PALETTE PREAMPLIFIER

OWNER'S MANUAL

Serial Number _____

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INTRODUCTION...

Product Concept and Description

The Palette Preamplifier is a preamplifier and equalizer in one package with an external power supply. This unit gives music lovers a way to obtain much more natural, life-like sound from compact disks and other sources, with easy-to-operate controls. The Palette Preamplifier redefines the state-of-the-art in preamplifiers because it combines transparency with the controls to bring recordings to life.

Music lovers have been searching for methods of obtaining more natural sonic quality from compact disks. Since compact disks are mastered by engineers using monitor systems with different sonic quality and tonal balance than that found in many home audio systems, it is not surprising that compact disks played back on home audio systems vary tremendously in tonal balance. The number one complaint of most listeners is the relatively small number of recordings which sound "good" on a given system. Yet a "bad" recording may sound fine on a different system. This illustrates the degree to which tonal balance problems are effecting music lovers in today's world. The time has come to end the search for compact disks that "sound good" and to rediscover your favorite artists and repertoire.

The Palette Preamplifier's dimensions are 6.25"H x 12"D x 16.5"L. The top row of six knobs provides the functions of the preamplifier, i.e. input selection, tape monitor, left channel input balance, right channel input balance, EQ in/out, and output level. The lower row of six controls provides six bands of equalization. Five stereo RCA inputs (>1MΩ input impedance) and two tape monitor loops allow multiple line level inputs and two recording tape decks to be utilized.

The Palette Preamplifier is compatible with any good quality audio equipment. It includes a balanced output for driving amplifiers with balanced inputs in addition to the two unbalanced (RCA) record outputs and two unbalanced (RCA) main outputs.

Instructions

Unpacking

Prior to opening, inspect the outside of the cartons for signs of shipping or handling damage. Open the cartons carefully. Save all packing material and boxes for reuse in the event the unit must be shipped in the future. Should the materials become lost, please contact the factory for replacement packing.

The cartons contain:

- 1 Palette Preamplifier
- 1 Palette Preamplifier Power Supply
- 1 DC cable
- 1 AC cable
- 1 Torx wrench

Internal Switch Settings

The factory line gain setting is 0db unity gain.

Line gain is adjustable through the use of internal dip switches. New units will be set up by the Cello System designer for your initial application. If you wish to reset the switches, do so with the volume control all the way off and the power disconnected.

Consult the diagram on page A1 for proper switch settings. A torx wrench has been provided for the removal of the top plate to gain access to the switches.

Connection

The Palette Preamplifier uses three-pin Fischer connectors for the highest quality balanced output connection. In addition to the Fischer connectors, there are four pair of RCA connectors. Two pair of RCA's are for use as single ended MAIN outputs. The remaining two pair of RCA's are fixed level equalized RECORD outputs.

For maximum performance we recommend that you use Cello Strings cables. Cello Strings are stocked in lengths of 1, 1.5, 2, 3, 5, 8, and 10 meters, and come assembled with your choice of connectors to match any system.

Adaptors and custom length Cello Strings are available to ensure the widest range of installation possibilities. Please contact your authorized Cello supplier for information and pricing.

Electrical Connections

(See connection identification diagram, Fig. A2)

1. Make certain that all on/off switches are "off" and all volume controls are turned down to the lowest setting possible.

2. Verify that AC Mains voltage setting is correct (see label on rear of supply chassis).

3. Install the DC cable by connecting the colored wires to the corresponding terminals on the back of each unit.

4. Install each terminal and tighten each screw until there is zero play, then apply an additional 1/8th turn so that it is snug. Be sure to keep the spade terminal from rotating while turning the screw. DO NOT overtighten or you may break the terminal strip.

5. Install the terminal strip covers. Again, don't overtighten.

6. With the power amplifier on/off switch in the "off" position, connect the Palette Preamplifier MAIN outputs to the power amplifier inputs.

7. Connect the source units (turntable, tuner, CD, etc.) to the appropriate input connectors on the rear panel of the Palette Preamplifier.

8. Connect the Palette Preamplifier RECORD outputs to the tape deck inputs.

9. Plug the AC cable into the IEC MAINS connector on the rear of the supply.

10. Plug AC cable into AC outlet.

Operation

Be sure to observe standard precautions when operating electronic equipment. The following steps are recommended.

