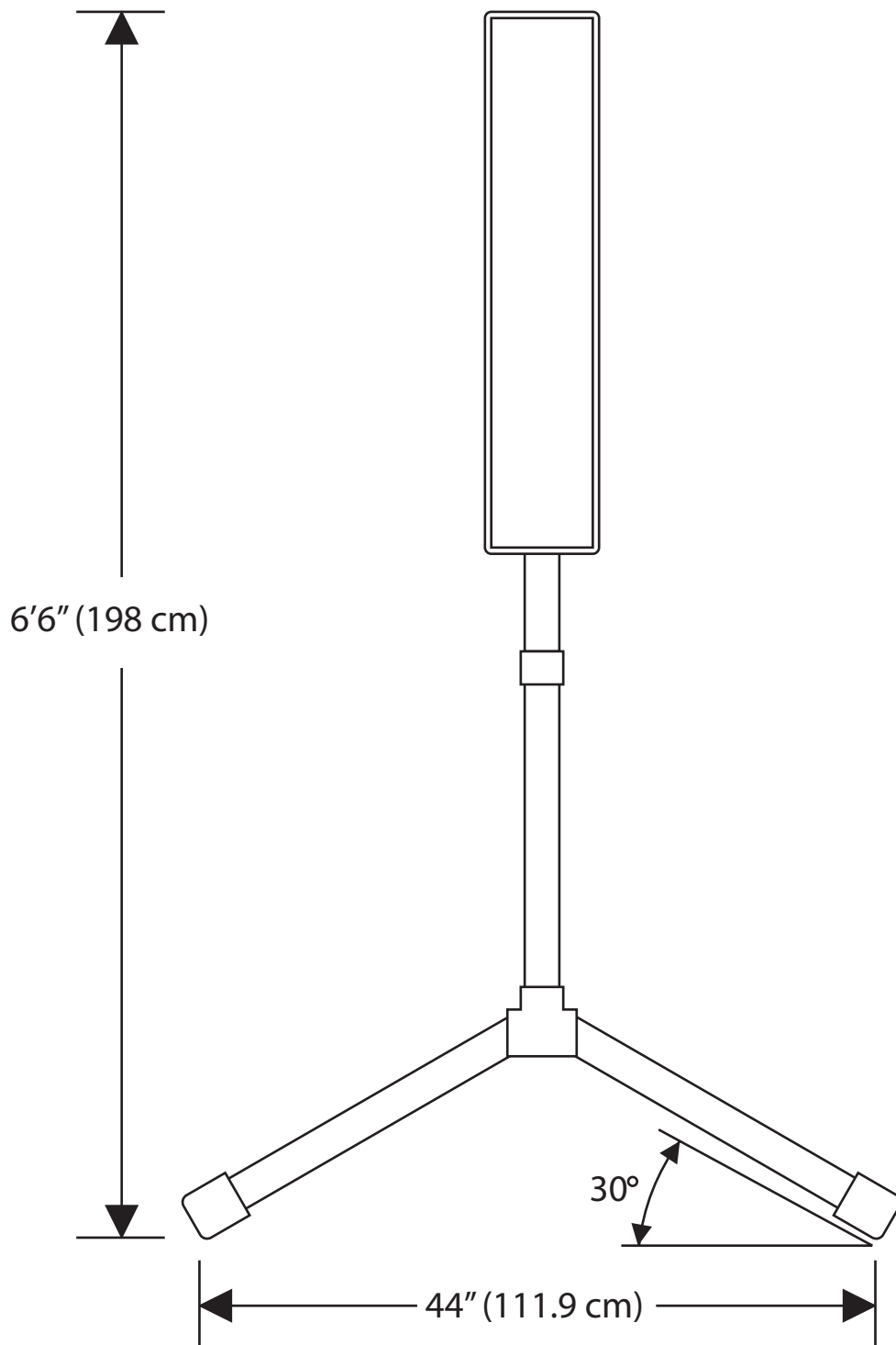
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