

dm8

Preamplifier with remote control

Owner's Manual

HALCRO

www.halcro.com



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Introduction

Congratulations on purchasing the Halcro dm8 preamplifier.

It has taken two years and the generous contributions of leading reviewers, distributors and dealers from around the world to design, then create, the Halcro preamplifiers. We are confident that this combination of expertise, along with the know-how of the high-end audio industry's leading Research and Development team will ensure the success of the Halcro preamplifiers.

The brief given to our R&D team, headed by Bruce Candy, was to produce two models of preamplifier to satisfy the needs of every audio connoisseur:

- lowest distortion specifications of any preamplifier in the world
- physical dimensions to suit a standard domestic equipment rack, while retaining the stunning Halcro industrial design signature
- tractable controls
- superior reliability
- innovation in design

The Halcro dm8 preamplifiers will add no colorations to the music. When used in conjunction with Halcro power amplifiers, all you will hear is the original recording reproduced the way the artist intended it to sound. No transistor or valve-added sounds are present, just a level of musical purity that was thought impossible until now.

Please enjoy the Halcro audio experience.

Halcro has enjoyed creating perfect audio reproduction for the world's music connoisseurs.

If you desire to contact Halcro to give us feedback on your purchase or for general enquiries, please feel free to:

E-mail us at: admin@halcro.com
or phone: + 61 8 8238 0807
or fax: + 61 8 8238 0852

Important Safety Information

Electrical safety



IMPORTANT - This product must always be connected to an earthed voltage supply.

Only suitable approved MAINS cords, as per European individual country requirements in the CE Low Voltage Directive Scheme, shall be used with this unit.



WARNING: do not use any cables longer than three meters.

Do not use extension cords: To avoid safety hazards, use only the power cord supplied with your unit.



WARNING: Weighs 23 kg (50 lb) per unit. Shipping weight is 36 kg (79 lb). Never lift the amplifier by yourself.

No naked flame sources, such as lighted candles, should be placed on the unit.

The dm8 is designed to operate on any mains supply in the range of 90 to 240 V, 50 to 60 Hz, without any internal or external switches.

Protection from fluids

This device is designed for indoor use only and is not protected against liquids. It must not be exposed to dripping or splashing, and no objects filled with liquids, such as vases, should be placed on it.

Service warnings

This product contains no user serviceable parts.

All compartments are sealed at the factory. If the seals are broken, the warranty will be void and all service costs will be charged to the owner.

DANGER: Contains no user serviceable parts. Do not attempt to open any of the amplifier compartments, as this may expose you to dangerous voltages and will void the warranty.



Requires F2AL 250 V fuse for continued protection against the risk of fire. Never bypass or use any other type of fuse. The fuse is located on the rear panel in the main switch.

Product Design

Electronic design

by Bruce Candy

In keeping with my philosophy of design, my basic aim was to produce a preamplifier with which I, personally, am quite satisfied. I sincerely hope that others will share my satisfaction with these products.

As I saw it, the major issues were:

- zero compromise on Transparency
- flexibility
- ease of use
- progressive design concepts

In order to meet this challenge, the resulting circuits have particular characteristics:

First, all circuits in the preamplifier have distortion so low that it is immeasurable, whether THD, IM and so on.

Second, all circuits in the preamplifier exhibit exceptionally low noise (see specifications).

Third, there is no compromise whatever with the choice of components (Vishay resistors, FKP1 capacitors and so on).

Fourth, the circuits are highly immune to electromagnetic interference. Some inputs and outputs include both first order filters and common mode chokes.

Fifth, the power supply and microprocessor circuits are designed for minimal electromagnetic emissions (extensive 2nd to 6th order filters).

Sixth, the power supply switching frequency was chosen to be much higher than the audio band (>200 kHz).

Seventh, the power supply rails are exceptionally well regulated, double regulation in fact (switch-mode and linear servo loops).

Eighth, components and design are selected for high reliability.

The volume control is implemented so as to include two identical stages in series. This minimizes output noise.

The dm8 and dm10 preamplifiers feature balanced, unbalanced, current mode and bridged current mode outputs. The latter consists of a non-inverted and inverted current output. There is also an unbalanced output for tape and headphones.

Audible relay noise

The dm8 and dm10 use mechanical relays in all switching including the volume control because they exhibit the following ideal characteristics:

- zero ON resistance
- infinite OFF impedance
- very low OFF capacitance
- zero distortion

In contrast, the now universally popular solid-state relays/switches exhibit none of these ideal properties and detract from performance. Hence, sonically, Halcro feels that it is worth the side effect of mechanical clicking sounds when parameters are changed.

Microprocessor control

The excellent audio electronics are complemented and controlled by a number of highly integrated micro-controllers located close to the electronics they serve. Being as near as possible to the controlled electronics allows short control paths and virtually eliminates internal connectors, thereby greatly increasing system reliability.

Each amplifier channel has its own micro-controller; the front panel display and user interface has another. A fourth micro-controller, located on the rear connector panel, co-ordinates the activity of the others. The four micro-controllers are linked via only four interconnections each.

A unique programming feature of the microprocessor has been developed which allows the user to dedicate a particular pair of input sockets to a specific input device. This feature provides the user with great flexibility for connecting input devices to the preamplifier.

On the rear panel there are one pair of current inputs, three pairs of balanced inputs and three pairs of unbalanced inputs.

