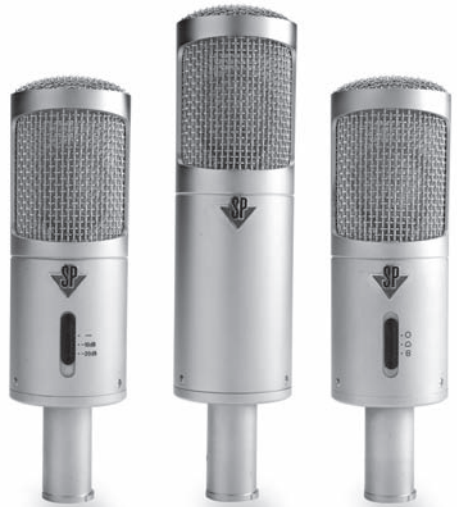
Studio Projects



Studio Projects is manufactured and marketed under the direction of:

PMI AUDIO GROUP

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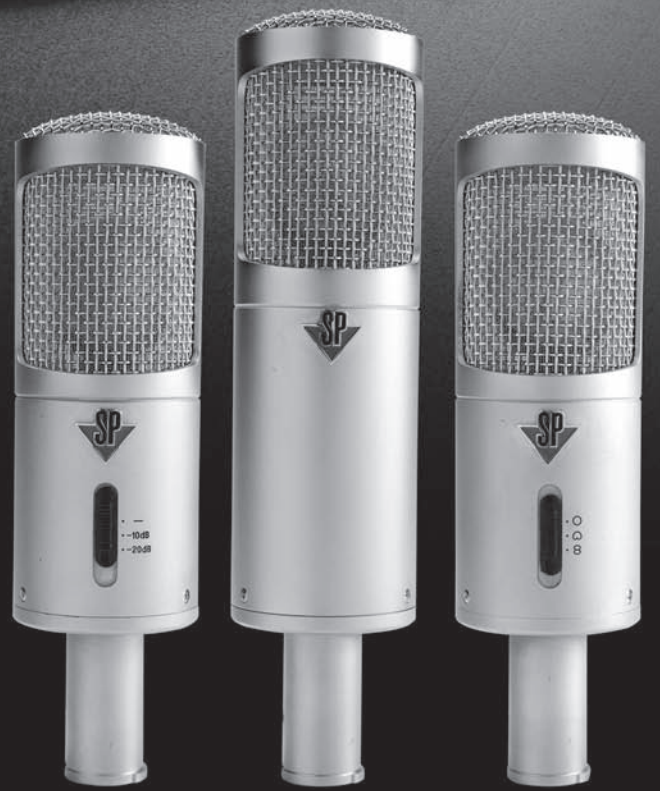
CE

visit our web site at studioprojects.com

B SERIES MICROPHONES

StudioProjects®

- High Quality performance
- Highly durable
- Well suited for project/home studio use
- Active output circuitry (B1 & B3)
- 34mm diameter pressure gradient capsule employing 3um mylar diaphragms
- Low-noise FET impedance converter (B1 & B3)
- Triode impedance converter (TB1)
- Dedicated power supply (TB1)
- Heavy duty road case (TB1)



Studio Projects® Instruction Manual

INSTRUCTION BOOK CONTENTS

WHAT IS STUDIO PROJECTS?

Based in Gardena, California, Studio Projects is a line of microphones and electronics started in 1999 by PMI Audio Group founder, Alan Hyatt. Our line of award winning microphones and preamps is a result of a partnership between PMI Audio and Beijing 797 Audio Co. LTD., a manufacturer of condenser microphones and professional audio products since 1952.

Within the line, there is a broad and evolving range of tools designed to provide the engineer and recordist with a level of sonic quality and durability. Studio Projects continues to prove these goals are not mutually exclusive. It is possible to offer great sounding equipment for those with a modest budget.

If you have any questions or issues at any time, please feel free to contact us by phone or email, or log on to our web forum at http://www.pmiaudio.com/forums/.