- Be sure all electrical connections are correct. Triple check them.
- Be certain that terminal covers are installed.
- Do not run power supply cables or audio cables under rugs or sharp objects.

For systems that include other makes of equipment without muting, set all volume controls to "off". Turn on Palette Preamplifier, followed by the power amplifier. To shut the system down, turn power amplifier off first, then the Palette Preamplifier.

If physical damage has occurred to the unit or it is exposed to water or other liquids, do not use the device until proper repairs and/or integrity test have been effected by authorized personnel.

Controls

The Palette Preamplifier has two rows of controls. The top row adjusts tape monitor, input selection, left and right EQ levels, EQ in or out, and output level. The bottom row adjusts the frequency response of the program material (music, speech, sound, etc.) in six ranges.

- Tape Monitor. RCA inputs Tape 1 and Tape 2 function as monitor inputs in addition to normal inputs.
- Input Selector. The Palette Preamplifier has a total of five selectable unbalanced RCA inputs.
- EQ Level Left - EQ Level Right Controls. These controls have three uses. The first is as balance controls to compensate for either left or right channel error. The second is to adjust the level of the equalized signal (adjusted frequency response) to be subjectively the same loudness as the input signal. The third to lower input signals which need extreme amounts of boost at some frequencies to avoid overload conditions. This would normally be likely only in a studio situation with high line level signals.
- Equalization Control. "Out" means that the input signal is going straight through without the six frequency controls having any effect. The Output Level Control is still active. "In" puts the six frequency controls in the signal path allowing for corrections.
- Output Level Control. This control functions as the main level control of the system.

Frequency Adjustment Controls.

- 20kHz control: + /- 22dB
- 5kHz control: + /- 12dB
- 2kHz control: + /- 6dB
- 500Hz control: + /- 6dB
- 120Hz control: + /- 12dB
- 20Hz control: + /- 22dB

All frequency adjustments are made using the six controls in the bottom row of the front panel. They cover a broad range of sound which you will hear right away. To become familiar with the operation of the controls, turn them one at a time, starting with the 20kHz control and moving to the left, while a full-spectrum recording is being played. Turn each control counterclockwise, then clockwise, through the full range of the control to see its effect. Return each one to 0 before continuing on to the next control. To correct a recording of your choice, start with the 20kHz control and introduce a change which makes the sound more natural to your ears. Do not try to achieve perfection with one control. All controls must be adjusted in order to fully balance the sound in most cases. Go through them one at a time starting from the right (20kHz) and then go through them again until no further improvements can be made. When you have achieved the best sound, adjust the input level controls so that EQ IN and EQ OUT are at the same volume and compare them for final tweaking.

When high frequencies are added, the sound may be too thin until more low frequencies or other corrections have been added. Likewise, if the sound is muddy, then low frequencies may have to be reduced for other corrections to sound right. Don't watch the control settings - listen to the sound of the music and adjust the controls so it sounds more real. This approach really does work. Just relax and enjoy yourself. You are now free to make real improvements instead of being stuck with all the problems of recordings, equipment, and rooms which have limited musical realism in the frequency response domain.

The center frequencies for each control are given for reference, but the actual effect of a control is greater than can be shown by a single panel indication. In musical terms, the controls are active in the following areas:

- 20kHz: extreme high frequencies, overtones, air and spatial components, including upper parts of cymbals, strings, etc.. This control does affect much more than just the uppermost sounds. You will probably be surprised how much you will use it.
- 5kHz: the heart of the high frequency range, with a broad effect. Use it along with the 20kHz control to achieve the best high frequency sound.
- 2kHz: the nasal area of voices and instruments is affected by this control.
- 500Hz: the "upper warmth" control can remove muddiness from some piano recordings, or warm up a sound which is too thin.
- 120Hz: a very powerful control which determines the "body" or "lower warmth" of the sound.
- 20Hz: the lowest bass information such as drums, organ pedals, string bass.

Once you have achieved the proper corrections for a particular recording, you may wish to keep a log of the switch settings of each frequency for future reference.

Warranty & Service

Cello Limited Warranty

Parts - Cello shall be responsible for supplying all mechanical parts for five years and electrical parts for life.
Labor is the responsibility of the distributor except for the following:

Any product which is defective 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 and returned by the same carrier or equivalent. At Cello's discretion, or if the distributor is unable to perform the repair during years two through five, Cello will pay one-way air freight to the factory by agreed-upon carrier.

