



**Magnum Dynalab MD 108T
ANALOG FM TUNER**

INSTRUCTION MANUAL

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A Message From the President

Thank you for choosing the Magnum Dynalab “*MD 108 T*” Triode FM Tuner, one of our finest FM tuners. Great care has been given in the design, manufacturing and selection of components for the “*MD 108 T*” Tuner in order to ensure many years of listening enjoyment.

The MD 108 T is the culmination of years of research and development. We have expended considerable effort at every phase of the design process to achieve the highest level of performance. The MD 108 T uses our proprietary TRACC (Triode Reference Audio Control Center) technology creating the most transparent listening experience possible. Special torroidal transformers for the RF section, as well as a separate large torroidal transformer for the audio stage, were chosen because of their high performance characteristics.

We appreciate your decision to purchase the MD 108 T FM tuner. Please feel free to contact us if you have any comments or suggestions on improving your FM listening experience. Call us on our toll free number, 1-800-551-4130 or contact us via email at: info@magnumdynalab.com. We at Magnum Dynalab are here to serve your source audio source needs.

Respectfully yours,
Larry Zurowski

President

UNPACKING YOUR MD 108 T

Carefully inspect all sides of the shipping carton for damage. If there are marks or holes in the carton make note of the location in relation to the unit inside. Any obvious dents or scuff marks should alert you to the possibility of damage. Open the top flaps and carefully lift the transport case out of the carton. Carefully remove the MD 108 T from the end caps and wrapping, inspect all sides. Pay special attention to the corresponding areas on the unit where damage was found to the shipping carton. If damage is evident, document the type and extent of the damage, then repack the unit and call the dealer.

If your unit was delivered by a common carrier (Eg. UPS) and you have found it to be damaged, contact the carrier immediately for instructions.

KINDLY DO NOT SEND THE UNIT BACK TO THE SHIPPER UNTIL YOU HAVE BEEN ASKED TO DO SO. SHIPPING THE UNIT BACK PREMATURELY MAY VOID ANY CLAIM FOR DAMAGE THAT YOU MAY HAVE.

DO NOT DISCARD THE PACKING MATERIALS AND CARTONS. Should there be a necessity to return the unit for any reason, it must arrive safely and suitably packaged in order for our receiver to accept it from the carrier. Also, if the unit has incurred damage as a result of improper packaging, it is not likely that a claim for the damage against the carrier will be successful.

Likewise, we will ship your unit back to you only in factory-approved packaging. However, if the unit were to arrive at the factory on anything other than factory approved packaging, we reserve the right to return same in factory-approved packaging and charge the cost of the packaging to the shipper. This is the only way we can assure you of a safe return (damage by carrier excepted).

CONTROL FUNCTIONS

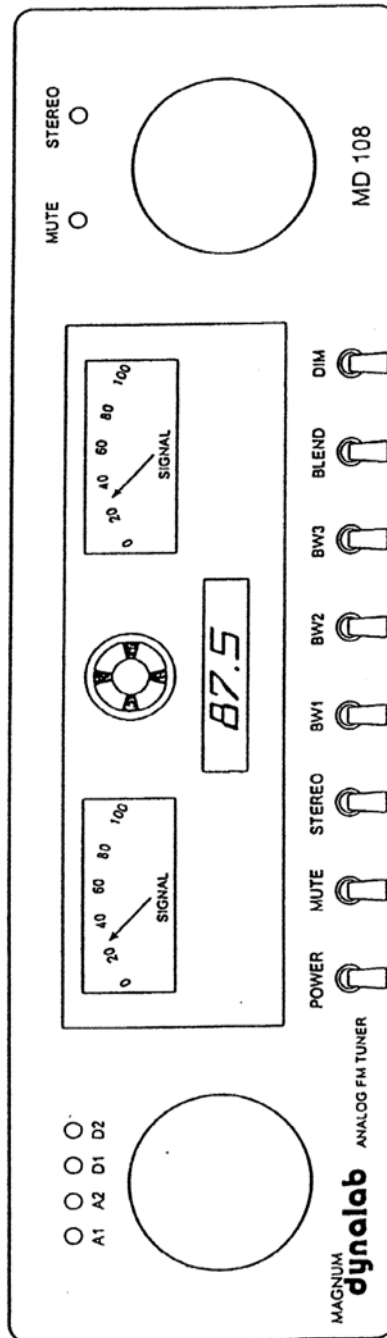
The front panel controls consist of the following functions (Each function is clearly displayed on the *Front Panel Display* illustration on the following page):

