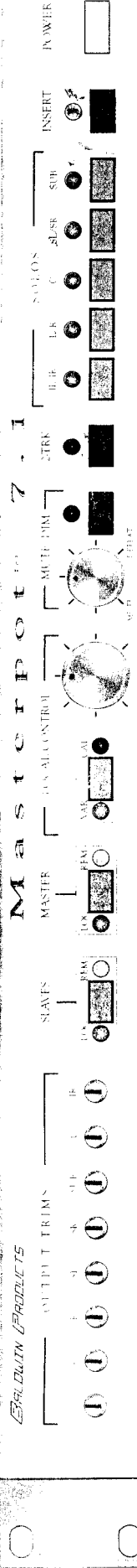


BALWIN PRODUCTS
I N T R O D U C E S

Masterpot™ 7.1

A VOLUME CONTROL FOR SURROUND SOUND



BALWIN PRODUCTS

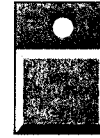
MUTE DIM



2-TRK



INSERT



H.LR



L.R



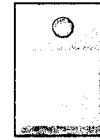
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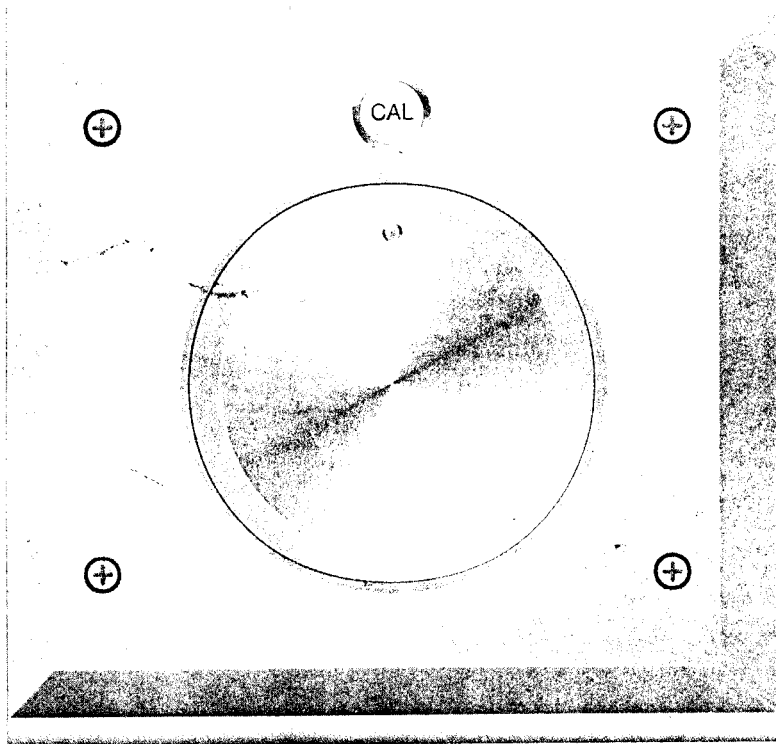
SLSR



SUB



MASTERPOT™ 7.1 REMOTE



Baldwin Products introduces Masterpot™ 7.1, a highly precise monitor level controller for multichannel environments up to 8 channels. The signal path is pure analog, with highest-quality components used throughout, for the ultimate in sonic transparency. All channels track within a fraction of a db over the entire audible range, providing image stability unapproachable with even the finest potentiometers on the market. Logic functions are handled by a proprietary digital state machine, resulting in a device which is completely crash-proof, and with no traces of spurious microprocessor-generated noise.

MASTERPOT 7.1

THE AGE OF SURROUND

The arrival of DVD multiformat disks and digital television mark a turning point in audio production. Now, not only movies but also music albums (and soon, television programming of all types) can be produced in discrete surround. At the same time, we are seeing price points of new all-digital recording consoles drop to levels so low that they are within the reach of virtually any production studio. Most, if not all, of these boards include comprehensive real-time effects processing, including multichannel panning. But neither the low-cost digital boards nor the profusion of reasonably-priced analog boards currently available have a Control Room Monitor pot for more than two channels. Masterpot™ 7.1 provides this function for any number of channels up to eight. In addition to level control there are mute, dim, solo, calibration, 2-track inject and expansion/interface facilities.

LESS THOUGHT, MORE ART

The optional Masterpot™ 7.1 Remote is a compact, highly refined wired remote control for desk surface or console top, which duplicates the critical operating features of the Masterpot™ 7.1 main unit. All controls have been carefully chosen and meticulously placed to assure seamless, thoroughly ergonomic operation. There are no menus to step through, no layered modes to confuse. We at Baldwin Products feel that the less you have to think about the operation of a critical piece of gear, the more you can concentrate on your art.

