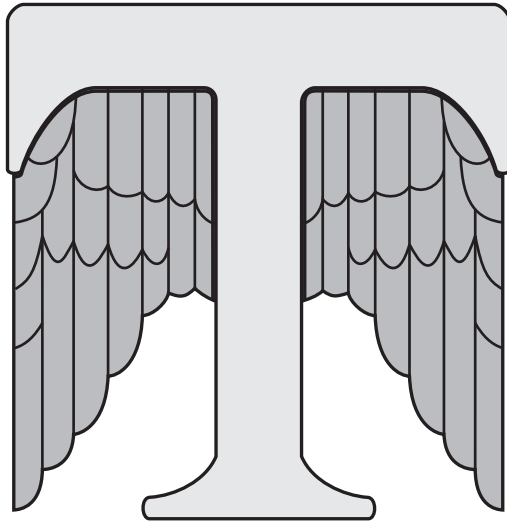


THETA DIGITAL



Dreadnaught D

Owner's Manual

PREFACE

CONGRATULATIONS

The Dreadnaught D modular amplifier is among the most advanced available. By combining high-power linear power supplies and the Class D, N-Core NC-1200 amplifier modules, Theta Digital's has delivered an amplifier that closely approaches the theoretical ideal: a straight wire with gain.

IMPORTANT

Save all packaging in a dry place away from fire hazards. Your Dreadnaught D is a precision electronic instrument and should be properly packaged any time shipment is made. In the unlikely event that you have to return your Dreadnaught D to the factory for service, or if you send it to us for updating, the original packaging will best protect the unit from shipping damage.

In order to achieve the fullest flexibility and enjoyment from your Dreadnaught D, we at Theta recommend that you read this manual in full before connecting the unit to your audio/video system.

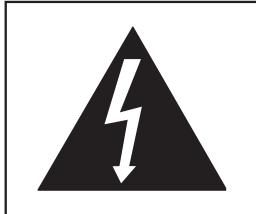
Note: It is imperative that the Dreadnaught D be operated in a well-ventilated environment and the immediate external temperature be maintained as specified. External cooling fans may be required in some cases. Do not stack any equipment directly above or below the Dreadnaught D to protect it from overheating, as well as the continued functionality of any equipment near and around it.

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<http://www.thetadigital.com>

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	CAUTION RISK OF ELECTRICAL SHOCK DO NOT OPEN	
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICABLE 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 significant 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 product.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE AC (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

Extension cords are not recommended for use with this product.

Dreadnaught D Identification Record

This information is for your records and for future identification of the Dreadnaught D. Please take a moment to fill out all pertinent data now, and as upgrades and/or options are installed. Whenever upgrades, inquiries and/or changes are requested, the serial number will be required.

SERIAL NUMBER _____

DATE PURCHASED _____

DEALER'S NAME _____

DEALER'S ADDRESS/PHONE _____

INSTALLED CARDS/OPTIONS _____ *(Date of installation)*

_____ *(Date of installation)*

_____ *(Date of installation)*

_____ *(Date of installation)*

_____ *(Date of installation)*

_____ *(Date of installation)*

_____ *(Date of installation)*

SAFETY PRECAUTIONS

Please carefully read each item of the operating instructions and safety precautions before installing and using this product. Use extra care to follow the warnings written on the product itself and/or in the operating instructions. Keep the operating instructions and safety precautions for future reference.

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE ANY OF THE COVER PANELS.

NO USER-SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT ALLOW LIQUIDS TO SPILL OR OBJECTS TO FALL INTO ANY OPENINGS OF THE PRODUCT.

THIS UNIT IS SUPPLIED WITH A TWO 3 PIN GROUNDED AC PLUGS. ALWAYS INSERT THE AC PLUG INTO A GROUNDED OUTLET. DO NOT REMOVE THE GROUND PIN OR DISABLE THE GROUND FOR ANY PURPOSE.

BEFORE MAKING ANY CONNECTIONS TO THE DREADNAUGHT D, FIRST TURN OFF THE POWER AND THEN DISCONNECT THE AC POWER CORD.