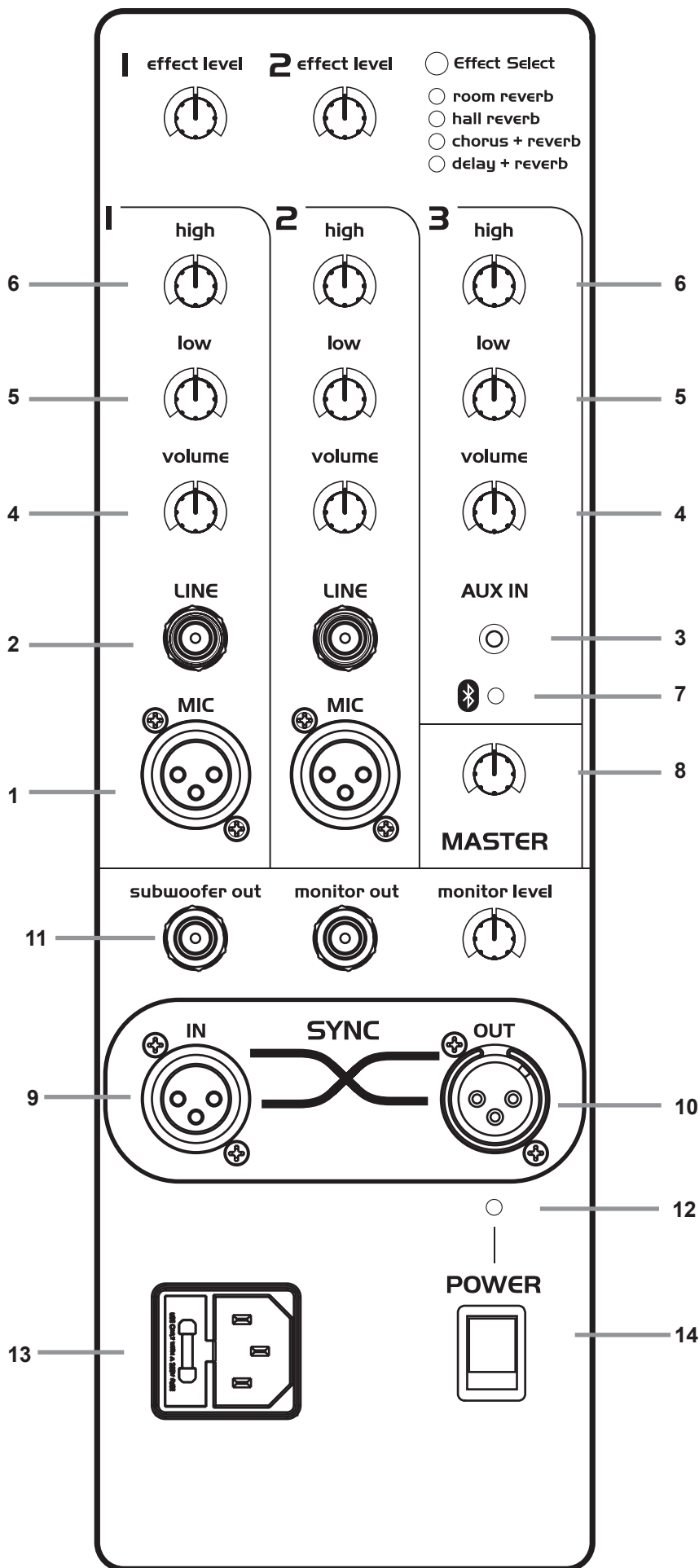
SPEAKER STAND SAFETY

