

ENCORE 1M Ω LINE PREAMPLIFIER

OWNER'S MANUAL

Serial Number _____

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Congratulations on choosing the Encore Line Preamplifier. Your unit has been individually handmade from the finest parts and materials. The Encore Line Preamplifier utilizes proprietary Cello circuitry that represents true state-of-the-art in audio electronics and is designed to perform to “as-new” specifications for decades of musical enjoyment.

We want your Encore Line Preamplifier to provide you with complete satisfaction. Please read this manual carefully and care for your Encore Line Preamplifier so that it will retain its value, beauty and performance.

If you have any questions, contact your authorized Cello Designer or call the factory. It is our wish to assist you in every way, now and in the future.

| Product Concept

The Encore Line Preamplifier offers sonic quality, performance and reliability similar to the Audio Suite Premium modules. Its compact package provides a greater degree of flexibility. The Encore Line Preamplifier is an ideal analog interface unit. It accepts a large number of sources and provides optimized outputs for recording and listening to the highest quality recordings, without compromise.

| Description

The Encore Line Preamplifier contains twelve precision audio amplifiers, two power supply regulators and an external power supply. This number of circuits is required to provide ideal analog interface capabilities with the types of associated equipment used in today's high quality systems.

- **Input Selector.** The Encore Preamplifier has a total of five inputs. One balanced line and four unbalanced RCA inputs are provided.
- **Tape Monitor.** RCA inputs 1 and 2 function as monitor inputs in addition to normal inputs. This allows deck to deck dubbing as well as simultaneous recording with two machines. In the OFF position, the record outputs are disconnected to prevent loading from recorder inputs when the machines are not turned on.
- **dB Left, dB Right.** The output amplifiers have switchable gain from 10 to 20dB in 1dB steps for sensitivity adjustment and channel balance.
- **Mode.** Right to both speakers, left to both speakers, stereo, or stereo reverse are available. Abbreviations on the dial are R, L, S, and REV.

- **Output Level Control.** Provides volume adjustment in 1 dB steps from +10dB to -40dB, 2dB steps -40dB to -50dB, and 5dB steps -50dB to -60dB.
- **Main Outputs.** Two sets of RCA outputs and one set of Fischer 3-pin balanced outputs are provided.
- **Record Outputs.** Two sets of RCA outputs are provided.
- **Power Supply.** An external power supply produces +/-35 VDC. Internal regulators in the Encore Line Preamplifier chassis provide +/-25VDC
- **Dimensions.** Front plate is 19" wide by 3.5" high. Chassis frame is 14" deep.

| **Balanced Input**

Each channel of the balanced input section utilizes a three amplifier configuration. Ultra-precision (.01% bulk metal) resistors and 1% capacitors are used in all critical places to achieve a Common Mode Rejection Ratio of 86 dB typical, 75 dB minimum, 20Hz to 1 kHz; 50dB minimum, 1 kHz to 20 kHz. An input impedance of 1 megOhm minimizes loading errors and insures that the high Common Mode Rejection Ratio afforded by this design can be achieved in routine usage as well as under test bench conditions.

| **RCA 1 MΩ Inputs**

Four unbalanced stereo inputs are provided with an input impedance of 1 megOhm. For high quality sound reproduction, it is critical not to load line sources with impedances in the 10k-50kOhms range. This is how most preamplifiers cause clearly audible distortion with the finest CD player and processors. The 1 megOhms input buffer amplifiers allow all line sources to perform with the lowest distortion, maximum clarity and depth of imaging.

| **Balanced Output**

Each channel of the balanced output section utilizes three amplifiers. One amplifier is used to provide voltage gain, the other two drive the plus and minus outputs. Ultra-precision resistors are used in all critical places in order to achieve high output Common Mode Rejection Ratio.

The output amplifiers are ground referenced. This configuration allows simultaneous operation of the balanced and unbalanced outputs. It also affords unconditional stability under all loading conditions.