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, Ltd. Warranty cards inside the box shall be completed by the retailer and customer respectively and returned to Cello, Ltd. 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 your 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, Ltd. shall be grounds to void the warranty.

Service

If you believe your Cello equipment is not functioning properly, please call the Customer Service Department at the factory. If you need to return your component, you will be given an R/A (return authorization) number. This number must appear on the outside of the shipping boxes. Returns without R/A numbers will not be accepted. Returns received in original Cello packaging will be returned in original packing. Returns received in non-Cello packing will be returned in new Cello packaging at the owner's expense. If you need replacement packing materials, please contact the Customer Service Department at the factory.

Physical Specifications

Palette Preamplifier

	ENGLISH	METRIC
Height (chassis)	6.25"	15.88cm
Height (max.)	7.30"	18.54cm
Width (chassis)	16.85"	42.80cm
Width (max.)	19.00"	48.26cm
Depth (foothold)	9.00"	22.86cm
Depth (chassis)	12.00"	30.48cm
Depth (max. *)	13.00"	33.02cm
Box dimensions:		
Palette Preamplifier	24" x 24" x 13"	61cm x 61cm x 33cm
Power Supply	16" x 13" x 7"	41cm x 33cm x18cm
Weight:		
Palette Preamplifier	net: 21 lbs (7.7kg)	boxed: 36 lbs (16kg)
Power Supply	net: 7 lbs (3.2kg)	boxed: 9 lbs (4kg)

All weights and measurements are approximate and do not include exterior cabling.

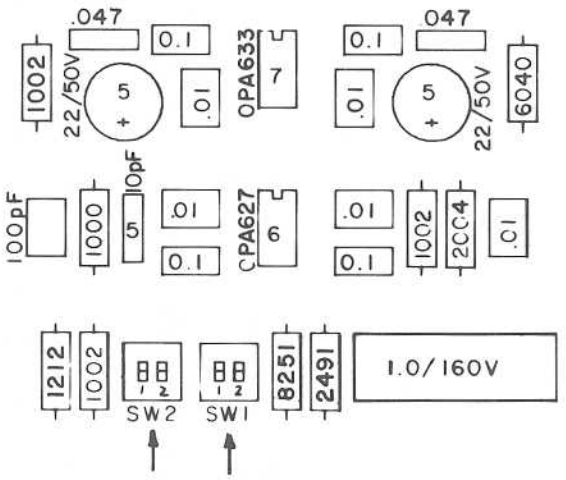
* Measurement from the rear of terminal strip covers to front plate. Does not account for cabling space.