Speakers on stands can fall over and cause injury if set up improperly. Make sure the legs of the tripod are at least 44 inches (111.9 cm) apart, with an angle to the floor of 30 degrees.

The ideal height for the unit is 6 feet 6 inches.

Make sure the speaker stand mount is properly seated on the speaker stand pole.





BLUETOOTH PAIRING INSTRUCTIONS:

To connect your Bluetooth device to the Kustom Bluetooth receiver for the first time, navigate to the Bluetooth settings menu on your Bluetooth enabled device. Ensure that Bluetooth is enabled and your Kustom product is powered on. Perform a scan for available devices. Select and pair to the Kustom product in the list of available devices. Enter 0000 for the passcode if prompted. Once paired, a connection can be established. Depending on the device, future connections may be established automatically when a previously paired Bluetooth device is in range of the Kustom Bluetooth receiver.

The Bluetooth receiver in Kustom Bluetooth products is an A2DP device and will work with other A2DP compatible Bluetooth devices including most smart phones. Additional hardware and/or driver software may be required for computers with integrated Bluetooth adaptors due to a lack of support for A2DP devices by some operating systems.

A2DP protocol only allows for one to one device connections. Therefore, only one Bluetooth device can be connected to a Kustom Bluetooth product at one time. Similarly, a Bluetooth device can only be connected to one Kustom Bluetooth product at one time. Plugging a 1/8" connector into the AUX jack disables the Kustom Bluetooth receiver.

CONTROLS & FUNCTIONS OVERVIEW

INPUT SECTION:

This is where you may plug in microphones, instruments, keyboards, drum machines and other audio devices, adjust the volume, bass and treble.