The front panel gain controls allow the voltage gain of this section to be adjusted in 1dB steps from 10dB to 20dB. The control calibration refers to single-ended output operation. Apply a +6dB correction factor for balanced output operation.

Power Supply

An external supply provides +/-35 volts to the Encore chassis.

| Power Supply Regulator

Ultra-precision tracking voltage regulators provide +/-25VDC to the twelve amplifier modules. The positive voltage regulator utilizes a current-fed precision voltage reference. This reference is filtered and applied to the positive input of an error amplifier consisting of a dual monolithic bipolar, transistor which drives a positive IC voltage regulator. Corrective feedback is applied through an adjustable divider to the negative input of the error amplifier. The negative voltage regulator consists of a two transistor amplifier driving a negative IC voltage regulator in a tracking configuration. This arrangement attains both the advantage of IC voltage regulators (the ease of drive, high current gain and short circuit protection) plus the advantages of discrete circuit designs (the ability to employ a low noise reference, wide bandwidth, and overall servo-loop control).

Remote Power Terminal Block

Regulated +/- 25 VDC is provided for powering a remote phono section. Two optional sections are available: the RMM-1 for moving magnet cartridges and the RMC-1 for moving coil cartridges.

Switchable Gain Output Amplifiers

The output amplifier circuitry can be switched in 1dB steps from 10dB gain to 20dB gain by front panel controls (mono, 1 per channel). For the most efficient systems, 10dB line gain is ideal. For systems with less efficiency or input sensitivity, 20dB gain is more appropriate. The 1dB step feature provides channel balance control as well.

The signal-to-noise ratio stays essentially the same in all positions. However, in the 10dB gain position the noise, as well as signal, is lower. When, for example, a power amplifier is connected to a very efficient horn-type speaker, the residual noise of the preamplifier output amplifiers can become audible. The 10dB gain setting minimizes

the residual noise of the Encore Line Preamplifier output circuitry. On the other hand, some systems need more gain. In the 20dB gain position, the relationship between signal and noise is the same as in the 10dB setting, but both are raised 10dB. With almost any power amplifier and speaker combination, noise of the Encore Preamplifier is inaudible. The switchable gain feature also allows listeners to obtain correct volume control range to be used with different associated equipment such as phono cartridges, CD players, power amplifiers and speakers.

Parts Quality

The Encore Line Preamplifier contains many parts not found in any other preamplifier on the market. Cello's own 59 position volume control sets the standard for sonic excellence, reliability, precision tracking, and convenience of operation.

Only the highest quality polypropylene capacitors are used throughout. Bulk metal resistors used in feedback paths minimize distortion. Teflon-dielectric wiring, nickel-plated solid copper ground plate, stainless-steel hardware and other premium parts are used exclusively. Knobs milled from two inch aluminum rods place the engraved lettering of the control at the top center of the knob skirt for easy reading. All panels are finished in Cello's elegant silver anodize finish.

Value

The Encore Line Preamplifier costs more than many other units on the market. Rather than provide the standard cookbook recipe of preamplifier circuitry, the Encore Line Preamplifier offers the ideal analog interface for each input. It converts the signal to a high-current, precision output for recording and monitoring (listening) with an ideal complement of circuits and parts.

Ten years ago, most serious listeners used turntables only. Today, line level devices such as CD players, processors, and DAT units predominate. The Encore Line Preamplifier allows all these peripherals to be used with measurable and audibly better performance due to Cello's 1 megOhms input circuitry.

| Pedigree

Cello equipment is used by major record companies to make the finest compact discs and records. The same circuits, parts and subassemblies are utilized in the Encore Line Preamplifier. With the Encore Line Preamplifier, you have the performance chosen by the top studio professionals for the production of the most highly regarded recording available. In studio environments, too rigorous for most "high-end" audio products, Cello products work 24-hour shifts effortlessly.

| Unpacking

The packing box for the Encore Line Preamplifier should arrive in good condition. Please inspect for damage to the carton, although this is most unlikely due to the strength of the carton construction. Cut and open packing carefully and save all foam pieces and boxes for reuse, in the event that the unit must be shipped in the future. Should the boxes become lost, new boxes can be purchased from the factory.