WHEN INSTALLING THE DREADNAUGHT D IN YOUR SYSTEM, MAKE CERTAIN TO ALLOW A MINIMUM OF ½ INCH OF VENTILATION ON EACH SIDE OF THE UNIT. ALSO ALLOW AT LEAST 3 INCHES OF VENTILATION SPACE ABOVE THE UNIT. IMPROPER VENTILATION OF THE UNIT MAY CAUSE OVERHEATING, WHICH MAY DAMAGE THE UNIT AND CAUSE A FIRE. PLACE THE UNIT ON A SOLID SURFACE ONLY. I.E. NOT ON CARPET, ETC.

DO NOT PLACE THE DREADNAUGHT D NEAR HEAT SOURCES SUCH AS DIRECT SUNLIGHT, STOVES, HEAT REGISTERS, RADIATORS OR OTHER HEAT PRODUCING EQUIPMENT.

TO PREVENT DAMAGE TO THE ANALOG OUTPUT CIRCUITRY, BE CERTAIN NOT TO SHORT THE OUTPUT SIGNAL TO GROUND. ENSURE THAT YOUR AUDIO OUTPUT CABLES DO NOT HAVE ANY INTERNAL SHORTS BEFORE CONNECTING THEM TO THE DREADNAUGHT D.

IF REPLACEMENT OF THE AC LINE FUSE AND/OR ANY INTERNAL FUSE BECOMES NECESSARY, REPLACE ONLY WITH SAME VALUE AND TYPE OF FUSE. NEVER BYPASS THE FUSE.

IF THE AC CORD BECOMES DAMAGED, DO NOT USE IT. IMMEDIATELY REPLACE IT WITH A NEW ONE OF THE SAME OR BETTER RATING.

IT IS IMPERATIVE THAT THE DREADNAUGHT D BE OPERATED IN A WELL VENTILATED ENVIRONMENT AND THE IMMEDIATE EXTERNAL TEMPERATURE BE MAINTAINED AS SPECIFIED. EXTERNAL COOLING FANS MAY BE REQUIRED IN SOME CASES. DO NOT STACK ANY EQUIPMENT DIRECTLY ABOVE OR BELOW THE DREADNAUGHT D AS TO PROTECT IT FROM OVERHEATING, AS WELL AS THE CONTINUED FUNCTIONALITY OF ANY EQUIPMENT NEAR AND AROUND IT.

AFTERMARKET and THIRD PARTY MODIFICATIONS

Please note that any aftermarket and/or third party modifications will void the warranty. In the case of changing the feet on a unit, in order to prevent any damage (which will also not be covered under warranty), please verify that the screws being used to secure non-Theta feet do not screw any deeper into the chassis than the original ones. The original screw is 1/4-20 by 1/2 and goes into the chassis 1/4 inch.

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INTRODUCTION

Getting to know your Dreadnaught D

This Dreadnaught D has been put through a rigorous and unique testing procedure that ensures that it will last for many years with minimal service requirements. This procedure includes the following:

- All assembled circuit boards are given a thorough visual inspection and are then tested in a bench-reference Dreadnaught D.
- The tested, assembled circuit boards are then installed in a new Dreadnaught D and the whole unit is tested for every function and parameter.
- The unit is put on a burn-in torture rack to test for any possible component failures.
- It is then tested on an audio analyzer for all pertinent parameters.
- The unit has all remaining chassis components installed and then undergoes a complete visual inspection, which assures that all Dreadnaught D's meet visual specifications.
- The Dreadnaught D then undergoes a critical listening and functional test.

Burn-In Time

While the Dreadnaught D amplifier will sound wonderful without any burn-in time, users may experience small sonic improvements during the first week or so of operation.

Reference Manual Conventions

For clarity purposes, references to buttons and LED's will be shown in bold capital letters.

