

TRIDENT JOEMEEK SERIES SC2 OPTICAL STEREO COMPRESSOR

Rediscover a Classic.



OWNERS HANDBOOK

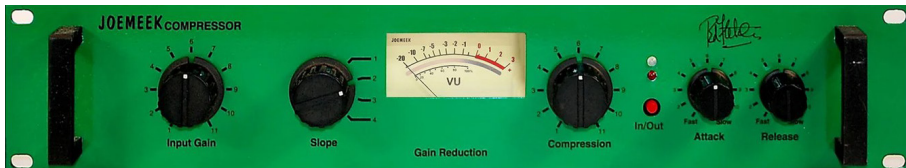
Trident Audio Developments 1845 W 169th Street, Gardena, CA 90247 | tridentaudiodevelopments.com
US Sales & Service +1 (310) 323-9050 sales@tridentaudiodevelopments.com
Trident Audio Developments is a registered trademark of PMI Audio Group

CONTENTS

THE SC2 STEREO COMPRESSOR: A RICH HISTORY	3
OPERATING THE SC2	3
COMPRESSION RATIO	4
VARIABLE RATIO	4
GETTING STARTED	4
GAIN REDUCTION/LEVEL METER	5
EXTENDED FUNCTIONS	5
EXTERNAL SIDE CHAIN INPUT	5
INSERT SEND & RETURN	5
INSERT SEND & RETURN WIRING	5
LEFT/RIGHT OUTPUTS TO RADIAL WORKHORSE MIX BUSS	6
TECHNICAL SPECIFICATION	7
WARRANTY	8
LIMITED WARRANTY	8
CONDITIONS OF WARRANTY	8
DISCLAIMER OF WARRANTY	9
LIMITATION OF LIABILITY	9
PRODUCT REGISTRATION	10
SAFETY& ENVIRONMENTAL	10
STATEMENT OF ROHS COMPLIANCE	11
STATEMENT OF WEEE POLICY	12
REGISTERED TRADEMARKS	12

The SC2 Stereo Compressor: A Rich History

Joemeek's classic 19" rack style SC2 stereo compressor took the recording industry by storm in the late 1990's. At the time, a quick glance at any popular recording studio article would have revealed the tell-tale sight of a rich vibrant green Joemeek compressor, almost leaping out at the reader from the producer's equipment rack.



Renowned for its colouration and character, it quickly became a firm favourite amongst studio engineers. The same can still be said today, with many of the original

compressors still going strong, sitting amongst the very best of the rest and having been used by some of the top artists of the time.

It is for this very reason, that Trident Audio Developments have redesigned this classic stereo compressor to fit the popular and modern 500 series lunchbox format. Utilising the latest technology and combing it with the original Joemeek pioneering design ethos, the SC2 comes back stronger than ever. So, whilst the format may have changed, the unique Joemeek rock 'n' roll sound has definitely not.

Relying on its unique photo optical circuit for the compression of the incoming sound source, the Joemeek SC2 optical compressor behaves completely differently to a standard VCA or FET compressor that you might be more familiar with. Designed as a stereo effects compressor, rather than a 'levelling amplifier' as early compressors were called. The Joemeek SC2 optical compression instead provides the user with a punchy, musical compression style built on the legacy of one of the most experimental and pioneering recording engineers of our time, Joe Meek.



Operating the SC2

Perhaps the hardest studio device to understand, yet one of the most useful, the Compressor's job is to make quiet sounds louder and loud sounds quieter, or in other words to control dynamic range of programme material. It's a bit like manually riding a volume control, except the compressor does it automatically, responding far quicker and more accurately than you ever could by hand. This can be used in several ways:

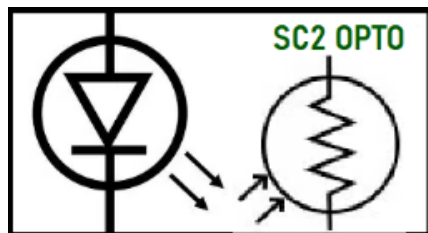
1. **Make Sounds Stand Out** - making quiet sounds louder without the loud bits getting even louder, means you can raise the average level of an instrument or vocal in the mix. This can actually improve vocals for example, by bringing them out in front of the mix, making them sound denser, more even, and more confident!