CONNECTION

Masterpot™ 7.1 outputs are normally connected directly to the input of your monitor chain (room EQ, crossover, power amp, etc.). Inputs can be fed from your console buss outputs, or from the output of the recording device which contains your final surround mix. In the latter case, you can then use the tape/input facilities on this "master mix" machine to switch between buss and playback. Both the Masterpot™ 7.1 main unit and the Masterpot™ 7.1 Remote have a "2-track" button, which will mute the eight surround inputs and deliver the 2-track inputs to Left and Right speakers. The 2-track inputs would be fed either by the Stereo Buss or the Control Room Monitor outputs of your console, allowing one-button changeovers between stereo and surround modes.

If you are considering going multichannel in the near future, please give us a call -- we'd be happy to send you more detailed information on Masterpot™ 7.1. Or, check out our website at:

www.baldwinproducts.com

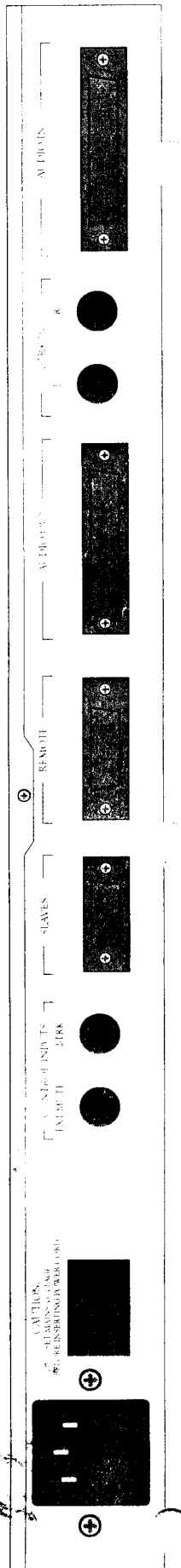
BALDWIN PRODUCTS MARINA DEL REY, CA (310) 572-7942

email: mail@baldwinproducts.com

SPECIFICATIONS

Channels	8 + 2
THD+N, 1 kHz	<.009%
Freq response, 1 Hz to 60 kHz	+1, -3 db
Dynamic range	>125 db
Crosstalk, 20 Hz to 10 kHz	-90 db
Channel tracking, -70 to + 10 db	± .1 db
Calibration trim, per channel	± 10 db
Gain, max	+ 10 db
Dim gain	+ 0 to -105 db
Maximum input level	+ 26 db

Specifications subject to change without notice



BALDWIN PRODUCTS

Masterpot™ 7.1 A VOLUME CONTROL FOR SURROUND SOUND

OPERATING GUIDE

VERSION 12/98

Masterpot™ 7.1 is a highly precise monitor level controller for multichannel environments up to 8 channels. It may be used stand-alone, or in conjunction with **Masterpot™ 7.1 Remote**. Controls are provided for Mute, Dim, 2-Track, Solo, Calibration and Master Level, as well as various expansion functions.

HOW IT WORKS

Masterpot™ 7.1 is connected at any appropriate point in the monitor chain. Its inputs are best driven from the outputs of the multitrack master recorder. This allows monitoring of "Buss" or "Playback" by use of the recorder's master input or tape/playback switch. Outputs from **Masterpot™ 7.1** would be connected the inputs of your room EQ, crossover or power amp. **Masterpot™ 7.1** handles eight discrete channels in and out on 25-pin D-type connectors. The pinout is compatible with that on the Tascam DA-88 and similar units. Channel designation is as follows:

Channel 1	Left
Channel 2	Center
Channel 3	Right
Channel 4	Left Surround
Channel 5	Right Surround
Channel 6	Sub
Channel 7	Intermediate Left
Channel 8	Intermediate Right

Please see the section **CHANNEL ALLOCATION**, below, for more details.

A separate 2-track input is provided for monitoring stereo and solo busses, or any other stereo signals. Logic inputs and outputs are provided for controlling the **Masterpot™ 7.1** and various external devices.

SOFTMUTE™

With our unique combination of discrete digital logic and DC control, we were able to implement a circuit topology we call **Softmute™**. All audio switching, whether going from full-on to full-off or between any two intermediate levels, is guaranteed to be a quick, soft transition. This can save your ears from a lot of unnecessary harshness, particularly when monitoring at high levels. Relays and switches can always cause glitches, pops and

unnatural transients, especially on low frequencies. But even with many channels being switched, **Masterpot™ 7.1** always assures you of a clean, smooth level change.

THE CONTROLS

OUTPUT TRIMS

At the left side of the **Masterpot™ 7.1** are eight trimmers for adjusting output levels. We spent a lot of time examining various ways of implementing these controls, starting with our extensive experience adjusting various trimmers over the years.

The usual solution is to place a multi-turn trimpot in the circuit. This approach has several drawbacks. First, you can't tell where a multi-turn trimmer is set just by looking at it. In order to set a 10-turn to the center of its travel you have to first turn it in one direction at least 10 full rotations, or until it clicks (if it has a clicker). Then you have to turn it five full rotations in the opposite direction. All multiturns we've seen have very small shafts with very tiny slots. Even with a special trimpot tool, this adjustment can be frustrating, especially if the unit is mounted in a difficult part of the rack with poor illumination.