IMPORTANT NOTICE

- I. It is imperative that the Dreadnaught D be connected to a ground via its three wire AC power cord. It is important that the AC power outlet, which the Dreadnaught D is plugged into, is actually grounded. Failure to do so will severely compromise the performance, reliability and safety of use of the Dreadnaught D.
- III. Ventilation is an important issue when placing the Dreadnaught D in a system. Make certain that the Dreadnaught D is placed in a well-ventilated area or rack unit.
- IIII. Please take note that some powerline conditioners defeat the AC power ground on their outlets. If the intention is to plug the Dreadnaught D into a line conditioner, check with your dealer to make certain that the particular conditioner that is intended for use DOES NOT DEFEAT THE AC GROUND on its AC outlets. Only the highest powered line conditioners should be considered for use with the Dreadnaught D. Otherwise, the amplifier's power output may be compromised.
- IV. DO NOT remove any cover panels from the Dreadnaught D, as there are no user serviceable components inside. Refer servicing and updating to qualified service personnel only.
- V. Endcaps on all unused RCA inputs will improve the sound quality and may reduce the susceptibility to RF induced anomalies.
- VI. It is imperative that the Dreadnaught D be operated in a well ventilated environment and the immediate external temperature be maintained as specified in Appendix B of this manual. External cooling fans may be required in some cases. Do not stack any equipment directly above or below the Dreadnaught D, to protect it from overheating, as well as the continued functionality of any equipment near and around it.

Front Panel Layout



Figure 1a - Front Panel Layout

1. **STANDBY button.** After the left-hand (when viewed from the front of the amplifier) rear-panel **POWER** switch is turned on, press the front panel **STANDBY** button to exit the standby mode. The channels in the two left most slots (when viewed from the front of the amplifier) will come out of standby. The channels in the two right-hand slots (when viewed from the front of the amplifier) are controlled by the right-hand rear-panel **POWER** switch. If both rear-panel **POWER** switches are turned on, the **STANDBY** button will control all 4 rear-panel amplifier slots.
2. **STANDBY LED.** Illuminates RED when the amplifier enters the Standby mode. Illuminates GREEN when the amplifier is in the turn-on sequence. Illuminates BLUE when the amplifier is ready for normal operation.
3. **PROTECT LED.** Illuminates if the unit enters the protection mode. This can be caused by a short circuit in any of the channels or by an over-temperature operating condition.