- A. **POWER:** Controls the power to all display functions. All functions are kept in stand-by mode. Any LEDs on the front that are lit will stay lit.
- B. **MUTE:** Controls the elimination of inter-station noise. It is recommended that, when receiving marginal signals, the mute be set to off. This will eliminate intermittent loss of signals that fall below a specific signal value. The LED located above the station selector knob indicates when the mute is activated.
- C. **STEREO:** Controls whether the tuner is operating in Stereo or Mono mode. The LED located above the station selector knob indicates when the tuner is operating in stereo.
- D. **BW1:** Controls the IF super narrow setting. This setting should only be used in extreme reception conditions of adjacent channel problems.
- E. **BW2:** This setting combines excellent frequency response with high adjacent channel selectivity.
- F. **BW3:** Controls the ultra wide IF setting and offers the best frequency response. *Note: One of the BW switches must be on for the tuner to operate.*
- G. **BLEND:** In the "ON" mode, the stereo signal strength is sampled continuously in the Blend monitor circuit. Should the signal strength fall below the level required for full quieting with maximum stereo separation, the blend circuit will automatically narrow the stereo separation proportionately to minimize the noise that might otherwise be generated in the multiplex circuit.
- H. **DIM:** Used to extend the life of all display components especially the magic eye by reducing their intensity.
- I. **TUNING KNOB:** Rotating this control drives a precision ten turn potentiometer that selects the desired frequency.
- J. **METERS:** The left hand meter displays multi-path, see the section on *Reception Aids*. The right hand meter displays signal strength. The higher the reading, the better the reception.
- K. **CENTER TUNE MAGIC EYE:** Provides a visual display for fine tuning the frequency to maximize stereo separation and minimize noise. Tune the unit to

minimize the shadow (the light green area). Use the Magic Eye in conjunction with the signal strength meter to achieve the best response.

- L. **FREQUENCY DISPLAY:** Displays the frequency that you are tuned to.

FRONT PANEL DISPLAY



Front Panel Display

INSTALLING THE MD 108 T

1. Position the tuner the shortest distance from your preamplifier. Avoid putting the unit where there are extremes in temperature.
2. Remove the AC cord from the pouch on the lid of the carrying case and plug it into the AC receptacle at the rear of the unit. **DO NOT PLUG THE CORD INTO THE WALL POWER SOURCE AT THIS POINT.**
3. Connect the tuner to your preamplifier using a set of cables consistent with the caliber and type (balanced or unbalanced) of your system. Select the tuner input on your preamplifier.
Note: Be sure that the preamplifier volume is set to zero.
4. Connect the FM antenna and/or cable to the A1 (if you have one antenna) or A2 connector (if you have two antennae) at the rear of the tuner.
5. Plug the tuner's AC power cord into an AC power source. Be sure to use a continuous power source so as to allow the stand-by mode feature to function properly. All the tuner's amplifiers are muted in stand-by mode.
6. When power is supplied, some of the tuner's LED devices may be lit, indicating that the tuner has been activated. It may also be that the tuner's power is totally off and that none of the LED devices will be lit. Either condition is normal.
7. If the power is "OFF", use the power switch to turn the power to "ON"
Note: Each time the tuner is turned "ON", there is a 15 second delay before the tuner will operate. A light click will be heard, indicating that the relay has been activated and the power is available. Also, the LED devices will be lit which indicates power.
8. Once power has been initialized, the meters will light and the frequency meter should show a reading between 87.5 and 108.5.
 - Switch the tuner to ***Stereo*** mode
 - Turn on the ***Blend*** switch
 - Turn off the ***Mute*** switch
 - Turn off the ***Dim*** switch
 - Turn on the ***BW 3*** switch

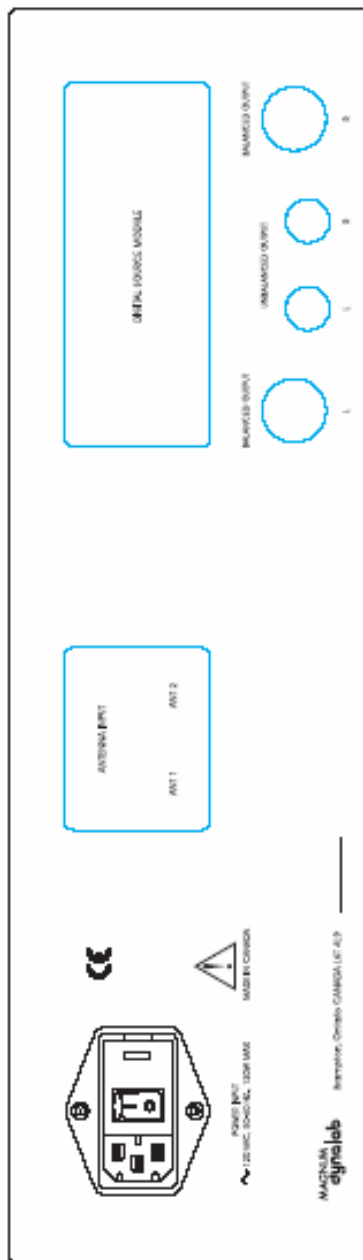
The tuner is now ready for operation.