Our approach was to first observe that there is already a level control on virtually every professional power amplifier on the market, and what's really needed is a "fine" control to supplement the "coarse" control on the amp. So our trimmers are a single-turn, high-quality pot (instead of a low-cost trimpot) with both a flat and a vertical slot, so you can instantly tell where the pot is set by looking at it. The shaft is a big 1/4" with a generous slot, mounted flush with the front panel instead of being hidden back inside the box. The range of the trimmers is limited to a total of 20 db, to provide plenty of resolution. You couldn't ask for an easier screwdriver adjustment.

This dual-control concept, however, allows another approach. If you visually set the trimmers identically, and do the final calibration directly on the power amps, you can later use the trimmers to make small adjustments to the surround environment. For example, you may want to see what the mix sounds like with the center dropped back a bit, or you may want to reduce the surrounds a few db to adjust the balance for a listener sitting farther back in the control room. You can easily return to an accurate "Cal" level by visually re-setting all controls. Please see the section titled **ROOM SETUP**, below, for more details on calibration.

MUTE/DIM

The eight momentary buttons on **Masterpot™ 7.1** and **Masterpot™ 7.1 Remote** are arranged in a tiered hierarchy. Of these, the Mute button has the highest priority. If the Dim control is turned all the way counterclockwise ("Mute"), all channels will mute completely when the Mute button is on, regardless of the state of other switches. If the dim knob is fully clockwise ("Defeat"), the Mute button will have no effect. At intermediate settings, the level of all channels will be reduced from those set by the level controls, whenever Mute is on.

The Mute function can be controlled externally via the Ext Mute Control Input (1/4" jack) on the rear panel. Please see the section titled **CONTROL INPUTS**, below, for details on how this input works.

2-TRACK

When 2-Track is on, all eight inputs on the 25-pin input connector are muted, and the signals on the 1/4" 2-Track audio inputs are routed to the Left and Right outputs. The levels of these signals in the speakers is determined by the Mute/Dim controls and the selected Control Knob and Cal switch. The 2-Track audio inputs are typically fed from the Stereo Buss or Control Room Monitor outputs from your console. If you have a "solo logic" output on your board (or have a technician who can dig into it and derive one), you can use this to automatically control the 2-Track function on **Masterpot™ 7.1**, so that soloed signals appear normally in Left and Right speakers. Connect the logic signal to the 1/4" 2-Track Control input. See the section titled **CONTROL INPUTS**, below, for details on how this input works.

THE CONTROL KNOB AND CAL BUTTON

Feature films have long been mixed at a fixed level, basically "full volume." This is because movies are played back in a big room for lots of people, none of whom is allowed to adjust the volume, so the mixers want to be sure that they know what the film will sound like in the theatre. For most other types of mixing, however, the end user will have access to a volume control, so the playback level of record albums, TV shows and commercials, etc., can vary. In these cases, the mixing engineer may want to monitor some or most of the time at a reduced level, to make sure that everything gets heard properly at low playback levels.

For these reasons, we have included a Cal (Calibrated Level) button. Two, in fact. One on the **Masterpot™ 7.1** main unit and one on the **Masterpot™ 7.1 Remote**. The Master Local/Remote switch on the main unit selects which Control Knob and associated Cal switch will be used to set the **Masterpot™ 7.1** output levels. When the Cal button is depressed (red illumination), its Control Knob is taken out of the circuit, and the channels are placed at a fixed "Cal" level (see calibration procedure in the **ROOM SETUP** section) for "film-style" mixing. When the Cal button is released (blue or green illumination) the Control Knob is active. It is thus very easy for a mixer to be able to drop to a low monitor level temporarily, knowing that the all-important "Cal" level can instantly and precisely be reinstated.

"Cal" corresponds to approximately 3:00 on the Control Knob. When turned all the way up, the Control Knob has an additional 10 db of gain above the "Cal" level. While you would not normally monitor at this level, it can be handy to check a silent or low-level passage for background noise, etc.

MASTER AND SLAVE LOCAL/REMOTE SWITCHES

The Master Local/Remote switch determines which Control Knob and associated Cal switch set the volume for **Masterpot™ 7.1**. When released (in "Local" mode, green LED lit), the Control Knob and Var/Cal switch (Local Control) on the front panel of the main unit are active. Releasing the Var/Cal switch (green LED) makes the Control Knob active; depressing this switch (red LED) makes the knob inactive and sets all channels to the Cal level.

When the Master Local/Remote switch is depressed (yellow LED), the Control Knob

and Var/Cal switch on the main unit are no longer active. Instead, the Control Knob and Cal switch on the **Masterpot™ 7.1 Remote** are used to set levels. If the Cal switch on the **Remote** is released, the Control Knob is illuminated blue and becomes active. When the Cal switch is depressed, illumination turns red, the knob is inactive, and all channels are set to the Cal level.