Internal Switch Settings

fig. A1

Palette Preamplifier Line Gain Switch Settings

ONE CHANNEL SHOWN

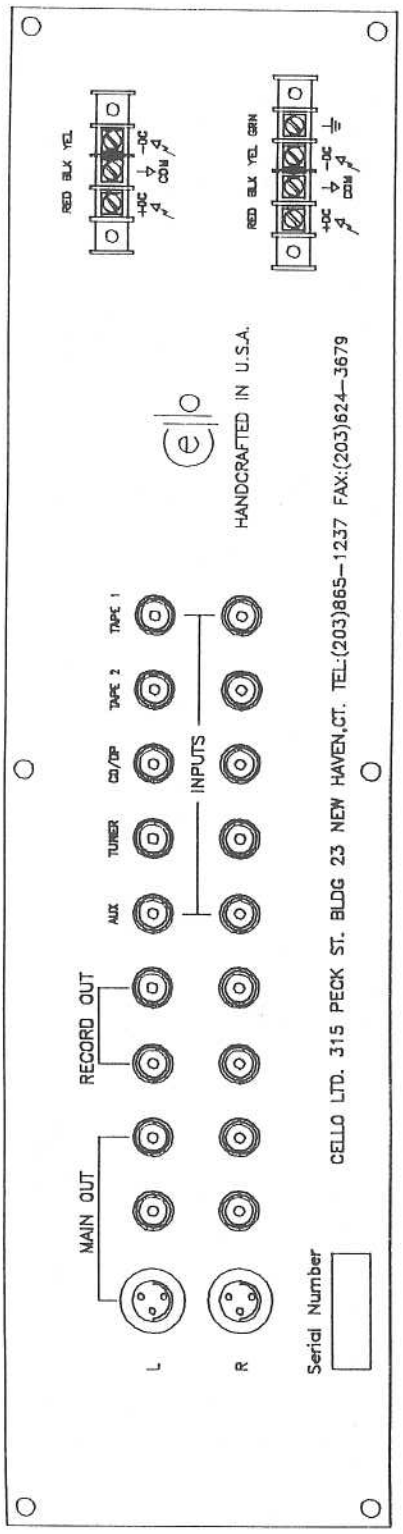


GAIN	SW2		SW1	
	1	2	1	2
0dB	OFF	OFF	OFF	OFF
6dB	ON	OFF	OFF	OFF
9dB	ON	ON	OFF	OFF
12dB	ON	ON	ON	OFF
18dB	ON	ON	ON	ON

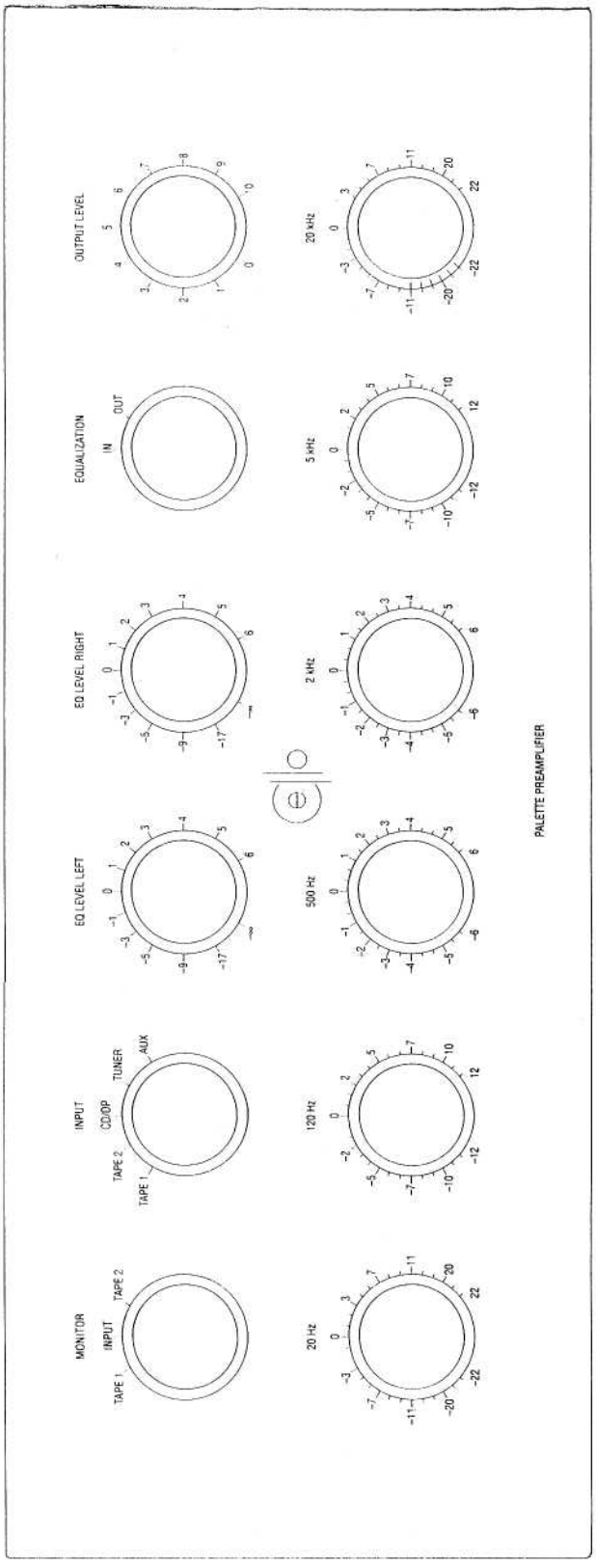
PLEASE NOTE:
ONE CHANNEL IS SHOWN IN THE DIAGRAM ABOVE. USE THE SAME SETTINGS FOR THE OTHER CHANNEL. GAIN SETTINGS ABOVE APPLY TO SINGLE ENDED, UNBALANCED OPERATION.

Connection Identification Diagram (Rear Plate)

fig. A2



Palette Preamplifier front plate



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