Note: When the tuner is turned off, the LED devices for the main selectors will stay on.

REAR PANEL DISPLAY – INPUTS & OUTPUTS

INPUTS (Located at rear of unit): The MD 108 has two antenna inputs, labeled A1 and A2. These are controlled by the front panel input selector knob (Knob on left side of front plate). The inputs D1 and D2 are for future use.

OUTPUTS (Located at the rear of the unit): The MD 108 T uses high grade XLR connectors for *balanced output* in a fully balanced system. *Unbalanced output* is handled through the high quality gold plated WBT RCA connectors.



TUNER REMOTE (OPTIONAL)

If your tuner was ordered with the **RC2 "PRECISION REMOTE SYSTEM"**, please reference the following operating instructions.

1. The power switch should be off on the front panel of the tuner
2. Using the remote handheld, push the **"POWER ON"** button. You will see the tuner turn on. **YOU MUST TURN THE POWER ON MANUALLY ON THE FRONT PANEL TO TUNE IN MANUAL MODE. IF YOU TURN THE POWER ON WITH THE REMOTE CONTROL YOU WILL BE IN REMOTE TUNER MODE.**
3. To tune with the handheld, push and then hold either the **"TUNE UP"** or **"TUNE DOWN"** button until you reach the desired station. The longer you hold the button the faster the frequency changes. To **FINE TUNE** hold either button for a shorter time until your center tune meter is set or your magic eye tube is closed.
4. Your Precision remote gives you the ability to store and scan up to 20 preset stations. To program a preset station, first tune to the desired station and then push **"STORE"**. Then select the preset memory position you want to store this station in by selecting two digits. For Presets 1-9 you must select 01-09 and for 10+ directly enter the number. To recall these presets you must push **"PRESET"** and then enter the two-digit preset you wish to recall.
***NOTE-When setting a preset you must enter the numbers quickly**
5. To turn your tuner off, push the **"POWER OFF"** button until you see the tuner turn off. **YOU MUST TURN THE POWER OFF ON THE FRONT PANEL IN MANUAL MODE AND FROM THE REMOTE CONTROL IN REMOTE MODE.**

Your MDR remote operates with 3 AAA batteries, which are included.

IMAGE OF RC2 REMOTE



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TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
No sound, meter lights are not on	<ul style="list-style-type: none"> • Power cord disconnected • Power off at source • Fuse blown 	<ul style="list-style-type: none"> • Connect power cord • Check AC source • Check fuse
No sound, meter lights are on	<ul style="list-style-type: none"> • Interconnect not properly installed • Preamp set to wrong source • Bandwidth switch not activated • Power amp off • Tube failure 	<ul style="list-style-type: none"> • Check installation of interconnects • Turn preamp to tuner • Activate one of the bandwidth switches • Turn on amp • Replace tubes (MD Reference 6922)
Signal strength is low	<ul style="list-style-type: none"> • Antenna not connected • Wrong type of antenna • Station too far away • Antenna pointed the wrong way 	<ul style="list-style-type: none"> • Check antenna hookup • Check instruction manual for types of antennas • Change your antenna • Rotate the antenna to point at the station
Reception is poor	<ul style="list-style-type: none"> • Antenna not connected • Wrong type of antenna • Cross talk from neighboring stations • Multi-path is occurring • Antenna switch on wrong setting 	<ul style="list-style-type: none"> • Check antenna hookup • Check instruction manual • Switch to narrow setting on IF bandwidth • Rotate your antenna, read the <i>Reception Techniques</i> • Check antenna input setting
Intermittent sound	<ul style="list-style-type: none"> • Mute switch is on 	<ul style="list-style-type: none"> • Turn mute switch off

RECEPTION TECHNIQUES

Antenna Cabling:

The lead-in cable from the antenna is often the weakest link in the FM system. Some time spent on selection and matching will yield dramatic results when it comes to noise reduction in weak signals.