Industrial design

Product form

The aim when designing the dm8 and dm10 was to create a preamplifier that was unmistakably part of the Halcro product family, but at the same time a component that would complement any high-end audio system.

The preamplifier had to sit comfortably within a contemporary domestic environment, retain the visual signature of the Halcro family of products, which differentiates them from other high-end audio products, and have an appearance that reflected the high level of technical innovation. As with other Halcro products, softer forms and textures are used, all fasteners are concealed and the heat sinks are integrated into the external form to maintain simple, clean lines.

While the unique pillar forms of the power amplifiers have been carried through to the preamplifier, proportions have been reworked to allow this component to be either freestanding or housed within a standard 19" shelving system.

Control interface

Knobs and buttons

The volume and input selector knobs use a unique magnetic incremental indexing mechanism developed to provide a very subtle and reliable indexing action. The knobs and buttons are finished in the same soft textural finish as the pillars.

Control interface

Knobs and buttons

The volume and input selector knobs use a unique magnetic incremental indexing mechanism developed to provide a very subtle and reliable indexing action. The knobs and buttons are finished in the same soft textural finish as the pillars.

Display

A high-resolution display was chosen in order to provide clean simple graphics without the rough edges associated with displays of lesser quality. The graphic layout of the display has been optimized to give prominence to the functions that are viewed most often. These include volume levels, balance and input selection. Functions that are accessed less often are displayed in smaller type along the bottom of the screen. These include stereo/mono and in or out-of-phase. The volume levels for each channel are displayed side-by-side so that when the levels are not equalized the user will easily notice it.

Remote control

When designing the Halcro Remote Control, we aimed to reflect the quality and forms of the Halcro preamplifiers. Machined from a solid aluminum extrusion, the remote rests comfortably in the right hand with its minimalist array of buttons falling within the natural sweep of the thumb. Simple and logical to operate, every effort has been made to keep this product free of unnecessary complexity.

Mechanical design

The Halcro dm8 and dm10 can boast their spectacularly low noise and distortion specifications while their cases contain inherently noisy digital circuitry, including a switch-mode power supply, partly due to the mechanical design of their circuit boards and the boxes that contain them. Supports of folded aluminum serve not only as bases to which the electronics are anchored, but also to shield different sections of the circuitry from one another.

Each of the audio, panel and display, and power supply sections is contained within its own internal aluminum enclosure. Cables connecting the separate sections are few and short, minimizing both radiation and reception of unwanted signals.

Installation

Ensure you have read the Important Safety Information on page 3, before installing your Halcro preamplifier.

If you require assistance in the unpacking and installation of your Halcro preamplifier, please contact your dealer.

Unpacking

- Unscrew the four knurled knobs at the base of the container, and then remove the upper part of the container by lifting directly upwards, until it clears the top of the preamplifier.
- Remove the plastic wrapping and foam pieces, then lift the preamplifier from the base of the container and remove the plastic covering from the unit.

Please save all packaging material for later use.

- Remove the centerpiece of foam in base of transit case, to locate the remote control and power cable.
- Wearing the white cotton gloves provided (to prevent marking the preamplifier while moving it in to position), move the unit to its final location (see Positioning).



Do not connect to mains power until all the connections are made and checked.

Storing packaging

The packaging is custom designed to prevent damage from occurring during transport. Store the packaging in a dry location.

Positioning

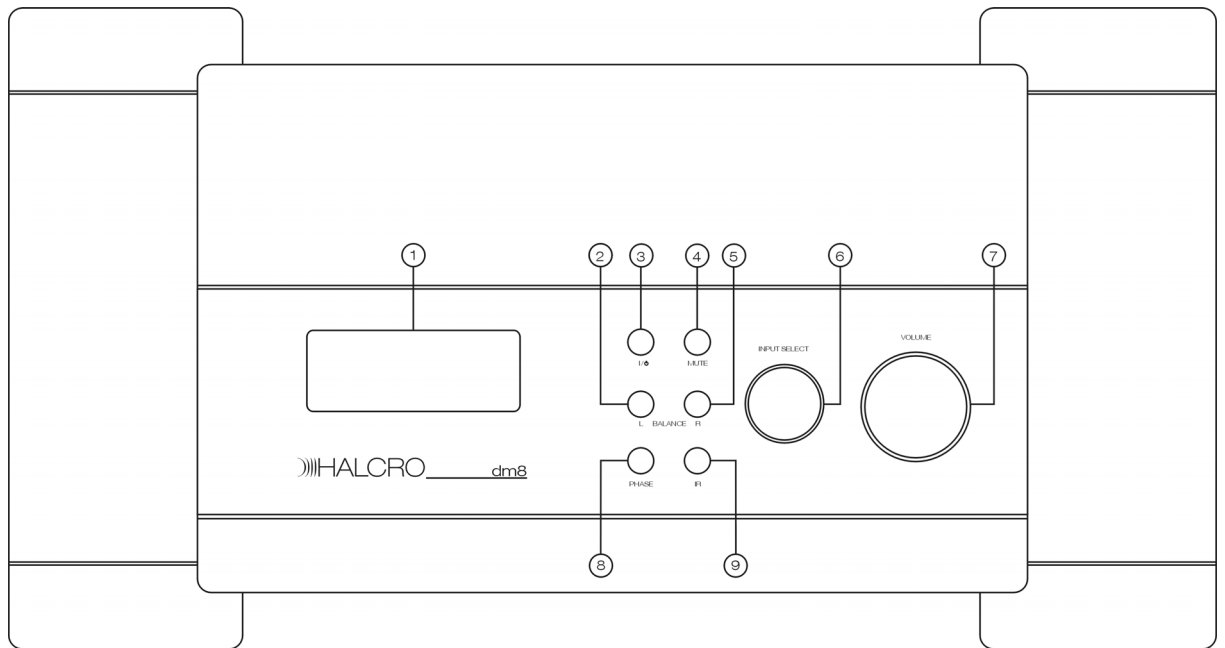
The Halcro dm8 preamplifier can be placed anywhere indoors. There is no need to leave room around the unit to allow for ventilation as the dm8 does not generate significant amounts of heat.