2. **Crank Up the Volume** - raising the average volume of whole mixes is what makes rock music, radio stations and TV commercials all sound LOUD!
3. **Protect** - using fast Attack and Release times to control brief transients is known as “limiting” and is used to protect recorders and monitoring systems from overload.
4. **Accommodate** - mixes intended for AM and FM radio broadcasts are compressed to fit the restricted dynamic range, which also gives a certain “feel” to the production.
5. **Modify** - a compressor can be used to change the dynamics, or “envelope” of a track.

COMPRESSION RATIO

If the input gets 10dB louder but the compressor only allows the output to increase by 5dB, then the compression ratio is “2 to 1”. If the input goes up 10dB but the output only goes up 1dB, then the compression ratio is “10 to 1”.

VARIABLE RATIO



But there is more to it than that: in the Joemeek optical compressor the compression ratio varies with the amount of compression. Suppose the ‘SLOPE’ control is set to 4:1. For signals only just exceeding threshold, the ratio is little more than 1:1. As the signal gets bigger, the ratio rises to 4:1, driving the compressor a little harder the compression actually reduces back to 1:1, so with large transients and, adjusted correctly, this helps to retain

brightness often lost in other types of compressors and is why optical compressors can often sound livelier than their VCA counterparts.

Getting Started

Set COMPRESS, ATTACK and MAKE UP GAIN fully anticlockwise, with SLOPE and RELEASE at mid-position and the METER COMP/VU switch out. Press the Compressor IN/OUT switch and turn up COMPRESS until the GR meter starts to read. You should now hear the compressor working. Use the MAKE UP GAIN control to restore the volume and use the IN/OUT switch to compare compressed and uncompressed sound. Experiment with different control settings to discover what best suits the material.

COMPRESS sets the level of signal (the “threshold”) above which the signal starts to be compressed. Turn clockwise to lower the compression threshold and drive the compressor harder.

SLOPE sets the compression ratio applied to signals above threshold. Turning clockwise increases the ratio and makes the effects of compression more dramatic. Slopes around 3:1 are gentle for vocals while higher slopes are hard for drums and guitars. At maximum (8:1) the Joemeek compressor effectively becomes a limiter. Slope settings are 1=3:1; 2=4:1; 3=5:1 and 4=8:1.

ATTACK sets how quickly the compressor reacts to peaks above threshold. Set to around mid-position for natural sounding vocals where the compression needs to be less obvious. Longer times allow the fast-leading edge of percussive sounds to pass uncompressed for a moment, exaggerating the percussive nature of drums and other instruments.

TRANS ATTACK or Transient Attack allows the user to achieve a truly vintage compression effect when activated. It does this by restricting the attack time on short impulse responses and making the sound less responsive to short bursts in effect giving the sound a more “snappy/punchy” response.

RELEASE sets how long the compressor goes on squashing the sound for, after the signal drops below threshold. Short times can result in modulation or “pumping” of the sound for special effect, while longer Release times give less obvious compression.

GAIN REDUCTION/LEVEL METER

The METER COMP/VU switch toggles the analogue meter between gain reduction and level reading.

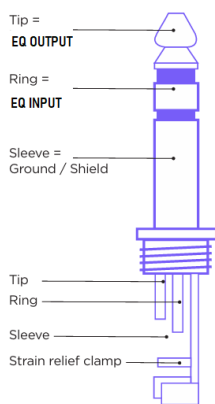
Extended Functions (Using an API Radial Workhorse)

If you have the API Radial Workhorse or compatible rack, you can use the rear Omniport connectors as an external input or insert point to the SC2 compressor control paths, or “side chains”

EXTERNAL SIDE CHAIN INPUT

The SC2 is setup to utilize the Omniport as an insert point. In doing so you have access to send and receive a signal from outside processing. To use the Omniport as an External Side Chain Input, the signal would be fed to the Return of the Omniport jack. This allows an external signal to control the dynamics of the signal on the input on the SC2.