The carton should contain:

- Encore Line Preamplifier
- Encore Supply
- AC cable
- DC cable
- torx wrench

| Internal Switch Settings

New units will be set up by the Cello System designer for the initial application. Unless ordered otherwise, switch settings are factory set. Consult the diagram on page 9 for proper settings of switches located inside the Encore Line Preamplifier. The torx wrench can be used to remove the top plate, if necessary.

| Selection of Audio Cables

Any high quality RCA cables may be used. For balanced line connections, we strongly suggest using Cello Strings cable made to factory specifications.

Improperly constructed cables cause problems. It takes appropriate equipment and experience to make high quality balanced line terminations. Cello Strings are stocked in a variety of lengths and custom lengths can be ordered. A variety of connectors and adapters are available to meet your system requirements.

| Connection

- Connect both ends of the DC cable: one end to the Encore Line Preamplifier and the other end to the Encore Supply.
- Connect the AC cable to the Supply and the wall outlet. Be sure the power switch is "off".
- Connect the Encore Line Preamplifier outputs to the power amplifier (power amplifier should be off).
- Connect the source units (tuner, CD, etc.) to the appropriate input connectors on the rear panel of the Preamplifier.
- Set Preamplifier output level control to off. Turn on Preamplifier Supply. Turn on power amplifier.

| **Input Selector**

Select Balanced Line, or unbalanced line inputs.

| **Tape Monitor**

Set to "Input" for normal use when recording; to "1" or "2" to hear tape signal; or "Off" for listening when not recording. In the off position there is no signal present at the record outputs. The signal selected at the input selector will appear at the record outputs and will be heard when the tape monitor switch is set to "Input." When 1 is selected, the signal connected to input 1 will be heard. When 2 is selected, the signal connected to input 2 will be heard. Connect one tape deck to input 1 and a second deck, if used, to input 2.

| **dB Left and dB Right**

dB left and dB right controls are provided which adjust the gain of each output amplifier section from 10 to 20dB in 1 dB steps.

Mode

Set the Mode switch for stereo (S), mono (M), left (L) to both channels, right (R) to both channels, or stereo reverse (REV).

Output Level

Set the Output Level to obtain desired listening volume. The increments of 1dB are very accurate, typically to within 0.1dB

Muting

Muting circuitry prevents thumps or pops from occurring due to AC power on/off switching.

LIMITED WARRANTY**ENCORE 1M Ω LINE PREAMPLIFIER**

| Parts

Cello warranties all mechanical parts for five years and electronic parts for life.

| Labor

Labor is the responsibility of the distributor, except as follows:

Any defect in the product, during the first year, shall be repaired by the distributor with labor paid by Cello according to factory rates for a given repair. At Cello's discretion, or if the distributor is unable to perform the repair, the unit may be returned to the factory for service using agreed-upon air freight. After repair, the unit will be returned by the same carrier or equivalent. During years 2-5, if the distributor is unable to perform the repair, Cello will pay return air freight from the factory by agreed upon carrier provided the unit was shipped to the factory with air freight prepaid.

Cello will not pay freight if units are returned without a Return Authorization number (RA#). Cello will not pay freight if units are found to be in perfect working order.

| Warranty of Repair Work Performed:

Any specific repairs or modifications effected by the factory or authorized service facility shall be guaranteed for 100% parts and labor for the remainder of the warranty period for the unit or one year (whichever is longer), except for electronic parts which carry a lifetime warranty.

| Product Registration and Transferability:

Distributors shall fill out the form on the outside of the carton when the goods are delivered to the retailer. The form should be sent to Cello, Limited. Warranty cards inside the box shall be completed by the retailer and customer respectively and returned to Cello, Limited within thirty days from the date of the sale to the customer.