To ensure ultimate performance and to avoid potential safety hazards, place the unit on a firm, level surface. When placing the unit on a shelf, be certain that the shelf and mounting hardware can support the weight of the product.

Controls and Connections

Front panel

Figure 1



- | | |
|----------------------------|--------------------------|
| 1. LCD information display | 5. Balance control right |
| 2. Balance control left | 6. Input select control |
| 3. Standby/On button | 7. Volume control |
| 4. Mute button | 8. Phase button |
| | 9. Remote sensor window |

1. LCD information display: This display delivers messages and system status to assist you in operating the unit. See page 11 for a complete breakdown on the display.

2. Balance control left: Use this button in conjunction with Balance Control Right (Fig 1, 5), to change the relative volume for the left and right channels. Pressing the Left button increases the volume on the left hand channel and decreases the volume on the right.

3. Standby/On button: The Halcro dm8 is designed to remain in Standby mode when not in use. This button will toggle the unit between Standby and On.

To turn the unit off completely, use the Main Power Switch on the rear panel.

4. Mute button: Depressing this button mutes the output to the speakers but not the headphones.

5. Balance control right: Use this button in conjunction with Balance Control Left (Fig 1, 2), to change the relative volume for the left and right channels. Pressing the Right button increases the volume on the right hand channel and decreases the volume on the left.

6. Input select control: Turning this knob, the preamplifier scrolls through all programmed input devices (CD player, Tuner, DVD, and so on) attached to the unit. The corresponding selected input is displayed.

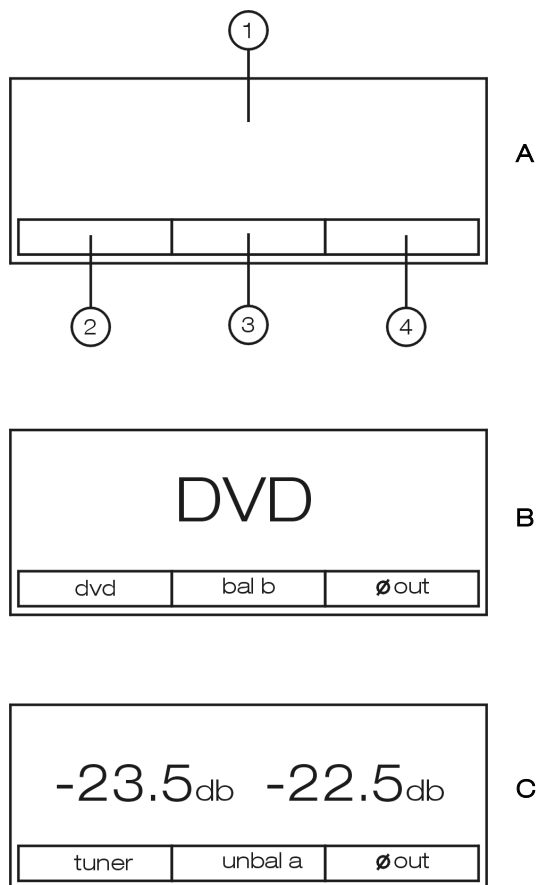
7 Volume control: Turn this knob clockwise to increase the volume and counter-clockwise to decrease the volume. To mute the system, when the speakers are balanced, continue to turn the knob counter-clockwise until the word MUTE appears on the display, or press the MUTE button.

8. Phase button: Depressing this button toggles the unit between in-phase and out-of-phase mode.

9. Remote sensor window: Behind this window is a sensor that receives infrared signals from the remote control. Aim the remote at this area and do not block or cover this sensor window.

Front panel display

Figure 2



1. Main information display: The information provided on this display changes depending on the function that is currently being processed.

In normal use it will display the volume of both the left and right of the system (Fig 2, C).

When a different signal source is selected it will appear on the main display for a few seconds. (Fig 2, B).