Radial Workhorse or compatible rack -
INSERT Connections



INSERT SEND & RETURN

Alternatively, the Omniport can be used to further process the signal on the side chain of the unit. For example, an equalizer (such as the Trident 80B 500) can be inserted for “frequency conscious” compression.

INSERT SEND & RETURN WIRING

Use 1/4” TRS Jacks wired so that the Tips are connected to the EQ outputs, and the Rings are connected to the EQ inputs. Set the PCB Jumper J2 (Left Signal) and J2A (Right Signal) on the Sidechain Insert (marked S/C INSERT on the circuit board) selection to the YES position. The SC2

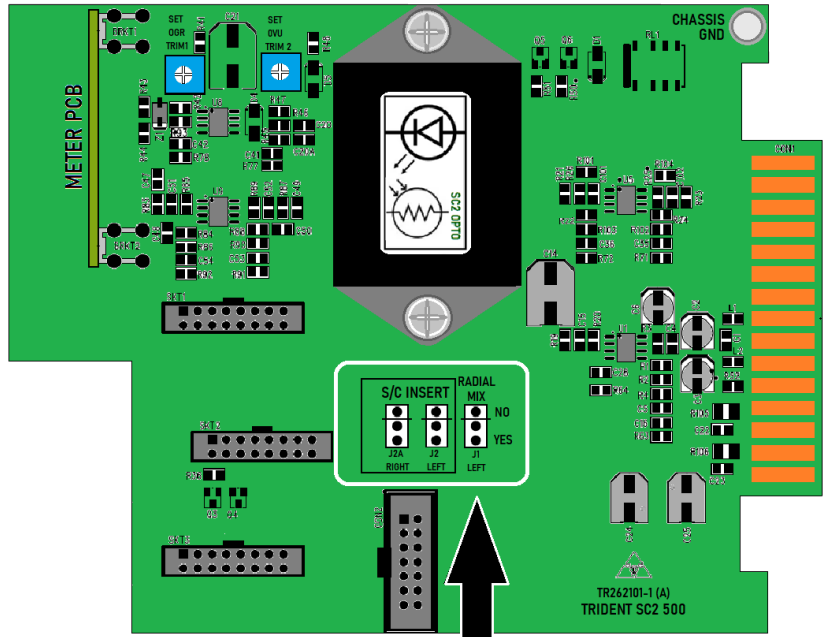
Inserts are now active and connected via the rear Omniport connectors.

See the image below for the location of the S/C INSERT jumper J2 and J2A.

LEFT/RIGHT OUTPUTS TO RADIAL WORKHORSE MIX BUSS

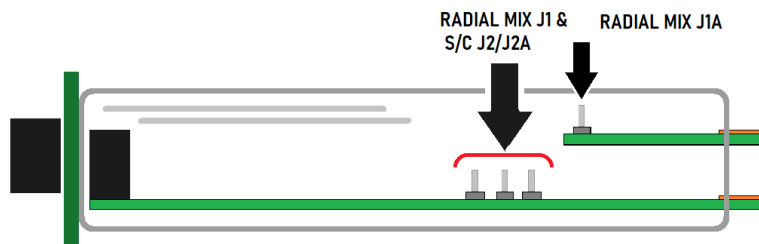
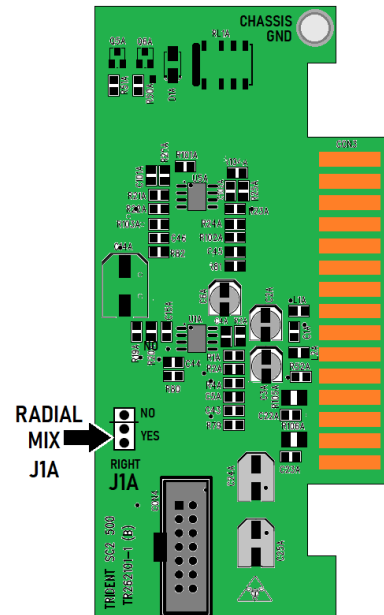
In addition to the Insert Send and Return, you can also send the left and right outputs of the SC2 500 to the Radial Workhorse's internal Mix Buss. To do this, locate jumpers J1 and J1A on the two main circuit boards (see below) and move each jumper onto the two pins marked RADIAL MIX YES.