A good grade of 75 ohm coaxial cable will provide very sufficient signal passage, along with effective shielding against interference. Without effective shielding your coaxial cable can in fact become an antenna in itself. There are different grades of 75 ohm cable, there is RG59/U (Suitable for 50 feet and less) and RG 6. RG 6 is the better of the two and should be used in runs of 50 feet or more. The RG 6 has quad shielding and 50 % less losses than RG 59/U.

A good type of RG 6 is Beldon 1189 A. Combine this cable with LRC connectors and you will have an installation that will optimize the performance of your tuner.

The key to maximizing the efficiency of the system is insuring that all connections are clean and tight, silicon grease on outdoor connections will insure good performance over a long period of time. If you splice either cable, make sure that exactly the same type of cable is used.

Types of Antennas:

Multi-element Yagi - This is a unidirectional antenna capable of pulling in very distant stations due to its high gain, the higher the gain the better. These types of antennas are very directional and should be used with a rotor to get the maximum benefit of the antenna. The directional feature helps eliminate multi-path problems by allowing only the signal from the direction that the antenna is facing to be picked up by the antenna and not the signals that come from a different direction.

Magnum Dynalab offers two Yagi antennae, the MD 6 FM or MD 10 FM

Vertical 1/2 Wave - This design offers ease of installation and operation. This type of antenna is omni-directional, which means that it picks up stations coming from all directions. No rotor is required to pull in stations from behind or the side. This design also gathers more of the FM signal from the air, offering superior fidelity over that of a standard bi-directional antenna. It also gives 2.5 dB gain to the signal strength over that of a standard dipole.

If multi-path is a reception problem try laying the antenna down in the horizontal plane rather than the vertical plane. This type of antenna can be used indoors or

outdoors, but regardless of whether it is installed indoors or outdoors the higher that you can put it the better it will perform.

Magnum Dynalab offers the MD ST-2, an excellent vertical 1/2 wave antenna

Folded Di-Pole - This is the most common and simplest of all antennas, most people are familiar with the 79 cent piece of wire you received with most electronics gear (generally provided with a tuner or receiver). This piece of wire is bi-directional and the performance of it is affected by the angle that the signal hits the piece of wire. There are quite a number of di-pole antenna designs; they work well in areas of strong signal strength, such as local stations.

Magnum Dynalab offers the SR-100 as a good folded di-pole.

There are many styles of antennas but all of them are based on one of these types.

FM RECEPTION AIDS AND ACCESSORIES

We have already alluded to the importance of a good quality antenna which has been designed and built with the reception of the FM bandwidth exclusively.

Should you encounter a situation in which you require more gain to the FM signal or situations where you may need less gain AND better selectivity then the Magnum Dynalab 205 "Signal Sleuth" may be of benefit to you.

The 205 is a FM signal processor/amplifier designed specifically for FM. If you would like more information on this item, please feel free to contact us at any time. Call us TOLL FREE 1-800-551-4130, email us at info@magnumdynalab.com or visit us at www.magnumdynalab.com.

PRODUCT SPECIFICATIONS

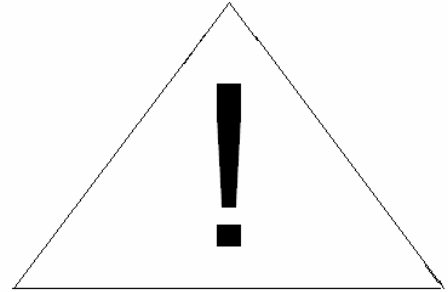
Usable sensitivity- Mono -	0.7 u V 9.0 dBf
50 dB quieting - Mono -	2.0 u V 9.9 dBf
50 dB quieting - Stereo -	2.3 u V 20.0 dBf
Capture ratio -	1.5 dB
Image rejection -	125.0 dB
Signal to noise ratio -	80.0 dB
Alternate channel - Wide -	46.0 dB
Alternate channel - Narrow -	70.0 dB
Alternate channel - Super narrow -	80.0 dB
Adjacent channel - Wide -	3.0 dB
Adjacent channel - Narrow -	21.0 dB
Adjacent channel - Super Narrow -	48.0 dB
THD - Mono -	0.10 %
THD - Stereo -	0.10 %
Stereo separation -	50.0 dB
AM suppression -	70.0 dB
SCA rejection -	80.0 dB
IF rejection -	80.0 dB
19 KHz and 38 KHz component rejection -	75.0 dB
Audio frequency response (+/- 1 dB) -	2 Hz - 200KHz
Balanced audio output (600 ohms) -	2.2 V
Line audio output (RCA) -	1.0 V
Line power (Must be specified) -	
110/220/230/240 -	VAC
Dimensions (inches H.W.D.) -	5 x 19 x 16
Dimensions (cm H.W.D.) -	12.8 x 48.3 x 40.7
Weight (lbs./kgs) -	40/17.1
Power consumption (Typ/Max) -	50w/100w
Tube Replacement	#1,2 6922 MD Cryovalve Reference 6922 #3,4 MD Reference 6922