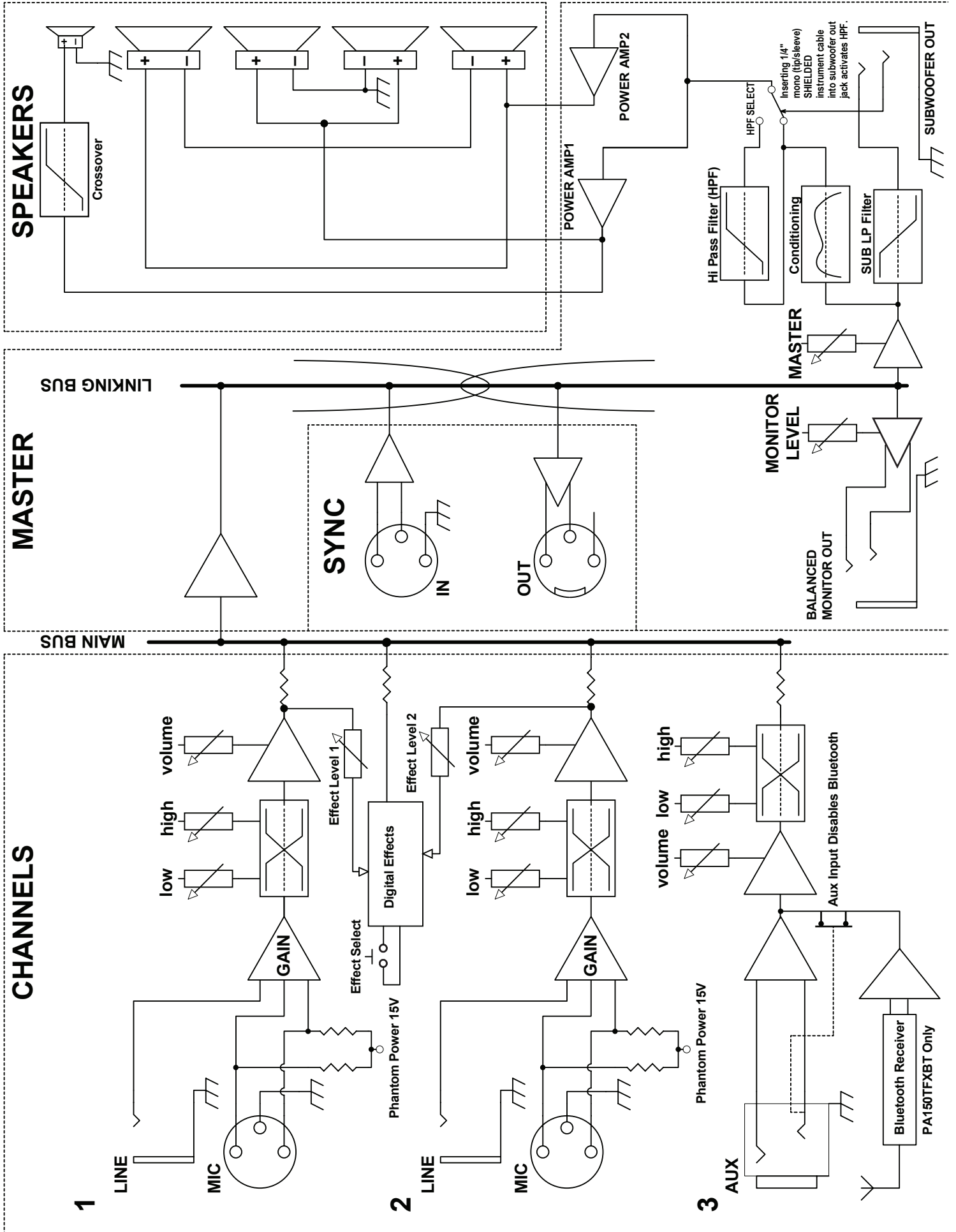
- 1. MIC Inputs:** These XLR inputs are designed for low-impedance microphones or equipment that has a mic-level, balanced output (often called a Direct Out). Note: These inputs receive 15-volt phantom power. This is used to provide power to condenser microphones. Phantom power will not damage any dynamic or non-condenser microphone.
- 2. LINE Inputs:** These ¼-inch inputs may be used to connect high-impedance microphones or keyboards, drum machines and other audio devices.
- 3. AUX IN:** Use this stereo input to connect an external audio device such as an MP3, CD player or computer for playback. Note: Right and Left channels are summed to mono on this input.
- 4. Volume:** Use these controls to adjust the volume level of each channel and the relative balance between them.
- 5. Low:** Determines the emphasis of bass frequencies. Turning this knob clockwise creates a deeper, warmer tone. If you need a brighter sound, reduce the bass by turning counterclockwise.
- 6. High:** Turned clockwise, this control accents treble frequencies to produce clearer, crisper sound. Turn counterclockwise to make the sound softer and less bright.
- 7. Bluetooth LED (PA150TFXBT Only):** Indicates that a Bluetooth equipped device has successfully paired with the PA150TFXBT.
- 8. Master Volume:** Controls the overall volume of all channels and input on SYNC
Note: Does not affect SYNC Output level.
- 9. SYNC IN:** This balanced XLR Jack accepts the SYNC output from another PA unit using a standard mic cable. Channels from both PA units are summed together. Use the channel volume controls to get the mix of the 6 channels (If a channel is not used turn the volume all the way down). MASTER volume controls the loudness of the mix through individual units. It does not affect the volume linked units.
Note: The shield connection (pin 1) on this jack is connected to chassis ground. It is not lifted.
- 10. SYNC OUT:** This balanced XLR Jack accepts the SYNC input from another PA unit using a standard mic cable. Channels from both units are summed together. Use the channel volume controls to get the mix of the 6 channels (If a channel is not used turn the volume all the way down). MASTER volume controls the loudness of the mix through individual units. It does not affect the volume linked units. This jack may also be used to connect the PA unit to a power amp with a balanced line input.
Note: The shield connection (pin 1) on this jack does not connect to chassis ground. It is lifted.
- 11. Subwoofer Out:** The subwoofer output jack sends a line level unbalanced low frequency signal crossed over at 150Hz to a powered subwoofer. It will also work with any powered subwoofer that accepts a line level input. A crossover that rolls off the frequencies below 150Hz through the PA150TFX's speakers is activated when using this jack with a standard ¼" mono (tip/Sleeve) SHIELDED instrument cable. When Subwoofer jack is not used, this crossover is bypassed and the speakers are full range.

Note: It is recommended to connect subwoofer using a standard ¼" mono (tip/sleeve) SHIELDED instrument cable because the sleeve connection to ground activates crossover on speakers. When possible, plug AC cable on PA150TFX and Subwoofer into same outlet or power strip. This will prevent possible ground loop hum through the system.
- 12. Power Indicator Light:** Indicates that the power switch is in the "ON" position.
- 13. AC Power Cord Receptacle:** Insert the AC cord firmly into the AC receptacle. Be sure to use the cable provided with your PA unit. The power cord can be removed for storage or replacement if damaged. Note: Replace the AC cord if its protective jacket is damaged or ground pin is damaged or removed.
- 14. Power:** This switch activates AC power to the powered PA unit.