RADIAL MIX LEFT J1 LOCATION & SIDECHAIN INSERT LEFT J2 & RIGHT J2A LOCATION
BOTTOM PCB BOARD



RADIAL MIX J1 & S/C J2/J2A

RADIAL MIX RIGHT J1A LOCATION
TOP PCB BOARD






CAUTION



DO NOT REMOVE OPTO COVER.

THE SC2 ARRIVES FACTORY CALIBRATED. THE UNIT MAY NEED TO BE RECALLIBRATED IF THE COVER IS REMOVED. THE OPTO COVER PROVIDES NOT ONLY PROTECTION FOR THE OPTICAL ELECTRONICS BUT ALSO THE DARK ENVIROMENT REQUIRED FOR THE COMPRESSOR TO FUNCTION CORRECTLY.

Technical Specification

Input impedance	15kohm
Common mode rejection	70dB
Equivalent input noise	-91dBu (unweighted, no make-up gain)
Distortion (THD+N)	0.003% (below Compressor threshold 0dBm Input) 0.002% (below Compressor threshold +15dBm Input)
Frequency response	<10Hz to 40kHz (-3dB) <10Hz to 20kHz (-1dB)
Maximum input level	+22dBu
Max output before clip	+28dBu (10k load)
Nominal output level	+4dBu (electronically balanced)
Output impedance	47 ohm
Compressor threshold	-15dBu to +22dBu (variable)
Compressor ratio	1:1 to 8:1 (variable)
Compressor attack time	1 msec to 20 msec (variable, adaptive)
Compressor release time	0.1 sec to 3 sec (variable, adaptive)
GR / VU Meter	Analogue movement
Output noise floor	-85dBu (typical, unweighted)
I/O connections	XLR: pin 2 +, pin 3 -, pin 1 ground
Current requirement	130mA (maximum) per rail
Size and weight	2 x standard 500 Series, 1.2 kilos

Warranty

LIMITED WARRANTY

THIS PRODUCT IS FOR PROFESSIONAL USE ONLY

Trident Audio warrants that all products will be free from defects in material or workmanship:

- A: For a period of one (1) year from the date of purchase (hereinafter the labor warranty period). Trident Audio will repair or replace this Product if determined to be defective. After the expiration of the labor warranty period, the Purchaser must pay labor charges.
- B: In addition, Trident Audio will supply, at no charge, replacements for defective parts for a period of one (1) year from the date of purchase. During the labor warranty period, to repair the Product, the Purchaser must return the defective Product, freight prepaid, or deliver it to a Trident Audio Service Center. The Product to be repaired is to be returned in either its original carton or a similar package affording an equal degree of protection. Trident Audio will return the repaired Product freight prepaid to the Purchaser. Trident Audio is not obligated to provide the Purchaser with a substitute unit during the warranty period or at any time.