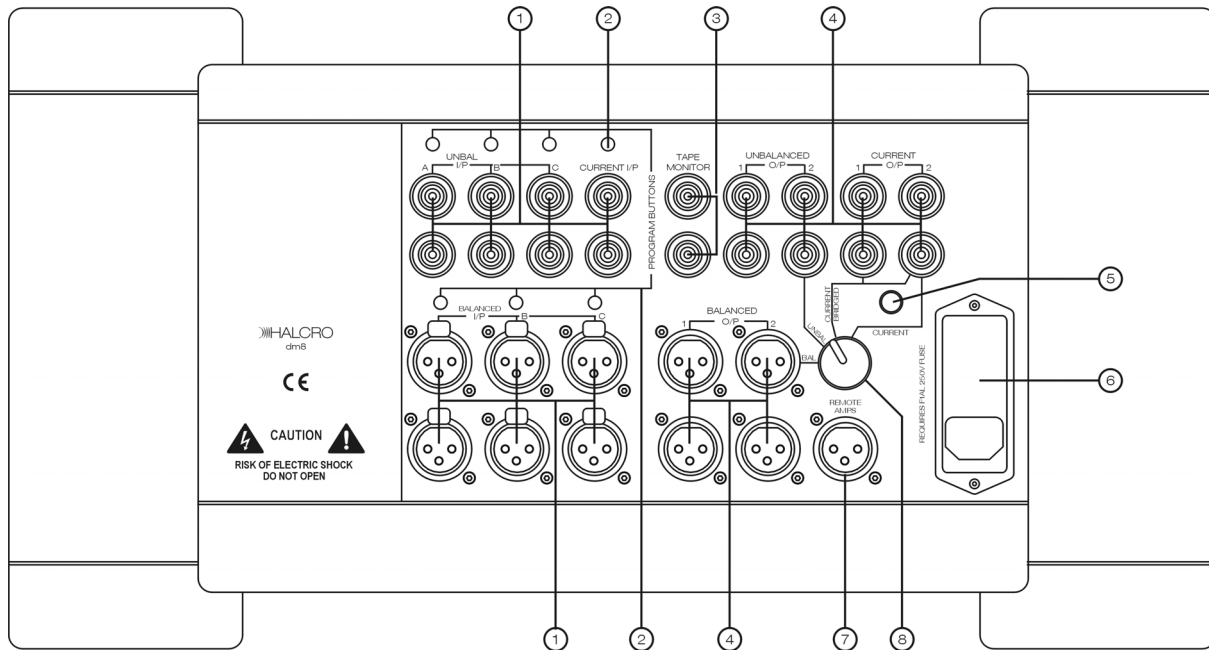
2. Signal source indicator: Displays the signal source, which is currently selected.

3. Signal source location indicator: Displays the input to which the signal source has been connected.

4. Phase indicator: Displays whether the unit is in- or out-of-phase.

Rear panel

Figure 3



1. Programmable inputs
2. Program buttons
3. Tape monitor output
4. Output sockets

5. Remote sensor window
6. Main power switch, mains socket and fuse holder
7. Remote power amplifier output
8. Output selector switch

1. Programmable inputs: Provides connection to your signal sources. It does not matter which input each source is connected to, as these inputs are allocated using remote control.

2. Program buttons: Allows the inputs to be programmed by the remote control. They will remain illuminated once they have been allocated – see *Connecting signal sources* on page 15.

3. Tape monitor output: For recording direct to tape.

4. Output sockets: Used to connect the preamplifier to Power amplifier(s).

5. Remote sensor window: Behind this window is a sensor that receives infrared signals from the remote control. Aim the remote at this area and do not block or cover this sensor window.

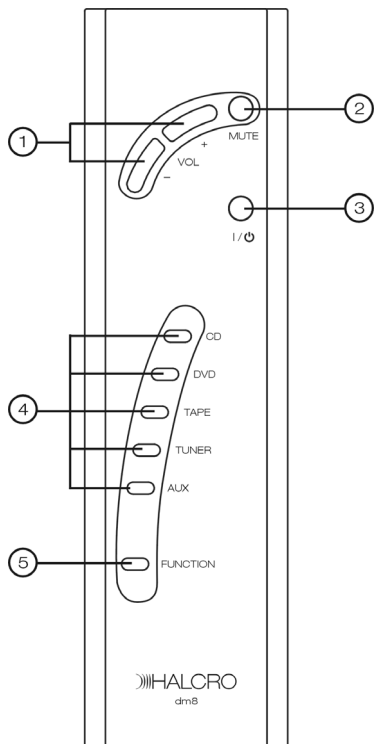
6. Main power switch, socket and fuse holder: Once the dm8 has been programmed, the main power switch can be left on and the dm8 left in Standby when not in use. If the main power switch is turned off, all programming is stored in memory.

7. Remote power amplifier control output: Connect a cable from this output to the power amplifier(s) and the dm8 will switch the power amplifier(s) between Standby and On.

8. Output selector switch: Allows the user to select the type of output required, Balanced, Unbalanced or Current. See *dm8 Outputs* on page 15.

Remote control

Figure 4



1. Volume buttons
2. Mute button
3. Standby/On button
4. Signal source buttons
5. Function button

1. Volume buttons: For volume control and also used in conjunction with the function button for various function selections.

2. Mute button: Press to mute sound to the loudspeakers, press again to reactivate the sound.

3. Standby/On button: Press to switch the system between Standby and On.

4. Signal source buttons: Press to select any one of six signal sources on the dm8.

5. Function button: Press to choose the following functions: balance between the speakers, in-phase and out-of-phase and stereo/ mono. See relevant operating instructions for full details.

Remote control batteries

To replace the batteries, remove the battery cover from the rear of the remote control, and insert the three supplied AAA batteries into the unit (ensure that the polarity is correct). Refit the battery cover.

If the remote control will not be used for a period longer than one month, remove the batteries.

dm8 outputs

The balanced voltage outputs or current-mode outputs are most desirable for minimizing earth loop generated mains hum and ripple, or high frequency interference if these are a problem.

Power Amplifiers with current-mode inputs are rare and are most likely to have an RCA input socket. The advantages of this are:

- earth loop generated mains hum and ripple are minimized
- cable, plug and socket-generated interference are minimized (from poor connections which may be affected by sound vibration for example)

The unbalanced voltage output is quite satisfactory as long as earth loop generated mains hum and ripple are not a problem. (This should not be a problem unless the source equipment is poorly designed.)