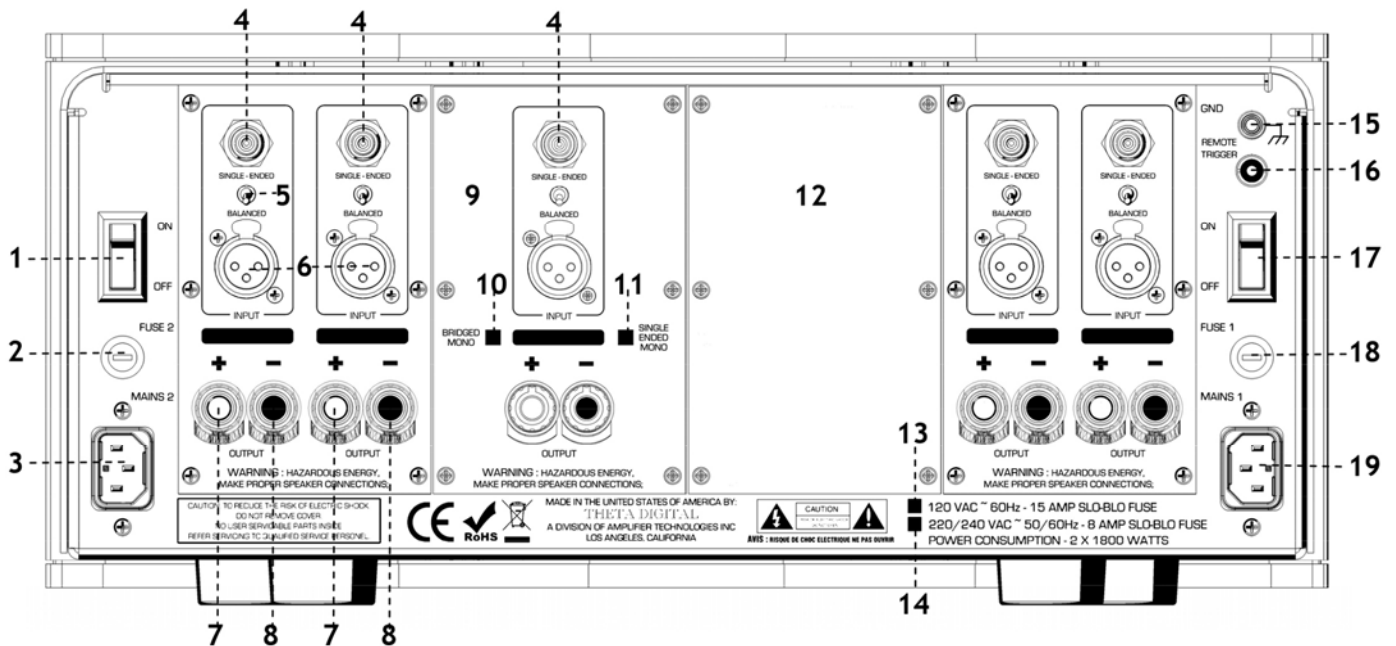
Front Panel Layout - Rackmount Option



Figure 1b - Rackmount Front Panel Layout

1. **STANDBY button.** After the left-hand (when viewed from the front of the amplifier) rear-panel **POWER** switch is turned on, press the front panel **STANDBY** button to exit the standby mode. The channels in the two left most slots (when viewed from the front of the amplifier) will come out of standby. The channels in the two right-hand slots (when viewed from the front of the amplifier) are controlled by the right-hand rear-panel **POWER** switch. If both rear-panel **POWER** switches are turned on, the **STANDBY** button will control all 4 rear-panel amplifier slots.
2. **STANDBY LED.** Illuminates RED when the amplifier enters the Standby mode. Illuminates GREEN when the amplifier is in the turn-on sequence. Illuminates BLUE when the amplifier is ready for normal operation.
3. **PROTECT LED.** Illuminates if the unit enters the protection mode. This can be caused by a short circuit in any of the channels or by an over-temperature operating condition.

Rear Panel Layout



2 - Rear Panel Layout showing both single and two channel modules installed

- 1 & 17. MAIN POWER Switches. (#17 is the Master Power Switch. Neither side of the amplifier will operate if this switch is set to off.) #1 controls the left-hand amplifier slots and disconnects AC to all circuits. It is recommended that this be left ON at all times during regular use with the exception of whenever cables are connected/disconnected or when the unit will to be used for an extended period of time.
- 2 & 18. Rear panel FUSE. If necessary to replace, use same type and rating only.
- 3 & 19 IEC POWER INLETS. Attach supplied line cord to these receptacles.
4. SINGLE ENDED (RCA) INPUT JACK
5. INPUT SELECTOR SWITCH. Selects the single ended (RCA) or the balanced (XLR input).
6. BALANCED (XLR) INPUT JACK.
7. POSITIVE BINDING POST. Connects to the + (plus) speaker connector. The binding posts can accept spade lugs, banana plugs or bare wire.
8. NEGATIVE BINDING POST. Connects to the - (minus) speaker connector
9. MONO AMPLIFIER MODULE. There are two single channel amplifier modules available for the Dreadnaught D. One has a single NC-1200 N-Core amplifier card installed. The other offers bridged mono performance using two NC-1200 N-Core cards. Please see items 10 and 11 for markings as to which is installed in your Dreadnaught D.
10. BRIDGED MONO AMPLIFIER INDICATOR. A green mark here indicates the use of a bridged mono amplifier module.
11. SINGLE MONO AMPLIFIER INDICATOR. A green mark here indicates the use of a mono amplifier module.
12. BLANK COVER PLATE. Used when no amplifier module is installed in the amplifier slot.
13. 120V INDICATOR. A green mark here denotes the amplifier is ready for 120 V operation.