In any of the modes described in this section, the Mute/Dim and 2-Track functions take priority. If the Mute switch is off and 2-Track is on, the Left and Right channels will be set to a level determined by the selected Control Knob and Cal switch.

The Slave Local/Remote switch has no effect on any audio or control circuits in **Masterpot™ 7.1**. It sends a copy of the selected control voltage to the Slaves 9-pin output connector on the rear panel of the **Masterpot™ 7.1** main unit. This for future use to control additional devices planned by Baldwin Products. Until the arrival of these units, the position of this switch is unimportant.

LOGIC CONTROL

Masterpot™ 7.1 utilizes a custom, discrete logic digital state machine to control all logic functions. We decided against using the usual CPU and firmware, as these are capable of generating spurious signals in the audio bandwidth which can be very difficult to eradicate completely. Our design guarantees absolutely no steady-state components in the audio passband, up to 30 kHz. This, together with careful pc board layout, contributes to the very clean operation of the audio circuits. The system can never "crash", since there is no software used in the unit, and the status of all LED's and switches is continually updated.

The Logic section controls all functions of the eight momentary switches on the **Masterpot™ 7.1** and the **Masterpot™ 7.1 Remote**. These include Master Mute, 2-Track, Insert and the five Solos. Any switch can be operated from either the main unit or the remote. Seven of the momentary switches are functionally arranged in a tiered hierarchy. At the top is the Master Mute, then 2-Track (see corresponding descriptive sections, above) and then the five solos (grey buttons). The grey buttons may be used either as solos (start with all LED's off), or as mutes (all LED's on). You will hear all channels if all LED's are off and if all LED's are on. Note that Left/Right, Intermediate Left/Right (IL/IR) and Surround Left/Right are each grouped on single buttons, since when checking the tracks of a surround mix, this will be much more useful than separate buttons for each channel. Center and Sub each have their own buttons.

The status of each of the solos is retained even if the Master Mute or the 2-Track are engaged. Also, the status may be changed while either of these is engaged. If, for example, you had soloed the surrounds to check something, and then pressed Master Mute for the producer to take a phone call, you can reset the solos to any combination you desire before unmuting. This may be a subtle distinction, but can be helpful when trying to maintain a smooth-running session with important clients.

INSERT

The Insert button is not really a solo, but an independent switch which is not part of the hierarchy. It has no function in the **Masterpot™ 7.1**, but its output appears on a pin of the Slave connector on the rear panel. This would be used to switch an external processor in and out of bypass, or for any other function you may devise.

INPUT CIRCUITS

All ten audio inputs (eight on the female DB-25 connector and two on ¼" jacks) are identical. They are electronically balanced, 10k-ohm nominal impedance, and may be driven from balanced or unbalanced sources operating at nominal levels from -10 to +4 dbu. Note that nominal gain of **Masterpot™ 7.1** is unity (0 db), and best signal-to-noise is generally obtained when using a +4 signal level. Maximum input level is +26 dbm.

When connecting the inputs of M to unbalanced outputs preceding it, connect the unused leg (generally the "-" input) to ground at the unbalanced source.

OUTPUT CIRCUITS

All eight audio outputs on **Masterpot™ 7.1**'s male DB-25 connector are identical, and are electronically balanced. These will drive 600 ohms at the maximum level of +26 dbm. As the nominal gain of **Masterpot™ 7.1** is unity (0 db), the outputs operate at the same level as the inputs, from -10 to +4 dbu. (Unity gain on **Masterpot™ 7.1** is with all trimpots fully clockwise, and the Cal function engaged.)

There are basically two classes of electronically balanced outputs found on professional audio equipment. The first is simply a dual opamp, with each half of the chip driving one side of the balanced line, in opposite polarities. When using equipment with this type of output circuit, great care must be taken when wiring to an unbalanced input which follows, that only one side (generally the "+" side) and ground are used, and that the unused side (generally the "-") is left unconnected. If this unused side is shorted to ground, distortion and/or damage to the circuit can occur.

The second class of output circuit is more sophisticated, and is usually found on more expensive audio devices. This design incorporates a cross-feed from each side of the balanced output into the driving circuit of the opposite side, and has several advantages. First, when properly wired, common-mode interference on the cable connected to the output is effectively cancelled out, as well as hum and other ground-related noise. Second, the usual 6-db level shift between balanced and unbalanced operation (present in the simpler circuit above) does not occur, since the design automatically makes this correction. And finally, output damage due to incorrect wiring in unbalanced operation is completely avoided: the unused leg is intended to be shorted to ground. In **Masterpot™ 7.1**, we have incorporated the finest balanced line driver of this class we have found.

When wiring the outputs of **Masterpot™ 7.1** to unbalanced inputs, connect the unused leg (generally the "-" output) to ground at the unbalanced input end.