GUIDELINES FOR PROPER CARE/USE

Large capsule capacitor mics such as the Studio Projects B-series, are built to handle a fairly substantial degree of abuse. However, one should always consider their investment and treat these mics with delicacy. The capsule itself is by far the most easily damaged component within the microphone. The biggest threat to a capsule is moisture and high humidity. A capsule corrupted by moisture, will lose sensitivity and exhibit a rumbling sound. This is due to the water molecules condensing within the very small gap between the diaphragm and backplate. When this occurs, the two plates cannot properly maintain their electrical charge. The result is that the microphone may become unusable and require repair. Since it is a lot more fun to make recordings than to send your mic to us for servicing, please consider the following:

• Improper vocal recording technique is the primary cause of moisture-related capsule failure. Breathing on the transducer will cause the mylar diaphragm to immediately fog up. If this occurs repeatedly over time, the capsule will most likely short out. This may seem a bit ironic, since the microphones are intended for vocal use, but with proper care and technique, these problems can be avoided. One easy way to prevent moisture from reaching the capsule is to put some distance between the vocalist and the microphone.

A distance of six to twelve inches is acceptable. It is common to see stage performers singing directly into the grill of a handheld unit, but these are generally dynamic microphones, which are much more robust and employ an entirely different operating principle - which is not nearly so susceptible to moisture. Additionally, large diameter capacitor microphones are quite sensitive. It is not necessary to get right up on the grill. Doing so may in fact result in artifacts such as sibilance and popping. For reference, it may be of help to look up a picture of Frank Sinatra or Billie Holiday to observe how these legends placed themselves in relation to their microphones.

• A pop filter is a device, used as an additional layer of protection between vocalist and microphone. Ideally suited for this purpose is the Studio Projects part# SP-MPF. Additional benefits of the use of a pop filter are the reduction of plosives and sibilance. Studio Projects recommends the use of a pop filter for all vocal work where vocalist and microphone are in close proximity.

• Provided with all Studio Projects microphones is a zipper pouch or hard shell case. When not in use, storing the microphones in these provided accessories will help to protect them from moisture, dust, scratches and dents, or if you invest in the Studio Projects Pop Filter, a moisture-proof cover is included to place over the mic and filter at the end of the session.

• A foam windscreen is included with each microphone for use in conditions where wind may interfere with sound pickup. To use, simply slide windscreen over microphone grill. Verify that microphone is properly oriented towards sound source, as it is harder to see which way the mic is facing once the windscreen is in place.

• In the event of the microphone exhibiting loss of signal and or rumbling noise, place it in a warm, low humidity environment, such as the middle of the Sahara desert at high noon,(bring lots of water) or several inches beneath an incandescent light bulb. This will help to remove any moisture. If problems persist, please contact Studio Projects directly using the contact information found in this manual.

ELECTRICAL FEATURES

The B1 and B3 require +48-volt phantom power to operate. Verify that your gain device (preamp, mixing console, etc.) provides this feature. Both microphones are solid state devices with externally polarized transducers, FET impedance conversion circuitry and active outputs. Their individual circuit topologies provide low noise and high sound pressure handling capabilities.

The TB1 employs a separate power supply, which provides power to the microphone. The impedance circuitry is vacuum tube based with externally polarized transducer. The output is balanced, employing a humbucking transformer. The circuit topology provides very high sensitivity, low noise and high sound pressure handling capabilities.

OPERATION

B1 Using a quality male to female 3-pin XLR cable like the Studio Projects SPC-203X, plug microphone in to gain device (preamp, mixing console, etc.), making sure, that +48-volt phantom power is active and gain is not at a level sufficient to cause ear-splitting feedback through monitor speakers. Address microphone from the side (not the top of the grill) above the SP logo badge. If bass cut is required, select one of two featured high pass filters. 150Hz setting will attenuate low frequencies by 6dB/octave starting at 150Hz. The 75Hz. setting will attenuate low frequencies by 6dB/octave at 75Hz. The “pad” switch reduces the signal level between the capsule and the circuitry. Engage -10dB or -20dB pad for very high sound pressure levels, which may otherwise overload microphone circuitry, causing distortion.