14. **220 - 240V INDICATOR.** A green mark here denotes the amplifier is ready for 220 to 240 V operation.
15. **GROUNDING LUG.** Used to interconnect chassis of associated components if necessary.
16. **REMOTE TRIGGER.**
17. **MASTER POWER SWITCH.** Disconnects AC to all circuits. If power switch 1 is set to OFF, controls the right hand amplifier slots only. It is recommended that this be left ON at all times during regular use with the exception of whenever cables are connected/disconnected or when the unit will not be used for an extended period of time.
18. **Rear panel FUSE.** If necessary to replace, use same type and rating only.
19. **IEC POWER INLET.** For the right-hand power supply. Attach supplied line cord to this receptacle.

OPERATION

Before turning on the Dreadnaught D, ensure that all precautions and warnings have been carefully reviewed and adhered to. Damage to the Dreadnaught D caused by improper operation, wiring and/or ventilation will not be covered under warranty and Theta will not be liable for any consequential damage or loss.

After the main rear power switches are turned on, the amp goes into Standby. The amplifier is completely off, save for a very small (and low power) supply to power the soft start circuit. When the Standby button is pressed, the soft start sequence begins and the LED turns green. Several relay clicks may be heard while the amplifier readies itself for operation. When the turn-on sequence is complete the LED will illuminate blue and the amp will be fully on. Pressing the Standby button again takes the amp directly into the standby mode.

Single and Two channel Modules

The 4 slots of the Dreadnaught D can be loaded with any combination of 4 modules. Those available are single (mono), two channel (stereo) and bridged (mono). Each module can be inserted into any of the four rear-panel slots.

<p>Note: The speaker output polarity on the single channel modules is identical to the polarity of the stereo module. The maximum spade lug thickness for any module is 1/16"</p>
--

Remote Triggers

Use the remote trigger to connect to a compatible preamplifier, source device or other product with 5 to 12 VDC output. When so interconnected, the Dreadnaught D will turn on and off in response to the signals received from the source device. The trigger circuit requires a steady-state signal. Units that send a pulse signal for turn-on and turn-off will not work with the Dreadnaught D.

Appendix A Troubleshooting Guide

If the Dreadnaught D should function abnormally during operation, please review the items in the following checklist. Please be sure to thoroughly check all other connected components such as speakers, preamplifiers, as well as cables.

Symptom	Possible Cause(s)	Remedy
No power or front panel lights and no sound.	Power cable is not inserted 100% into AC input connector.	Ensure that the AC cord is inserted all the way into the Dreadnaught D and that the wall outlet is active.
	Rear panel fuse is open.	Replace with same type and rating ONLY.
	Circuit breaker is open (AC outlet).	Check the AC outlet circuit breaker and reset, if necessary, or contact your dealer.
No audio output.	Overheating	If the front panel PROTECT LED illuminates, this could indicate overheating. Shut down the Dreadnaught D until in cools. This should be a very rare occurrence. If it does happen, an external fan may be required

Appendix B Specifications

Analog Audio Inputs	1 Single-ended RCA jack per channel. 1 Balanced (XLR) jack per channel
Input Impedance	47 kOhms. Single-ended or Balanced for each phase
Input Sensitivity	(Single-Ended) 1.825 V RMS input for 225W into 8 ohms (Balanced) 1.825V RMS input for 225W into 8 ohms
Gain	(Single-Ended or Balanced) 27.8 dB
Polarity	(Single-Ended) Non-Inverting (Balanced) Pin-2 = Positive, Pin-3 = Negative for Non-Inverting Output
Analog Audio Outputs	One balanced output with 5-way binding posts per channel
Modes /Process	Standby: Amplifier is ready to be turned on via front panel switch or remote trigger. Overcurrent, D.C., and/or thermal protection: Amplifier will cycle. Catastrophic D.C. or output stage failure: Amplifier will shut down.
Power Output Mono or Stereo Module	8 ohms: 225W RMS per channel with less than 0.05% THD from 20 Hz to 20 kHz 4 ohms: 375W RMS per channel with less than 0.05% THD from 20 Hz to 20 kHz 2 ohms: 500W RMS per channel with less than 0.05% THD from 20 Hz to 20 kHz
Mono Bridged Module	8 ohms: 500W RMS per channel with less than 0.05% THD from 20 Hz to 20 kHz 4 ohms: 800W RMS per channel with less than 0.05% THD from 20 Hz to 20 kHz Not recommended for operation below 3 ohms.
Frequency Response	+0, - .5 dB 0 Hz to 20 kHz, load independent
Damping factor	>6000 at 100 Hz; >2000 at any frequency up to and including 20 kHz
Signal to noise ratio	120 dB referenced to rated output (A-Weighted)
Crosstalk	> 85 dB
Power Requirements	117V AC, 15A Slo Blo main fuse; 230V AC 8A Slo Blo main fuse; 50/60 Hz
Power Consumption	Less than 1W at Standby; <80W at idle; 1500W maximum x 2 when fully loaded
Trigger Input	5-12 VDC; Steady State
Dimensions (W x H x D)	17 5/8" x 7 15/16" x 19 3/4"; 448 mm x 202mm x 502 mm
Weight (fully loaded)	98.5 lbs; 44.8 kG