GROUNDING

While in years past, many studio engineers dealt with ground hum and interference by lifting grounds at various points, we feel strongly that these problems are best resolved by balancing the AC power to all equipment in the studio. This is not only far safer, but also is much more effective at eradicating ground noise than the best ground-lifting schemes. Your professional audio dealer can point you to various products on the market to

balance your AC power.

The case of the **Masterpot™ 7.1** is connected directly to circuit ground, and to the “earth” prong on the AC cord. We recommend the use of high-quality balanced (2-conductor plus shield) audio cable for all audio connections in and out of **Masterpot™ 7.1**, whether operating in balanced or unbalanced modes.

CONTROL INPUTS

There are two control inputs, for Mute/Dim and 2-Track, on ¼” jacks on the rear panel. Unlike the momentary buttons on the front panel and on **Masterpot™ 7.1** Remote, these respond to static logic levels, so a pulse cannot be used here. A logic low will engage the function, and disengaging occurs when the logic returns “high”. Alternatively, you may simply short the signal to ground, as with a common footswitch (you will probably want the normally-open variety). While the circuits were designed with TTL-compatible signals in mind, voltages as high as +12Vdc are acceptable, and the inputs are protected to $\pm 15V$.

CHANNEL ALLOCATION

At the time of this writing, there appears to be no definitive standard for channel order across the multitrack recorder. At least one digital 8-buss console manufacturer has come up with an allocation scheme which does not allow re-assigning the 5.1 channels to different physical outputs. For this reason, we highly recommend wiring a patchbay, whether digital or analog, between your console busses and master recorder, and between master recorder and **Masterpot™ 7.1**. If you have encode/decode units or other processing ahead of **Masterpot™ 7.1**, you should include patch points for these, too.

For use with 5.1 surround programming (6 discrete channels), you may simply ignore channels 7 and 8. There are several ways to make use of these channels, however:

- 1) Separate the Mute and Dim functions. If all solos are off, then soloing the IL/IR will completely mute the 5.1 mix. The Mute/Dim button (along with the Dim control) would handle just the dim.
- 2) Drive the amp for a set of small nearfield speakers. Feed the 2-Track ¼” jacks and the IL and IR audio inputs with the stereo buss from your console. Solo only IL/IR, and use the 2-Track button to switch between the two sets of speakers.
- 3) Control an alternate set of surround speakers (i.e., dipoles and direct radiators). Mult the Left and Right Surround audio signals into IL and IR inputs.
- 4) The logic signal from the IL/IR button is brought out to the Slaves 9-pin connector on the rear panel, so it may be used for any logic switching function you may devise.

If you are making a simultaneous 2-channel mix, and recording this on channels 7 and 8 of your master recorder, you may want to reroute these tracks to the 2-Track audio inputs of your **Masterpot™ 7.1**, instead of the 25-pin connector. Then you can use the 2-Track button to check this mix against the 5.1 version.

While you may not wish to bring the outputs of **Masterpot™ 7.1** (and the corresponding amplifier inputs) to your patchbay, we highly recommend bringing all console buss outs, master recorder inputs and outputs and **Masterpot™ 7.1** inputs to a half-normalled patchbay to enable the kind of flexibility described above.

ROOM SETUP

To calibrate **Masterpot™ 7.1**, first turn down all power amplifier inputs. If some or all of your power amps have no such control, you might want to consider installing a fixed or variable resistive attenuator directly before these inputs, in order to obtain the best possible standby noise figures. (We will provide more information on how to do this in the near future. Please contact Baldwin Products if you need assistance.) Otherwise, you may use the trimmers on **Masterpot™ 7.1** and/or level controls on room EQ's or crossovers you may have in your monitor chain to make the calibration. The discussion which follows assumes you have some type of level control at or before your power amp.

- 1) Turn all power amp inputs down.
- 2) Set up a sound level meter at the mixing position (the variety available from Radio Shack is quite adequate for this purpose and is commonly used). Set the meter for the desired "calibration" level (i.e., what you consider "full volume"). For feature films, this is generally standardized at 85 db, and for television a figure closer to 80 db is often used. For doing music only, you may end up with your own level, but these are good starting points.
- 3) Set the **Masterpot™ 7.1** trimmers to 3:00; that is, with the slot horizontal and the flatted side of the shaft to the left.
- 4) If you are using the **Masterpot™ 7.1** stand-alone, set the Master switch to Local and set the Local Control switch to Cal. If you are using the **Masterpot™ 7.1 Remote**, you may set the Master switch to Remote and press the Cal button on the remote control. The position of the Level Controls on the front panel and/or remote control is unimportant.
- 5) On **Masterpot™ 7.1** or **Masterpot™ 7.1 Remote**, turn off Mute/Dim, 2-Track and all Solos.
- 6) Starting with the Front Left channel, set a pink noise source for "0 VU" at the buss. This is generally -20 db on a meter which shows "0 db" as maximum, or clipping.
- 7) Gradually bring up the level control at the input of the amplifier until you read the cal level at the sound level meter (e.g., 85 db). Note that extraneous noise in the room, such as talking, can influence the reading on this meter.
- 8) Shut off the signal to this buss and repeat the procedure for each channel in the surround system, one at a time. If you are monitoring through a multichannel recorder, you may choose to send pink noise simultaneously to all busses, and select them one at a time using "record ready" or "input" on each channel.
- 9) When setting the level for the Sub channel, there is some question as to whether this should just be set to the same level as other channels. Until this might be resolved, we direct you to discussions available in various publications, and on the Web.