B3 Using a male to female 3-pin XLR cable like the Studio Projects SPC-203X,, plug microphone in to gain device (preamp, mixing console, etc.), making sure, that +48-volt phantom power is active and gain is not at a level sufficient to cause ear-splitting feedback through monitor speakers. Address microphone from the side (not the top of the grill) above the SP logo badge. If bass cut is required, select 150Hz high pass filter. The “pad” setting reduces the signal level between the capsule and the circuitry. Engage -10dB pad for very high sound pressure levels, which may otherwise overload microphone circuitry, causing distortion.
Use the three-way switch on the front of the B3, below the SP logo, to adjust the directional characteristics of the microphone between omnidirectional, cardioid and figure of eight:
• Omnidirectional (O-shaped nomenclature): Sound from all directions is picked up by microphone without any side or rear attenuation.
• Cardioid (Heart-shaped nomenclature): Some attenuation of sound occurs on sides and rear of microphone.
• Figure of eight: Very significant attenuation of sound pickup on sides of microphone. Front and rear of microphone pick sound up equally, but 180° out of phase from one another.

TB1 Plug power supply into ac receptacle. Connect 3-pin male to female XLR cable to output jack on front of power supply like the Studio Projects SPC-203X,. Use included 7-pin XLR cable to connect microphone to power supply or the like the Studio Projects SPC-207X,. Ensuring that gain device (mixing console, preamp, etc.) is not at a sufficient level to cause ear-splitting feedback. Turn on microphone power supply. Address microphone from the side (not the top of the grill) above the SP logo badge.

*Note – Power supply has 110v/240v switch. Ensure that switch is set to proper AC voltage for your region. This switch is set at the factory at the time of manufacture according to region, but a microphone purchased used, for instance, may have the incorrect voltage setting. *Another note – The presence of or lack of +48- volt phantom power will not affect operation of TB1.

TROUBLESHOOTING TIPS

No Sound Whatsoever:
All B-series microphones require external voltage in order to operate. Verify that +48-volt phantom power (B1& B3) is present. For TB1, ensure that power supply is properly connected and power is on.

Still No Sound (B1&B3):
Make sure microphone cable is XLR male to XLR female and connect only to inputs labeled “Mic In”, or “Microphone”, etc.

The Back Of My B3 Sounds Different From The Front When Set To Figure Of Eight:
Are you monitoring with headphones while talking into the mic? If so, the back of the mic will sound strange. This is because the rear diaphragm of the microphone takes the sound of your voice and flips it 180° out of phase. Meanwhile, the lower frequency range of your voice travels in phase along your jaw line to your ears. When the out of phase signal from the headphones meets the in-phase signal from your ears, the two signals are phase cancelled. Since this effect only occurs during the conditions described above, it will not affect recordings.

Mic Clip Looks As If It Should Fit On Mic Stand, But For Some Reason, It Will not Screw On:
There are two standard thread sizes for mic stands, 5/8-27 and 3/8-16. Studio Projects shockmounts ship with a brass reducer installed, which allows for the 3/8-16 threads. For use with 5/8-27 mic stand threads, unscrew adapter from shockmount, using a small coin as a screwdriver. Keep track of adapter when not in use – you never know when you may need it…

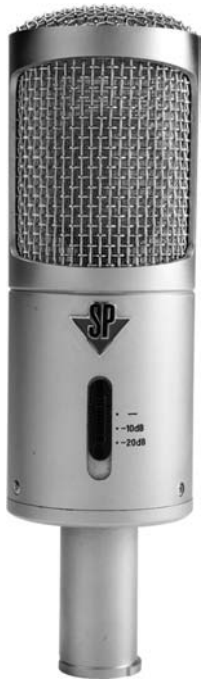
ORIGINS AND MANUFACTURE

Studio Projects Microphones are assembled in Beijing, China by 797 Audio to a specification created by Studio Projects, Gardena, California. All Studio Projects microphones are inspected and tested at the factory. Studio Projects microphones meet the requirements of electronic equipment sold in the USA, Canada, and the European Union. All Studio Projects products are CE Approved, and meet the new RoHS and WEEE requirement.

APPLICATIONS

- Close miking of instruments with high sound pressure levels
- Announcer’s mic for broadcasting/dubbing
- Home recording and project studios
- Vocalist recording
- Spot mic for: wind instruments, strings, percussion and guitar amps.