MAGNUM DYNALAB LTD. RESERVES THE RIGHT TO CHANGE OR MODIFY THE SPECIFICATIONS WITHOUT FURTHER NOTICE.

MAGNUM DYNALAB

IMPORTANT SAFETY INSTRUCTIONS

1. KEEP THESE INSTRUCTIONS
2. HEED ALL WARNINGS
3. FOLLOW ALL INSTRUCTIONS
4. DO NOT USE THIS APPARATUS IN WATER
5. CLEAN ONLY WITH DRY CLOTH
6. DO NOT BLOCK ANY VENTILATION OPENINGS, INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.
8. DO NOT DEFEAT THE SAFETY PURPOSE OF THE GROUNDING TYPE PLUG. THE GROUNDING PLUG HAS TWO BLADES AND A THIRD GROUNDING PRONG. THE THIRD PRONG IS PROVIDED FOR YOUR SAFETY. IF THE PROVIDED PLUG DOES NOT FIT INTO YOUR OUTLET, CONSULT AN ELECTRICIAN FOR REPLACEMENT OF THE OBSOLETE OUTLET.
9. PROTECT THE POWER CORD FROM BEING WALKED ON OR PINCHED PARTICULARLY AT PLUGS, CONVENIENCE RECEPTACLES, AND THE POINT WHERE THEY EXIT FROM THE APPARATUS.
10. ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.
11. UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.
12. REFER ALL SERVICING TO QUALIFIED PERSONNEL. SERVICING IS REQUIRED WHEN THE APPARATUS HAS BEEN DAMAGED IN ANY WAY, SUCH AS THE 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.
13. THE EQUIPMENT REQUIRES A GROUNDED POWER OUTLET TO OPERATE SAFELY.
14. THE POWER SUPPLY CORD IS THE MAIN DISCONNECT AND SHALL BE READILY OPERABLE.



“WARNING” TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

LIMITED WARRANTY

Register your product at www.magnumdynamalab.com

Magnum Dynalab Ltd. herein referred to as the "manufacturer" guarantees this product to be free of defect in both material and workmanship and agrees to remedy any such defect or replace any defective component at no charge for a period of two years from date of sale to the first end user. This warranty is void if the product has been found to be subjected to misuse, abuse, lightning strike, unauthorized service, damaged in transit or has been altered or repaired in such a way as to detract from its performance, reliability or its safe operation. All tubes are covered for 12 months.

Should such defect be discovered and it falls within the terms of this guarantee, the manufacturer will correct the defect in workmanship and/or replace any defective component with a new one of similar capability and value. This warranty does not apply to the cabinet or appearance items such as the faceplate, control knobs or meter lenses nor does it cover any expenses in shipping the unit to the appropriate service depot.

The foregoing is in lieu of any other warranties expressed, implied or statutory and the manufacturer neither assumes nor authorizes any person to assume for it any other obligation or liability in the connection with the sale of this product. This warranty is not transferable except by written authorization from the manufacturer.

In order to qualify under the terms of the above warranty, all items must be returned to the appropriate factory service depot with all shipping charges prepaid in lieu of having previously registered the purchase of the unit by completing and returning the attached Registration Card, the unit must be accompanied by proof from an authorized Magnum Dynalab Ltd. dealer.

YOUR LOCATION	RETURN SHIPPING ADDRESS
Within the USA	Magnum Dynalab c/o Trans American 2775 Broadway, Buffalo, NY, USA 14227-1043 PHONE: 1-800-551-4130
Within Canada	Magnum Dynalab Ltd. 8 Strathearn Avenue, Unit # 9 Brampton, ON, Canada L6T 4L9 PHONE: 1-800-551-4130
Other Countries	Contact selling dealer

TO PREVENT FIRE SHOCK OR HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR FACEPLATE, NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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