This completes the calibration procedure. There is no calibration for the 2-Track inputs per se. Just make sure that the nominal level of the signals entering here matches that at the multichannel inputs. This can be done by ensuring that a sine wave at your stereo buss output matches that at your surround busses.

If your power amps are inconveniently located for doing the above calibration (for example, in another room), you could set them at approximately the right level, and then do the final calibration at the **Masterpot™ 7.1**. You may wish to start the trimmers at 12:00

instead of 3:00, as in step (3), above. Also refer to **OUTPUT TRIMS**, above, for other ideas on using these controls.

Note: Most power amps have significant voltage gain, and will require attenuation at the input to handle a nominal level of +4 db. For this reason, trimmers on **Masterpot™ 7.1** attenuate only. Unity gain on **Masterpot™ 7.1** is with all trimpots fully clockwise, and the Cal function engaged. With Cal disengaged, **Masterpot™ 7.1** will provide 10 db of gain with the Level Control at maximum. Maximum input and output levels are +26 dbm.

GENERAL

Masterpot™ 7.1 may be operated from 115 or 230 Volts, 50-60 Hz (mains switch on rear panel). A three-prong grounded power cable is supplied. Its ground pin should not be cut off or disabled in any way. Always operate the unit from a properly grounded AC outlet. If ground noise is a problem, please refer to the section labeled **GROUNDING**, above.

The **Masterpot™ 7.1 Remote** has a permanently attached remote cable which is 20' long. An additional 20' extension cable may be purchased as an option, or the user may construct his own (pinout information and cable specs are provided). The user understands that he or she may be in violation of FCC regulations relating to illegal EMF radiation if a cable not of Baldwin Products' manufacture is used to connect the **Masterpot™ 7.1 Remote**.

Damage to either unit is not covered under warranty if, in the opinion of Baldwin Products, the damage may have been caused by a cable not of our manufacture.

Baldwin Products retains the right to change any specifications, descriptions or operating features of its units at any time, without notice.

WARRANTY

Masterpot™ 7.1 and **Masterpot™ 7.1 Remote** are each warranted for a period of one year from date of purchase. Warranty is limited to defects in components and/or workmanship. Baldwin Products will, at its option, repair or replace any units under warranty. No other warranty is expressed or implied.

In order to return a unit for repair, a Return Authorization must be obtained from Baldwin Products prior to shipment to us. Shipping to Baldwin Products is to be covered by the customer, whether for warranty or non-warranty service. Baldwin Products will provide second-day return shipping for warranty units. Customers desiring faster return shipping may pay the difference.

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IN THE FUTURE

The use of pre-mixed "stems" is becoming more popular, particularly in music production such as album recording. With this concept, elements are be mixed simultaneously, but kept on separate tracks throughout the mix, in order to facilitate changes later on. These stems are combined after the "stem" recorders at a precise 1:1 ratio, both to create the final master and to monitor the result. If you had four stems of 5.1 material (6 channels each), you would need 24 channels of your console, or some outboard mixer, just to assemble these stems for mastering or monitoring. Baldwin Products has resolved this delimma with the **Masterpot™ Combo**, currently in design, which will provide a high-precision, transparent combination of multiple stems. The **Masterpot™ Combo** could be used directly ahead of the **Masterpot™ 7.1** for monitoring only, or between the stem recorders and the master recorder for mastering and monitoring.

BALDWIN PRODUCTS

Masterpot™ 7.1 A VOLUME CONTROL FOR SURROUND SOUND

CONNECTOR PINOUTS

Multichannel audio inputs and outputs:

The cable shown below is Mogami 2932, 8-pair 26 GA. Other cables with individually shielded pairs may be used.

Audio inputs are on a DB-25 Female connector on the rear of **Masterpot™ 7.1**. Audio outputs are on a DB-25 Male. Pinouts are the same for both connectors, as described below, but remember that the pin numbers are mirror-imaged on the two connectors. Pinouts are compatible with Tascam DA-88 analog outputs.

All shields and Case Ground are connected to circuit ground and to AC ground inside **Masterpot™ 7.1**.