B1

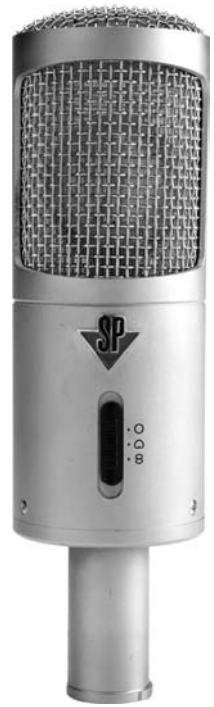


The Studio Projects B1 is an externally polarized cardioid pressure gradient transducer microphone with FET impedance converter. Diaphragm material is 3µm mylar for natural reproduction of vocals and instruments. It features dual selectable pads and high pass filters for a total of nine possible modes of operation. The output circuitry is active and is capable of driving long cable runs. The B1 is useful for all manner of recording work and music styles.

B1 SPECIFICATIONS

Sensitivity:	-34dB,(0dB=1V/Pa)
Polar pattern:	Cardioid.
Frequency response:	20~20000Hz.
Noise level:	12dB-A (IEC651).
S/N ratio:	82 dB.
Max. Output:	3.3V 0.5% THD @1000Hz at 1KOHM load impedance.
Max. SPL:	137 dB
Power requirement:	48 +/- 4V, 3mA.
Accessories:	Shockmount, Foam Windscreen.

B3



The Studio Projects B1 is an externally polarized cardioid pressure gradient transducer microphone with FET impedance converter. Diaphragm material is 3µm mylar for natural reproduction of vocals and instruments. It features a selectable pad and high pass filters as well as three directional pattern settings: omnidirectional, cardioid and figure of eight. The output circuitry is active and is capable of driving long cable runs. The B3 is useful for all manner of recording work and music styles.

B3 SPECIFICATIONS

Sensitivity:	14/16/18mV/Pa (Omni/Cardioid/Figure 8) (-37/-36/-35dB @1000Hz)
Polar pattern:	Cardioid, Omni, Figure 8.
Max. Output:	2.5V rms @1000Hz,<1% THD.
Max. SPL:	137 dB SPL (Cardioid) @1000Hz,<1% THD.
Noise Level:	14 dB-A (IEC651) Cardioid
S/N ratio:	80 dB.
Recommended Input Impedance:	1200 OHMs
Power requirement:	48V +/-4V.
Current:	2.5mA.
Accessories:	Shockmount, Foam Windscreen

TB1

The Studio Projects TB1 is an externally polarized cardioid pressure gradient transducer microphone with a vacuum tube based impedance converter. Diaphragm material is 3µm mylar for natural reproduction of vocals and instruments. The TB1 features a humbucking output transformer for balancing the microphone signal and driving long cable runs.

Included with the microphone is a shockmount, external power supply with AC cord, dedicated 7pin XLR cable, and hard shell road case.

TB1 SPECIFICATIONS

Type:	Large Diaphragm Vacuum Tube Condenser Microphone
Sensitivity:	27mV/Pa (-32db re 0dB=1V/Pa).
Max. Output:	500mV rms (@1000Hz,<1% THD).
Max. SPL:	120 dB SPL(@1000Hz,<1% THD).
Noise Level:	16 dB-A.
S/N ratio:	78 dB
Power requirement:	100v/240v AC
Current:	200V 1mA, 6.3V 150mA.
Accessories:	Mic Clip clamp, Power Supply, Power Cable, Mic Cable (7 Pin, 5m), Hard Shell Carrying Case.

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 polybrominated 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 leadfree 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 lead-free 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 WEEE-affected 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.

IMPORTANT SAFETY INFORMATION

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 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.

This appliance has a serial number located on the rear panel. Please record the model number and serial number and retain them for your records.