Connecting signal sources

As a safety precaution please ensure that the unit is not connected to the mains power while connecting signal sources.

When you initially receive your preamplifier all the inputs are de-allocated.

If you are changing your signal source units, de-allocate the input source first – see *De-allocating Program buttons* on page 18.

Connect all signal source units (such as CD player) to the terminals (Fig 3, 1) at the rear of the preamplifier, make note of which input each signal source unit is connected to.

Connecting home theater processor

As a safety precaution please ensure that the unit is not connected to the mains power while connecting a Home Theater Processor (HTP).

Connect your HTP to any of the programmable inputs at the rear of the preamplifier.

Program the preamplifier to the unit, referring to *Source setup* on page 18. (We recommend you use the DVD function.)

To set the preamplifier to operate with zero gain, adjust both volume channels to 0.0db. The preamplifier will then have no effect on the volume. You will now be able to control the volume of your system by using your HTP volume control.

Connecting to a power amplifier

Each dm8 has:

- two pairs of unbalanced current outputs (use one pair for un-bridged power amplifiers; use both for driving bridged amplifiers)
- two pairs of unbalanced voltage outputs
- two pairs of balanced voltage outputs for power amplifiers.

Select the method you wish to run your power amplifiers in, and connect the units using high quality cables.

Outputs are color-coded:

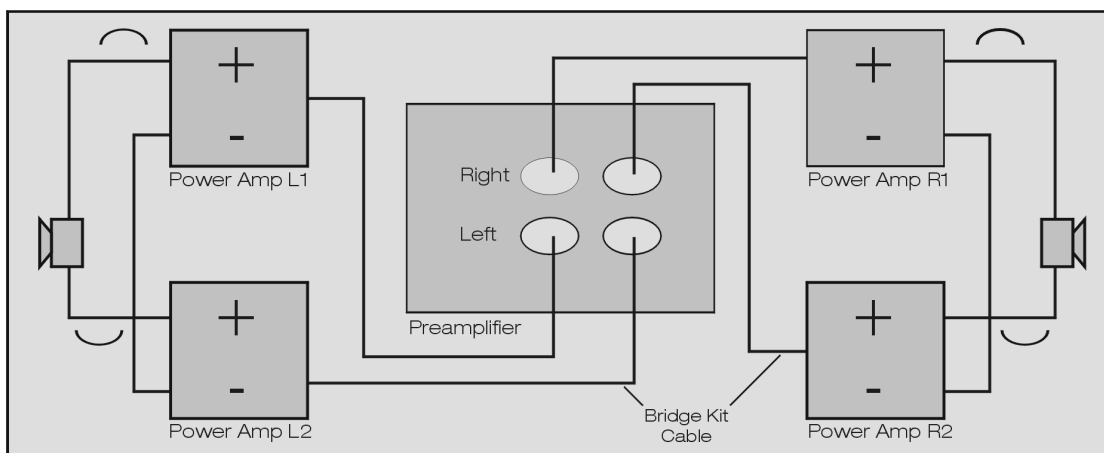
- Positive + right channel (red bezel)
- Negative - left channel (white bezel)

The dm8 will control power amplifiers from balanced and unbalanced voltage sources, as well as an unbalanced current source. The dm8 will also control power amplifiers in bridged pair configuration. Custom-made cables are required to run bridged power amplifiers from the balanced Voltage Output

Remote power amplifier control output

The dm8 has a remote power amplifier control output (Fig 3, 7), which will remotely switch the Halcro amplifiers from Standby to On. Cables can be purchased through Halcro for details please E-mail us at:

service@halcro.com



Connect the mains supply cable

Plug the main power cable into the main power socket on the rear of the dm8. (Fig 3, 6.)

Bridging

The dm8 will control bridged power amplifiers. A bridging kit can be purchased through Halcro, for details please E-mail us at service@halcro.com

Break-in period

The dm8 electronic break-in period is completed at the factory. A further break-in period is not required.

Programmable input selections

The dm8 has seven available pairs of programmable input connectors:

- three unbalanced voltage inputs
- three balanced voltage inputs
- one unbalanced current input

All inputs that have a signal source connected must be programmed by the remote control. Any input can be programmed to connect any source and each button on the remote control can have only one signal source programmed to it at any time.

| Input modes | Required output source impedance | Input socket | Input impedance |
|--------------------------|----------------------------------|--------------|---------------------|
| Balanced voltage input | XLR: Low source impedance | XLR | 10 kohms + 10 kohms |
| Unbalanced voltage input | RCA: Low source impedance | RCA | 10 kohms |
| Unbalanced current input | RCA: Infinite source impedance | RCA | 50 ohms |

Operation

Start up

Switch the main power switch to On.

When the unit is switched on at the main power switch (Fig 3, 6) the preamplifier will go into Standby mode.

Switch the unit on by pressing the Standby/On button on the unit or the remote control. To return the unit to Standby mode, press the Standby/On button again.



NOTE: To continue the setup process, the unit must be On, not in Standby

Source setup

All inputs must be allocated using the remote control (Fig 4).

Once the signal source units (such as CD player) have been connected to the input connector terminals (Fig 3, 1), ensure that the preamplifier is On, not in Standby mode.