Masterpot™ 7.1 Multichannel Audio Inputs and Outputs

PIN	CHAN	COLOR	SIGNAL	PIN	CHAN	COLOR	SIGNAL
1	8	Grey	IR +	14	8	Clear	IR -
2	8	Shield	IR Shield	15	7	Violet	IL +
3	7	Clear	IL -	16	7	Shield	IL Shield
4	6	Blue	Sub +	17	6	Clear	Sub -
5	6	Shield	Sub Shield	18	5	Green	SR +
6	5	Clear	SR -	19	5	Shield	SR Shield
7	4	Yellow	SL +	20	4	Clear	SL -
8	4	Shield	SL Shield	21	3	Orange	R +
9	3	Clear	R -	22	3	Shield	R Shield
10	2	Red	C +	23	2	Clear	C -
11	2	Shield	C Shield	24	1	Brown	L +
12	1	Clear	L -	25	1	Shield	L Shield
13			Case Gnd				

2-Track Audio Inputs:

The 2-Track inputs are on ¼" Tip-Ring-Sleeve jacks on the rear panel of **Masterpot™ 7.1**. These circuits are electronically balanced. We recommend using cabling which contains twisted pairs and individual shields, whether connecting to balanced or unbalanced sources.

PIN	COLOR	SIGNAL
Tip	Red	Input +
Ring	Black	Input -
Sleeve	Shield	Shield

When connecting to unbalanced sources, we recommend wiring the input to **Masterpot™ 7.1** as above, and wiring the source output as below:

PIN	COLOR	SIGNAL
Tip	Red	Input +
Sleeve	Black and shield	Input - and shield

Control Inputs:

The two control inputs, Ext Mute and 2-Track, are electrically identical, and are to be wired as shown below. They may be operated either from an electronic logic signal, or from a simple shorting switch, such as a foot switch. If a momentary switch is used, you will probably want to use a normally-open type. A logic low (0 V dc) or a switch closed will activate the function. A logic high (+5 V dc) or a switch open will disable the function. Note that the control points are between tip and ring, and that the sleeve connection is used only for shield. Both the Ring and Sleeve on these jacks are connected to circuit ground (and AC ground) inside the **Masterpot™ 7.1**.

Control Inputs

PIN	COLOR	LOGIC SIGNAL	SWITCH CONNECTIONS
Tip	Red	Logic control	Contact 1
Ring	Black	Logic ground	Contact 2
Sleeve	Shield	Shield	Shield

Remote Control:

The **Masterpot™ 7.1 Remote** is supplied with an attached 20-foot cable. If a longer length is needed, you may obtain an optional 20-foot extension cable from Baldwin Products. These cables are the only ones we guarantee; maximum guaranteed cable length for proper operation is 40 feet total.

If you intend to make your own extension cable, follow the pinout chart below. We recommend using Mogami 2862, 12-conductor 28 GA with shield.

Please be aware that if you are not using cables of Baldwin Products' manufacture, you are responsible for possible violations of FCC regulations relating to EMI radiation.

Masterpot™ 7.1 Remote Cable

PIN	COLOR	SIGNAL	PIN	COLOR	SIGNAL
1	Red	Digital Ground	9	Yellow *	Digital 1
2	Orange	Digital Ground	10	White *	Digital 2
3	Yellow	+ 5 V DC	11	Red **	Digital 3
4	White	+ 5 V DC	12	Orange **	Digital 4
5	- NC -	- NC -	13	Yellow **	Pot Wiper
6	Red *	Pot High	14	White **	Pot Low
7	Orange*	Cal Ground	15	- NC -	- NC -
8	Shield	Shield/Case			

* = black dot on wire

** = 2 black dots on wire

BALDWIN PRODUCTS

Masterpot™ 7.1 A VOLUME CONTROL FOR SURROUND SOUND

Baldwin Products introduces **Masterpot™ 7.1**, the first in a series of unique audio devices for the professional market. **Masterpot™ 7.1** is a highly precise monitor level controller for multichannel environments up to 8 channels. The signal path is pure analog, with highest-quality components used throughout, for the ultimate in sonic transparency. All channels track within a fraction of a db over the entire audible range, providing image stability unapproachable with even the finest potentiometers on the market. Logic functions are handled by a proprietary digital state machine, resulting in a device which is completely crash-proof, and with no traces of spurious microprocessor-generated noise.

Switching is provided to mute or solo various combinations of channels, and mute or dim all channels. Several additional switching functions are provided to select an alternate 2-track source, and control expansion units (currently in design at Baldwin Products) and control of other external processors. The Master Level Control knob can be bypassed with the Cal switch, which instantly places all channels at a fixed, pre-calibrated level for critical monitoring applications. The optional **Masterpot™ 7.1 Remote** contains the same Mute, 2-Track, Solo and Insert buttons as the main unit, and has its own Master Level Control knob and associated Cal switch.

WHY WE BUILT IT

Program material comprised of more than two discrete channels used to be found almost exclusively in theatrical environments (feature film, theatre, theme parks). With the arrival of DVD, however, surround sound promises to become commonplace in the home, not only for playback of movies, but for music as well. We are now seeing the first record albums mixed in 5.1 surround. With the emergence of DTS, television programming from commercials to long-form will be created, broadcast, stored and played back in discrete multichannel formats.