CONDITIONS OF WARRANTY

1. **Notification of claims:** Warranty Service: If Purchaser discovers that the Product has proven defective in material or workmanship, then written notice with a full explanation of the claim shall be given promptly by the Purchaser to Trident but all claims for warranty service must be made within the warranty period. If after investigation Trident determines that the reported problem was not covered by the warranty, Purchaser shall pay Trident for the cost of investigating the problem at it's the prevailing time-and-materials rate. No repair or replacement by Purchaser of any Product or part thereof shall extend the warranty period as to the entire Product. The specific warranty on the repaired part only shall be in effect for a period of ninety (90) days following repair or replacement of that part or the remaining period of the Product warranty, whichever is greater.
2. **Exclusive Remedy:** Acceptance: Purchaser's exclusive remedy and Trident's sole obligation is to supply (and pay for) all labor necessary to repair any product found to be defective within the warranty period and to supply, at no extra charge, new or rebuilt replacements for defective parts. If repair or replacement fails to remedy the defect, then and only in such an event, shall Trident exchange to Purchaser a new or reconditioned unit. Purchaser's failure to make a claim as provided in paragraph 1 above or continued use of the product shall constitute an unqualified acceptance of such Product and a waiver by Purchaser of all claims thereto.
3. **Exceptions to Limited Warranty:** Trident shall have no liability or obligation to Purchaser with respect to any Product subjected to abuse, negligence, accident, modification, failure of the end-user to follow the operating and maintenance procedures outlined in the users manual, attempted repair by non-qualified personnel, operation of the unit outside of the published environmental and electrical parameters, or if such Product's original identification (trademark, serial number) markings have been defaced, altered, or removed. Trident excludes from warranty coverage, Products sold AS IS and/or WITH ALL FAULTS and excludes used products which have not been

sold by Trident to the purchaser. Trident also excludes from warranty coverage consumables such as fuses and batteries, tubes, etc

4. **Proof of Purchase:** The dealer's dated bill of sale must be retained as evidence of the date of purchase and to establish warranty eligibility.
5. **Grey Market:** All warranties apply only to Trident Audio Developments Products purchased and used in the USA, and to Trident Products purchased and used in the UK, EU and all other countries outside of the USA. All warranties apply only to Trident Audio Developments Products originally purchased from an authorized Trident dealer. Trident Product that was not purchased through an authorized and legitimate sales channel is considered "Grey Market". Warranties for Trident Products purchased outside their respective territories will be covered by the Trident Audio Developments Importer for that specific country or region. Products originally sold to the USA market and consequently resold overseas forfeit their warranty as do Trident Products sold outside of the UK and Europe. American Trident Audio Developments Dealers are expressly forbidden to export Trident Products and Trident Distributors and Dealers are expressly forbidden to export to North, South, Central and Latin America. "Grey Market" purchases are not covered by any warranty. In the case that a Trident Audio Developments Product must be returned to the factory from outside its respective territory, customer shall adhere to specific shipping, customs, and commercial invoicing instructions given with the Return Authorization as Trident Audio Developments will not be responsible for transportation costs or customs fees related to any importation or re-exportation charges whatsoever.

DISCLAIMER OF WARRANTY

EXCEPT FOR THE FOREGOING WARRANTIES, TRIDENT AUDIO DEVELOPMENTS HEREBY DISCLAIMS AND EXCLUDES OTHER WARRANTIES, EXPRESS OR LIMITED, INCLUDING BUT NOT LIMITED TO ANY/OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY WARRANTY WITH REGARD TO ANY CLAIM OF INFRINGEMENT THAT MAY BE PROVED IN SECTION 2-312(12) OF THE UNIFORM COMMERCIAL CODE AND/OR IN ANY COMPARABLE STATE STATUTE. TRIDENT AUDIO DEVELOPMENTS HEREBY DISCLAIMS ANY REPRESENTATIONS OR WARRANTY THAT THE PRODUCT IS COMPATIBLE WITH ANY COMBINATION OF NON-PMI AUDIO PRODUCTS PURCHASER MAY CHOOSE TO CONNECT TO THE PRODUCT.

LIMITATION OF LIABILITY

THE LIABILITY OF TRIDENT AUDIO DEVELOPMENTS, IF ANY, AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DAMAGES FOR ANY CLAIM OF ANY KIND WHATSOEVER, REGARDLESS OF THE LEGAL THEORY AND WHETHER ARISING IN TORT OR CONTRACT, SHALL NOT BE GREATER THAN THE ACTUAL PURCHASE PRICE OF THE PRODUCT WITH RESPECT TO WHICH SUCH CLAIM IS MADE. IN NO EVENT SHALL TRIDENT AUDIO DEVELOPMENTS BE LIABLE TO PURCHASER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS OR ANY OTHER REASON WHATSOEVER.