Depress the applicable program button (Fig 3, 2) then simultaneously point the remote control to a remote sensor window (Fig 1, 9 OR Fig 3, 5) and press the button on the remote control which corresponds to the signal source unit you have connected.

The program button will flash twice and remain illuminated, indicating that the pair of input connectors are now allocated to the selected signal source unit. Repeat this process for all signal source units.

De-allocating program buttons

To de-allocate program buttons, press and hold the applicable program button and simultaneously point the remote control to a remote sensor window and press the Mute button. The Program button will flash twice and then remain off. This input has now been de-allocated and can be used for another signal source unit.

NOTE: Ensure the location being de-allocated is not the currently selected input; the currently selected input cannot be de-allocated.

Display

Displayed information

In normal use the center of the display will display the volume of both the left and right of the system. When a different signal source is selected, it will appear in the center of the display for a few seconds (Fig 2).

Display contrast

To adjust the display contrast, press and hold any of the Program buttons on the rear panel (Fig 3, 2) and turn the Volume control on the front panel until the desired contrast is achieved.

Back light

The backlight can be turned on and off by using the remote control. Press the function button once (Fig 4, 5) then the Mute button (Fig 4, 2) to toggle the back light on and off.

Volume

Front panel

To change the overall volume of the unit, use the Volume control knob (Fig 1, 7). Turn the knob clockwise to increase the volume (the maximum volume is +20 db) and counter-clockwise to decrease the volume (the minimum volume is -60 db).

To mute the system, continue to turn the knob counter-clockwise until the word MUTE appears on the display, or press the Mute button (Fig 1, 4).

Remote control

To change the overall volume of the unit, use the Volume buttons on the remote control (Fig 4,1).

To mute the loudspeakers, press the Mute button (Fig 4,2). To un-mute the loudspeakers press the Mute button again.

Stored volumes

The dm8 memorizes the volume levels.

A volume setting for each programmed input source is memorized on either power off or on selection of a different input. On re-selection of the input or on power up, the previously memorized volume is returned.

This accommodates differing source outputs. For example, a modern CD player may have an output up to a few volts, whereas an older type of analog tape recorder may only output a few hundred millivolts. This feature will return the volume setting to the previous value.

After power up and switching from Standby to On the preamplifier will enter the mode it was last in when the power was turned off.

NOTE: If the mode is such that the preamplifier output is directed to the amplifiers outputs, the power amplifier set of volumes are used and displayed.

Mute

When the Mute button is pressed, the output to the power amplifier is disabled, the db symbol on the display is replaced by a symbol that looks like a speaker with a line through it and the headphone volumes are used and displayed.

If the Mute button is pressed again the preamplifier output to the power amplifiers is enabled, the power amplifier volumes are used, displayed and the db symbol returns.

Volume – balancing function

Front panel

The volume can be evenly distributed through the speakers or one channel can be louder than the other. To equalize the outputs of the speakers to the same volume, depress both the Left and Right balance buttons (Fig 1, 2 and 5) on the front of the unit at the same time.

Use either the Balance Control Right (Fig 1, 5) or the Balance Control Left (Fig 1, 2) to change the relative volume for the left and right channels. Depressing the Right button increases the volume on the right hand channel and decreases the volume on the left.

To change the overall volume of the unit, use the Volume control knob (Fig 1, 7). Turn the knob clockwise to increase the volume and counter-clockwise to decrease the volume. To mute the system, when the speakers are balanced, continue to turn the knob counter-clockwise until the word MUTE appears on the display, or press the Mute button (Fig 1, 4).

Remote control

Use the Function key on the remote control to change the relative volume for the left and right channels.

Depress the function key once (Fig 4, 5). The display on the preamplifier (Fig 2) will display *BALANCE*, and then use the Volume buttons on the remote control. Depressing the - VOL button increases the volume on the left and decreases the volume on the right. Depressing the + VOL button increases the volume on the right and decreases the volume on the left.

Phase control

To toggle the unit between in-phase and out-of-phase mode depress the phase button on the front panel (Fig 1, 8) or depress the function key (Fig 4, 5) on the remote control twice. The display (Fig 2) will display In or Out. Now press either of the volume buttons on the remote control to toggle the unit between in-phase and out-of-phase mode.

Switching between sources

To select a device, press the appropriate button on the remote control or turn the selector knob on the front panel until the device you require appears in the center of the display. After a few seconds, the center of the display will revert to displaying the volume level, though the selected program source will remain on the lower left hand corner of the display. Only allocated devices are available.

If a source is selected (either through the front panel or remote control) and the correct source is not selected, ensure that the program button adjacent to the input connectors for the selected source is illuminated. If it is not, these input connectors will need to be re-allocated. Refer to *Source setup* on page 18.

Electronic Protection and Reliability

Components

Our components are selected not only for performance but reliability as well, for example:

- all Halcro electrolytic capacitors are rated at a minimum of 105°C instead of the usual 85°C rating.

The operational life of electrolytic capacitors is severely shortened at temperatures near the maximum temperature rating. This is shown in the table below.

- all Halcro integrated circuits are at least "industrial grade" rather than the usual "commercial grade".

Industrial grade components are rated at least from -40°C to +85°C whereas commercial grade components are only rated from 0 to 70°C. In addition, the electronic specifications of industrial grade components are superior to commercial grade.

Considering that most amplifiers run at significantly elevated temperatures, it can be seen from the table below that the Halcro high temperature rated capacitors are highly advantageous compared to the standard 85°C rated devices.