Console manufacturers have seen this potential market, and there are now a number of reasonably-priced digital boards capable of generating surround sound mixes, complete with automated panning of each source channel. Furthermore, for the many thousands of analog consoles already in the field and in current production, there are a number of panning devices which allow for dynamic panning during the mix, so these, too can multichannel mixes.

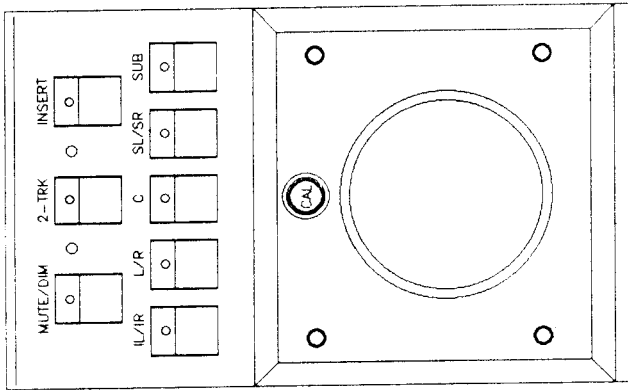
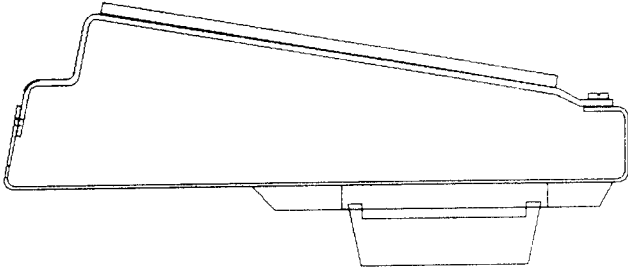
Traditionally, mixing boards have always included a "Control Room Monitor" knob to adjust the listening level of the program independent of the buss level being recorded (usually the "Stereo" or "2-Track" buss). Unless you are in possession of a fairly expensive console, however, you will find that for both digital and analog mixers operating in the "surround sound" mode, there is no Control Room Monitor to set the level to all speaker channels simultaneously. Dropping the level of the busses is *not* what you want to do! This is the signal you are recording as your "mix", and you want it to stay at full level. If you don't want to listen to your mix at full tilt, you are left with the problem of how to change your speaker level. You could buy an outboard mixer, but adjusting six channel faders at once is cumbersome and leads to tracking errors and shifts in imaging.

Masterpot™ 7.1 is your "Control Room Monitor" pot when mixing in 7.1 or 5.1 surround formats, or, in fact, any multichannel format between two and eight channels. For those doing 5.1 mixes exclusively, the IL/IR switch and associated audio channels can be used for other functions. In addition, there are two audio inputs on ¼" jacks (the "2-Track" inputs), which facilitate monitoring a separate stereo pair instead of the multichannel mix. To learn more, please give us a call, or visit our website at:

www.baldwinproducts.com
(310) 572-7942

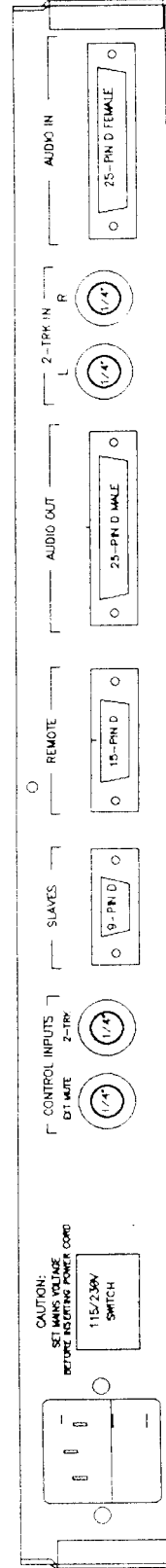
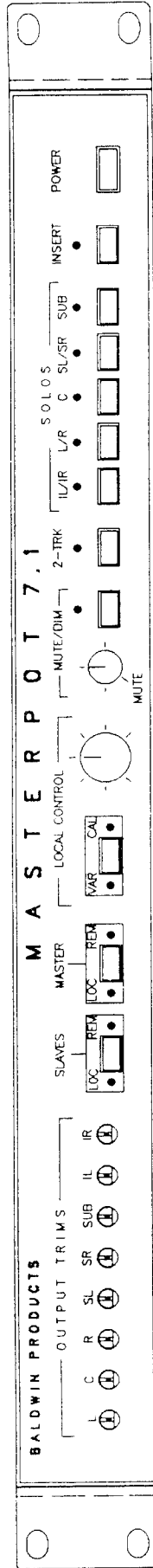
BALDWIN PRODUCTS Masterpot™ 7.1

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REMOTE

FRONT PANEL



REAR PANEL