All products must be registered. When sold, new owners must be registered for the transfer of the warranty to be effected. All warranties are transferable to any succession of subsequent registered owners. Please contact you nearest authorized Cello supplier or the Customer Service Department at the factory for details of subsequent owner warranty registration.

Tampering/Abuse/Misuse:

Any unauthorized modifications, repairs or tampering, and/or any indications of obvious owner abuse, negligence or improper usage, as determined by Cello, Limited shall be grounds to void the warranty.

Service

Do not attempt to modify the Encore Line Preamplifier. Should you have any question or problems with your Encore, please contact Cello's Customer Service Department and allow us to assist you.

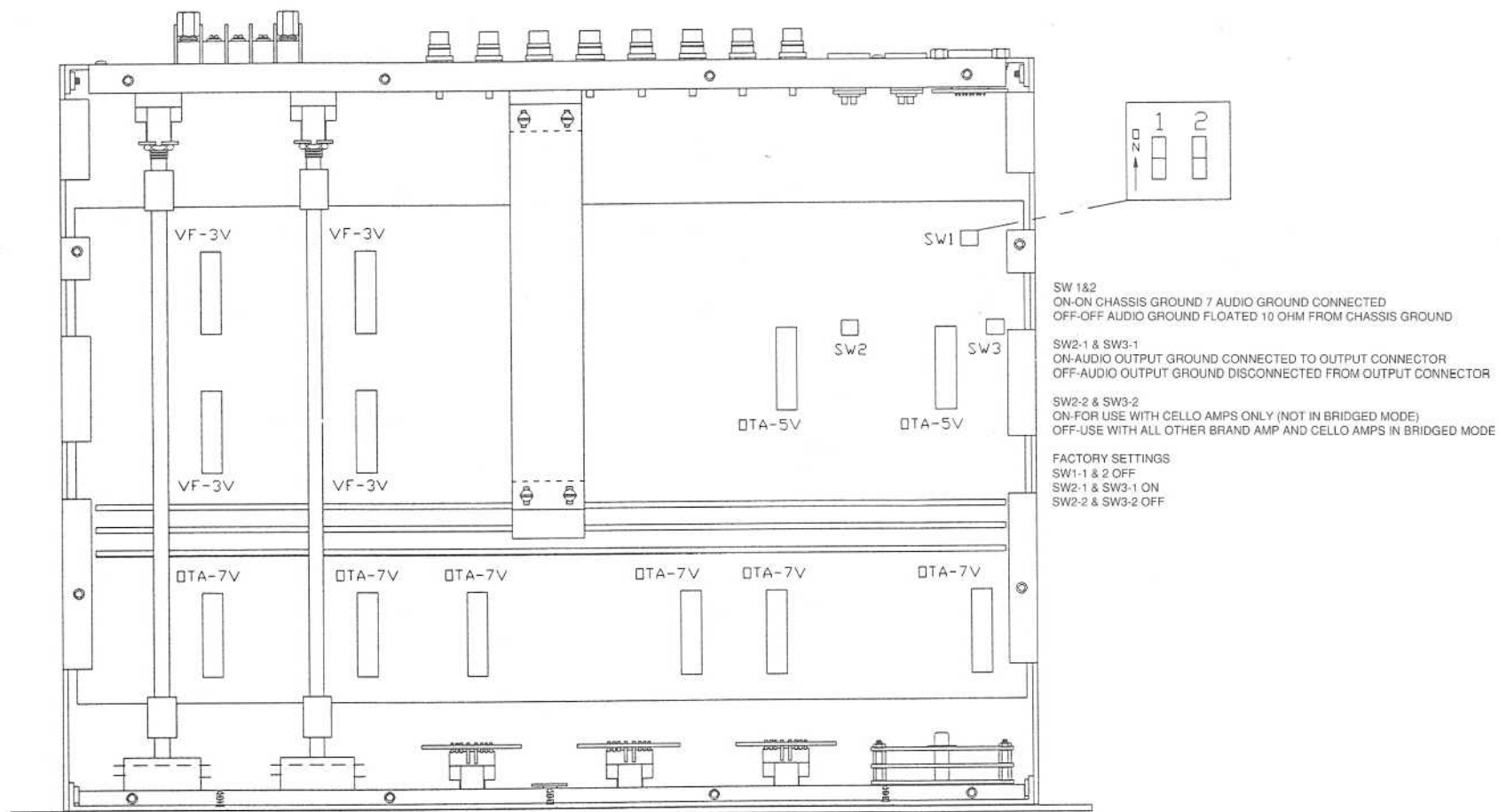
If your Encore Line Preamplifier requires service, this department will provide you with a Return Authorization (R.A.) number and instruction on how to return your unit to the factory. All returns to the factory require an assigned R.A. number.