90 DAY LIMITED WARRANTY TERMS AND CONDITIONS
(5 Year optional extended service contract)

1. Theta Digital, henceforth referred to as Theta, warrants the product designated herein to be free of manufacturing defects in material and workmanship, subject to the conditions set forth herein, for a period of 90 days from the date of purchase by the original purchaser, henceforth referred to as purchaser. If the purchaser registers the unit with Theta by mailing in the warranty card, together with a copy of the bill of sale, within 14 days of the date of purchase, said purchaser will be registered for an extended service contract. Product registration may also be completed by going to Theta Digital's website at http://www.thetadigital.com/product_registration.asp. The extended service contract extends the 90 days to a period of 5 years from the date of purchase by the original purchaser or no later than 7 years from the date of shipment to the authorized Theta dealer, whichever comes first.

2. **CONDITIONS**

This warranty is subject to the following conditions and limitations. The warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner's manual, abused or misused, damaged by accident or neglect or in being transported, or if the defect is due to the product being repaired or tampered with or modified by anyone other than Theta or an authorized Theta repair center. In the unlikely event that the unit requires service, contact Theta for an RA (Return Authorization) number. The product must be packed and returned to Theta or an authorized Theta repair center by the customer at his or her sole expense. Theta will pay return freight of its choice. A returned product must be accompanied by a written description of the defect, a photocopy of the original purchase receipt, and a daytime phone number where the owner can be reached. The unaltered receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorized dealer and the purchase price. Theta reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.

3. **REMEDY**

In the event the above product fails to meet the warranty, and the above conditions have been met, the purchaser's sole remedy under the limited warranty shall be to obtain an RA number and return the product to Theta or an authorized Theta repair center where the defect will be rectified without charge for parts or labor.

4. **LIMITED TO ORIGINAL PURCHASER**

This warranty is for the sole benefit of the original purchaser of the covered product and shall not be transferred to a subsequent purchaser of the product.

5. **DURATION OF WARRANTY**

This warranty expires 90 days after the date of original purchase. If Theta receives the completed warranty registration card within 14 days of original purchase, this period is extended to the fifth anniversary of the original date of purchase or no later than the seventh anniversary of the shipment to the authorized Theta dealer, whichever comes first.

6. **MISCELLANEOUS**

ANY IMPLIED WARRANTIES RELATING TO THE ABOVE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS WARRANTY. THE WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

7. **WARRANTOR**

Inquiries regarding the above limited warranty may be sent to the following address:

Theta Digital
1749 Chapin Road
Montebello CA 90640 USA

WARRANTY OUTSIDE THE USA and Canada

Theta has formal distribution in many of the countries of the free world, in each country the Theta Importer has contractually accepted the responsibility for product warranty. Warranty service should normally be obtained from the importing dealer or distributor from whom you obtained your product.

WARNINGS

1. To prevent fire or shock hazard, do not expose your Theta product to rain or moisture.
2. This unit contains voltages which can cause serious injury or death. Do not operate with covers removed. Refer all servicing to your authorized Theta dealer.
3. For continued protection against fire hazard, replace fuses only with the same type and rating of fuses as specified.