Information in this User Guide is subject to change without notice. No part of this User Guide may be reproduced or transmitted in any form or by any means, electronic, mechanical or by any other means, for any purpose, without the express written permission of Trident Audio Developments.

Trident Audio Developments may have trademarks, copyrights or other intellectual property rights covering the subject matter of this User Guide. Except as expressly provided in any written agreement from Trident Audio Developments, the furnishing of this User Guide is provided for the sole use of the authorized User (or Service Agent where applicable) and does not give the User any license to use any trademarks, copyrights or other intellectual property of Trident Audio Developments.

Product Registration

To register your product please visit

<https://tridentaudiodevelopments.com/product-registration/>

Safety & Environmental



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO AVOID FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPARATUS TO WATER, RAIN OR MOISTURE.

NOTE — This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

ATTENTION — Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le règlement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.

These limits are designed to provide reasonable protection against harmful interference in a commercial/residential installation respectively. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. There is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by any combination of the following measures: (1) Relocate or reorient the receiving antenna (2) Increase the separation between the equipment and the receiver (3) Plug the equipment into an outlet on a circuit different from that to which the receiver is connected (4) Consult your dealer or experienced radio/television technician for additional assistance.

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

STATEMENT OF ROHS COMPLIANCE

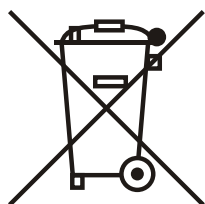


PMI Audio Group manufactures complete electronic products which are covered by the European Union’s “Removal of Hazardous Substances” directive 2002/95/EC (RoHS). This directive seeks to eliminate toxic substances from the manufacturing process, such that when equipment is disposed of at the end of its life

cycle, the materials it contains do not contaminate the environment and pose health risks. Banned substances are lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) and poly-brominated diphenyl ethers (PBDE). Lead is used together with tin in solder connections to reduce the melting point of solder. Lead-free solder requires higher soldering temperatures which in turn places greater thermal stress on components.

PMI Audio Group takes seriously its obligations under the RoHS directive and insists that its factories use only components that are certified RoHS compliant, as well as lead-free solder. In a very few cases the necessary components may not yet be available to the world market but we work continuously to eliminate any such exceptions at the earliest opportunity. Our printed Circuit Boards (PCB’s) and all soldered joints have been leadfree since 2005.

STATEMENT OF WEEE POLICY



PMI Audio Group manufactures many complete electronic products which are covered by the European Union’s “Waste Electric and Electronic Equipment” directive 2002/96/EC (WEEE). This directive seeks to ensure that waste electric and electronic equipment is disposed of in an environmentally responsible manner, at the end of its life cycle. PMI Audio Group takes seriously its obligations under this directive to take back WEEEaffected products and, from 13th August 2005,

will mark all such products with the crossed-out wheeled bin symbol.

Business to Business products: PMI Audio Group will cost-neutrally take back WEEE-affected electric and electronic equipment in this category, from 1st January 2006. PMI Audio Group will work with disposal and recycling partners working within the EU. The waste electric and electronic equipment can then be turned over to a disposal and recycling companies in the countries concerned.

Business to Customer products: emerging electric and electronic equipment will be disposed of by local authorities' collection systems.

Dual Use products: this equipment will be disposed of by local authorities' collection systems.



Registered Trademarks

PMI, PMI AUDIO, TRIDENT AUDIO DEVELOPMENTS, JOEMEEK, and “If it Sounds Right... It is Right” are either registered trademarks or trademarks of PMI Audio Group in the USA and/or other countries.

Workhorse™ is a trademark of Radial Engineering Ltd.

Copyright © 2026 PMI Audio Group. All rights reserved.