Returns received without original packing will be shipped out in Cello cartons at owner's expense. Replacement packing materials are available by calling the Customer Service Department.

Maintenance

The finish of the Encore Line Preamplifier is of brushed and anodized aluminum. Ammonia-based glass cleaner, or alcohol and a soft cloth, work well to restore the shine and remove finger prints. Be sure that the unit is off and unplugged before cleaning. Avoid getting excess cleaning fluid inside the preamplifier. Take care when cleaning rear printed panel. Excessively aggressive rubbing may remove the silkscreen lettering.

- * DO NOT REMOVE COVER WITH POWER ON
- * DO NO REMOVE MODULES WITH POWER ON
- * DO NOT REMOVE MODULES WITHOUT ESD PROTECTION



ENCORE 1M Ω LINE PREAMPLIFIER

Electrical Specifications**BALANCED INPUT** to tape out

Impedance	1 megOhm
Noise 20Hz-20kHz	<-100dBV
Gain	0dB
CMRR 20Hz-1kHz	>75dB
CMRR 1kHz-20kHz	>50dB
THD 20Hz-20kHz	<.01%

UNBALANCED INPUT to tape out

Impedance	1 megOhm
Noise 20Hz-20kHz	<-100dBV
Gain	0dB
THD 20Hz-20kHz	<.01%

OUTPUT SECTION

Max Output	12 VRMS
Frequency Responce 20Hz-20kHz from any input	+/- .25dB
Noise	<-97 dBV
THD (from any input)	<.01%

Physical Specifications

Encore Line Preamplifier

Height (chassis)	3.6 in.	9.2 cm	
Height (max.)	3.9 in	9.9 cm	
Width (chassis)	17.0 in	43.2 cm	
Width (max.)	19.0 in	48.3 cm	
Depth (foothold)	12.0 in.	30.5 cm	
Depth (chassis)	14.0 in.	35.6 cm	
Depth (max.*)	15.3 in.	38.9 cm	
Box dimensions	22.0" x 19.0" x 10.5"		
	55.9 cm x 48.3 cm x 26.7 cm		
Weight:	Net	13 lbs	5.9 kg
	Boxed	35 lbs	15.8 kg
	w/supply		

Encore Line Preamplifier Supply

Height (chassis)	3.6 in.	9.2 cm
Height (max.)	3.6 in	9.2 cm
Width (chassis)	8.6 in	21.9 cm
Width (max.)	8.6 in	21.9 cm
Depth (chassis)	13.0 in.	33.1 cm
Depth (max.*)	13.0 in.	33.1 cm
Box dimensions	22.0" x 19.0" x 10.5"	
<i>w/preamp</i>	55.9 cm x 48.3 cm x 26.7 cm	
Weight:		
Net	10.0 lbs	4.54 kg

All weights are approximate and do not include exterior cabling

*Measurement from the rear of terminal strip covers to front plate.

Does not account for cabling space.