Model number _____

Serial number _____

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 las limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le réglement 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.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water. Do not expose to drips or splashes. Do not place any objects filled with liquids, such as vases, on the apparatus.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Do not install this apparatus in a confined space such as a book case or similar unit. Install only in racks designed for the purpose and in accordance with manufacturers' instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including 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 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 a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

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, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus designed with Class-I construction must be connected to a mains socket outlet with a protective earthing connection (the third grounding prong).
16. This apparatus may be equipped with a single-pole, rockerstyle AC mains power switch. If so this switch is located on the front panel and should remain readily accessible to the user.
17. The manufacturer reserves the right to change the technical specification of the product without prior notice.

NOTES

STUDIO PROJECTS LIMITED WARRANTY

THIS PRODUCT IS FOR PROFESSIONAL USE ONLY

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

A: For a period of (2) two years from the date of purchase (hereinafter the labor warranty period) to the original registered owner, PMI Audio Group will repair or replace this Product if determined to be defective from manufacturer. After the expiration of the labor warranty period, the Purchaser must pay all labor charges.

B: In addition, PMI Audio Group will supply, at no charge, replacements for defective parts for a period of (two years) from the date of purchase. During the labor warranty period, to repair the Product, Purchaser must return the defective Product, freight prepaid, or deliver it to PMI Audio Group 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 production. PMI Audio Group will return the repaired Product freight prepaid to the Purchaser(48 States Only). PMI Audio Group is not obligated to provide Purchaser with a substitute unit during the warranty period or at any time.

CONDITIONS

1. Notification of claims: Warranty Service: If Original Purchaser discovers that the Product has proven defective in material or workmanship, then written notice with an explanation of the claim shall be given promptly by Purchaser to PMI but all claims for warranty service must be made within the warranty period. If after investigation PMI determines that the reported problem was not covered by the warranty, Purchaser shall pay PMI for the cost of investigating the problem at its then 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 the repair or replacement of that part or the remaining period of the Product warranty, whichever is greater. Your original sales receipt is required.

2. Exclusive Remedy: Acceptance: Purchaser's exclusive remedy and PMI's sole obligation is to supply (or 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 PMI 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: PMI shall have no liability or obligation to Purchaser with respect to any Product subjected to abuse, improper use, 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 products original identification (trademark, serial number) markings have been defaced, altered, or removed. PMI excludes from warranty coverage, Products sold AS IS and/or WITH ALL FAULTS and excludes used products which have not been sold by PMI to the Purchaser. PMI also excludes from warranty coverage consumables such as fuses and batteries, etc.

4. Proof of purchase: The dealer's dated bill of sale must be retained as evidence or the date of purchase and to establish warranty eligibility.

DISCLAIMER OF WARRANTY

EXCEPT FOR THE FORGOING WARRANTIES, PMI HEREBY DISCLAIM S AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR LIMITED, INCLUDING, BUT NOT LIMITED TO ANY/OR ALL IMPLIED WARRANTIES OF MERCHANT ABILITY, FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY WARRANTY WITH REGARD TO ANY CLAIM OF INFRINGEMENT THAT MAY BE PROVED IN SECTION 2-312(3) OF THE UNIFORM COMMERCIAL CODE AND/OR IN ANY COMPARABLE STATE STATUE. PMI 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 ON LIABILITY

THE LIABILITY OF PMI, 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 PMI 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.

OWNERS REGISTRATION CARD

TO BE COMPLETED AT TIME OF PURCHASE

Name _____

Date of Purchase _____

Serial Number _____

Dealer's Name _____

RETAIN FOR YOUR RECORDS

PLEASE DISPATCH AND RETURN YOUR REGISTRATION TO STUDIO PROJECTS WITHIN 14 DAYS OF PURCHASE

STUDIO PROJECTS
DISTRIBUTED BY PMI AUDIO GROUP

1845 W. 169th Street
Gardena, CA 90247 USA

Place Stamp Here

Studio Projects

PRODUCT REGISTRATION INFORMATION
PLEASE FILL IN THE BELOW SECTIONS AND RETURN

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone Number: _____ email Address: _____

Model Purchased: _____ Date Purchased: _____

Serial Number: _____ Dealer: _____

Comments: _____

_____

What magazines do you read to influence your buying decision: (please check all that apply)

❑ MIX ❑ Electronic Musician ❑ EQ ❑ Home Recording ❑ Pro Audio Review ❑ Recording ❑ Pro Sound News