PA150TFX/PA150TFXBT Specifications

| | | |
|--|---|---|
| Output Power 1% | 2 x 75W | 2 x 4 ohm load |
| Accepted Inputs | CH1 and CH2 | Mic XLR Balanced, Line Level 1/4" Un-balanced |
| | Ch3 | 1/8" Line Level or Bluetooth Device (150TFXBT models) |
| Frequency Response | 20HZ-20kHz | Actual response is tailored to speaker cabinet for accurate acoustical response |
| Hum & Noise | -46dB | Residual Noise, all level controls 0% (mimimum) |
| | -37dB | Nominal System Noise, all level controls at 50% |
| System Gain/Speaker Output (Measurement made at 1kHz) | +49dB | Mic to Speaker Output (CH 1 & CH2) |
| | +35dB | Line to Speaker Output (CH1 & CH2) |
| | +25dB | Aux In to Speaker Output |
| Channel EQ (high, low) | 4kHz and above, 800Hz and below | |
| SYNC (IN and OUT) | Both jacks accept a balanced input and sends a pre-master volume output mix of channels. Recommended use: Linking two PA150's | |
| Subwoofer Out | Line Out | 20 Hz-150Hz |
| Monitor Out | Line Out | Balanced TRS Output with grounded sleeve |
| Phantom Power | +15V | Mic inputs (CH1 & CH2) |
| Power Requirements | USA/Canada | 120VAC/60Hz, 300W nominal |
| | Europe | 230VAC/50Hz, 300W nominal |
| | UK | 230VAC/50Hz, 300W nominal |
| | Australia | 240VAC/50Hz, 300W nominal |
| | Japan | 100VAC/50-60Hz, 300W nominal |
| Speakers | Four 4 1/2" | 50W 8 ohm each |
| Horn | 3 1/2" Piezo Driver | |
| Power Capacity | 150W | RMS |
| Frequency Response | 60Hz-20KHz | Full range (subwoofer jack not used) |
| | 150Hz-20KHz | Crossover Active (1/4" mono plug in subwoofer jack) |
| Nominal Impedance | 4 ohm x 2 | Not designed for external speakers |
| Bluetooth Module Features | | Bluetooth 3.0+EDR compliant. Typical +2dBm Class 2 output power. Audio DAC:94dB SNR. A2DP profile support |
| Dimensions & Weight | mm/kg | 190 W x 715 H x 165 D/11.3 kg |
| | Inches/Pounds | 7.5 W x 28 H x 6.5 D/25 lbs |

Kustom PA150TFX / PA150TFXBT SIGNAL FLOW DIAGRAM



EC Declaration of Conformity

We: Kustom Musical Amplification INC.
3015 Kustom Drive
Hebron, Ky 41048
Tel: 1-859-817-7164 Fax: 1-859-817-7199

Declare that the product

Product name: Kustom

Product model number: PA150TFX & PA150TFXBT

to which this declaration relates is in conformity with the following standards;

EN55013: 2001/+A1:
2003+A2: 2006 Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment.

EN55020: 2007 Electromagnetic immunity of broadcast receivers and associated equipment.

EN61000-3-2: 2006/+A1:
2009 + A2: 2009 Limits for harmonic current emissions (equipment input current < 16A per phase).

EN61000-3-3: 2008 Limitation of voltage fluctuations and flicker in low voltage supply systems for equipment with rated currents < 16A.

EN60065: 2002 + A1:2006
+ A11: 2008 + A2:2010
+ A12:2011 Safety requirements for main operated electronic and related apparatus for household and similar general use.

Following the provisions of EU Council Directive(s): 2004/108/EC and 2006/95/EC.

We the undersigned, hereby declare that the equipment specified above conforms to the aforementioned directive(s).

Name of authorized person: Fred Conrad, Manager Engineering services

Signature  Date: 17 January, 2014

Kustom Musical Amplification INC.
3015 Kustom Drive
Hebron, Ky 41048
Tel: 1-859-817-7164 Fax: 1-859-817-7199

KUSTOM[®]

A M P L I F I C A T I O N

PAI5OTFX / PAI5OTFXBT

OWNER'S MANUAL

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