Mains transient overload protection

The mains input is protected against all but the most severe mains input transients. Two independent circuits achieve this.

| Electrolytic capacitor temperature rating | Mean lifetime at 40 degrees Centigrade | Mean lifetime at 85 degrees Centigrade | Mean lifetime at 105 degrees Centigrade |
|---|--|--|---|
| 85°C (most commonly used) | 50,000 hours | 2,000 hours | 0 hours |
| 105°C (used in Halcro amplifiers) | 180,000 hours | 8,000 hours | 2,000 hours |

Typical data from a highly respected manufacturer

dm8 Specifications

Inputs

- three RCA Unbalanced Voltage Mode
- three XLR Balanced Voltage Mode
- one RCA Current Mode

Any five of the above I/Ps are user programmable to respond to the device names; CD, Tuner, Tape, Aux 1, Aux 2

Outputs

- two pair RCA Unbalanced Voltage Mode, Bridgeable
- two pair XLR Balanced Voltage Mode, Bridgeable
- two pair RCA Current Mode; 1 pair for un-bridged connection, the other pair used in bridged mode
- one pair RCA Tape output
- six-pin XLR power ON/OFF, both pulsed and level output control

Power supply

Switch-mode, >200 kHz CW, 4th order mains filter, 4th order supply rail filter. Fully complies with EMC and CE standards. Circuit contains extensive mains transient protection and fault sensing protection. 85-240 V AC, 50-60 Hz.

Conforms with PFC and EU emission standards set 2002.

Power consumption

100 W max via IEC input.

Mains voltage

All voltages from 85 to 240 V AC at 40 to 200 Hz or 120 to 340 V D.C. (Power supply will operate up to 270 V r.m.s. but IEC sockets rated up to 240 V by regulatory authorities.)

Controls

| | |
|---------------|---|
| On/Standby: | <u>Front Panel:</u> 1 x Push Button <u>Remote Control:</u> 1 x Push Button |
| Volume: | <u>Front Panel:</u> Optical Rotary Encoder with Halcro Flux Detent <u>Remote Control:</u> 2 x Push Buttons |
| Input Select. | <u>Front Panel:</u> Optical Rotary Encoder with Halcro Flux Detent <u>Remote Control:</u> 5 x Push Buttons |

| | |
|---------------------------------|--|
| Balance: | <u>Front Panel:</u> 2 x Push Buttons <u>Remote Control:</u> Function Key, 2 x Push Buttons |
| Mute: | <u>Front Panel:</u> 1 x Push Button <u>Remote Control:</u> 1 x Push Button |
| Phase: | <u>Front Panel:</u> 1 x Push Button <u>Remote Control:</u> Function Key, 1 x Push Button |
| Input Program: | <u>Rear Panel:</u> 7 x Push Buttons |
| Toggle Display Backlight On/Off | <u>Remote Control:</u> Function Key, 1 x Push Button |
| Display: | Backlit LCD Displays L and R volume setting, selected input and phase. |

Dimensions

Width: 448 mm, 17.64 in
 Depth: 400 mm, 15.74 in
 Height: 240 mm, 9.44 in
 Weight: 23 kg, 50 lb

Remote dimensions

Length: 183 mm, 7.2 in
 Width: 50 mm, 1.96 in
 Thickness: 24 mm, 0.94 in
 Weight: 280 g, 0.6 lb

Shipping dimensions

Wooden case

Width: 585 mm, 23 in
 Depth: 535 mm, 21 in
 Height: 515 mm, 20 in
 Weight: 36 kg, 81 lb

Aluminum case

Width: 585 mm, 23 in
 Depth: 535 mm, 21 in
 Height: 390 mm, 15.5 in
 Weight: 38 kg, 81 lb

Gain

Unbalanced and balanced -60 dB to +20 dB
 set by volume control.

Input impedance

- 10 kohms + 10 kohms balanced
- 10 kohms unbalanced
- 50 ohms for current mode

Output impedance

- 170 + 170 ohms balanced and 170 ohms unbalanced
- > 30 kohms current mode
- 340 ohms tape

Distortion

Immeasurable - below noise floor.

At full specified output, < 250 parts per billion (-132 dB) for balanced and unbalanced and current modes.

Volume control

+20 to -60 dB in 0.5 dB steps

PCB

Four-layer PCBs for ultra high accuracy reference potentials.

Components

Vishay 0.5% resistors and FKP1 1250V or MKP10 in critical audio signal paths.

Input programming

Each input may be assigned to a source. The assigned source is defined on the display and on the remote control. This is memorized and may be either reprogrammed or un-assigned. The programming is performed using the remote and a remote input receiver resides both on the front and rear panel for flexibility of implementation. The program status of each input is displayed on a LED associated with each input.

Memory

All volume gain settings for each programmed input (source) are remembered upon either power off or upon selection to a different input. Upon re-selection to each input, or upon power up, the previously remembered volume for each input is reinstated.

This accommodates differing source outputs. For example, a modern CD player may have an output up to a few volts, whereas an older type of analogue tape recorder may only attain a few hundred millivolts. This memory feature thus will return the volume setting at the appropriate previously set value.

Care and Maintenance

The Halcro preamplifier has been designed for indoor use only. Under no circumstances should the preamplifier be allowed to get wet. The only maintenance required will be ensuring the unit is kept clean.

Cleaning

Halcro takes no responsibility for any damage caused through careless or improper cleaning techniques.



WARNING: Never use flammable products when cleaning the Halcro dm8.

The outer surface of the unit is anodized aluminum, which while being very durable, will be marked if rubbed with an abrasive cloth.

Please read the following procedures very carefully:

- o Before cleaning, turn the power to the unit off at the main power switch.
- o Use only extremely soft cloths.
- o Use a soft dry cloth to remove any dust.
- o Add 0.5 fl oz (15 ml) of very mild household dishwashing detergent to a one-gallon (four-liter) bucket of tepid water.

- o Immerse the soft cloth in the bucket of water and then wring the cloth out thoroughly until the cloth is nearly dry.
- o Use the slightly damp cloth only to clean the anodized aluminum surfaces.

Never clean any electrical fittings, terminals or the front and rear Labels with the damp cloth.

No moisture should ever be allowed to enter the amplifier's compartments through the joins in the panels.

- o After using the slightly damp cloth, wipe over the surfaces with a soft dry cloth.
- o Clean the labels using an extremely soft polishing cloth, which must be dry.
- o Allow the unit to air for at least one hour before switching the power back on.

if you are unsure about the cleaning of the preamplifier and require more information, please ask your dealer or contact Halcro at:

service@halcro.com

Troubleshooting

The Halcro dm8 contains no user serviceable parts inside the compartment. Please do not attempt to open the unit as this **will void the warranty** and will expose you to dangerous voltages. For all service requirements please contact your dealer, or Halcro at:

service@halcro.com

If the dm8 does not operate as expected first switch the dm8 back to Stand-by and then switch the main power switch off. Once the display has turned off switch the main power switch back on and then switch the unit from Stand-by to On. This will reset the micro-processors in the dm8.

| Symptom | Remedy |
|---------------------------------------|---|
| No display characters or illumination | Check mains power input is connected and turned on. Check fuse. |
| No audio output | Ensure the input to which your source is connected is selected. Ensure the selected source is correctly programmed (The light above correct input pair must be illuminated) Ensure the output select switch is set to the correct output mode. Ensure the dm8 is not muted or the volume is too low. |
| Will not select source | Ensure the source is connected to a programmed input and the program button adjacent to the input is illuminated. |
| Can not de-allocate an input | Ensure you are not trying to de-allocate an input that is currently selected on the display screen. The software does not allow this. |
| Remote control does not work | Change batteries. Remote transmitter may overload the receiver if too close (100 mm/4") to the Remote sensor window. Remote sensor window may be blocked |

If none of the above rectifies the problem, please contact your dealer for service.

Service and Warranty Information

Overview

All Halcro products are designed and built to world-class standards of quality, reliability, and performance. Since so much care has gone into our products, we are able to offer a strong warranty that protects your investment in Halcro products for years to come. It is our expressed desire that your Halcro products work flawlessly and that you enjoy music, movies, and audio/video entertainment without interruption or compromise to performance.

It is the goal of Halcro Customer Service to provide efficient and timely service to Halcro owners and to our dealers. In the event of a technical problem or failure, we will work with you and your authorized Halcro dealer to minimize down time and provide expedient service to remedy the situation. We suggest that your Halcro dealer be the first point of contact should you experience any problems. Solutions are often simple and can be handled in the field. Please do not attempt to open up sealed compartments on any Halcro products.

Product warranty

Halcro warrants the dm8 preamplifier to be free from defects in materials and workmanship for a period of four years from the original date of purchase. During the warranty period, Halcro will remedy all such defects without charge for parts or labor.

Exclusions to the warranty

This warranty does not extend to damage resulting from improper installation or setup, misuse, neglect, or abuse. Changes in the appearance of the product resulting from normal wear and tear, moisture, or atmospheric conditions are not warranted. The warranty shall be void and of no effect if any of the following occur:

- the defect has resulted from improper, unreasonable, or negligent use
- the defect is a result of accident, tampering, alteration, or modification
- the defect is a result of improper installation or setup by a third party
- the unit's serial number has been removed, altered, or made illegible
- Halcro is not liable for incidental or consequential damage of any kind
- Halcro does not warrant system design or installation

Transferability

Transferability means that the warranty stays with the product from the date of original purchase through the full warranty period, regardless of who owns the product.

The Halcro warranty is transferable, providing that the original sales receipt or proof of purchase is supplied to both subsequent owners and to Halcro when ownership changes.

Warranty verification

It is the owner's responsibility to show proof of purchase verifying that the unit to be serviced is within the warranty period. Proof of purchase options include:

- copy of sales receipt showing name of original owner, dealer, and purchase date
- copy of credit card voucher or cancelled check accompanied by owner's record of purchase date and serial number

Warranty registration

While not required for service, we request that you register your Halcro product as soon as you purchase it. Please use the Halcro Product Warranty Registration form that is provided or request a copy from your Halcro dealer.

If service is required

We suggest that you work with your authorized Halcro dealer when the need for technical service, training, or applications advice arises.

To qualify for free warranty service, the following conditions must be met:

- the unit must be returned to Halcro or its authorized repair center in the original packing materials

This will ensure the safety of the equipment. If you have misplaced or damaged the original packaging, you can purchase new packaging through your dealer or directly from Halcro.

- the unit must be accompanied by a copy of the Halcro Product Warranty Registration card and the original sales receipt
- shipments to Halcro must include a Return Authorization number

To obtain this authorization, please ask your dealer or E-mail Halcro directly (see contact information below).

- Halcro cannot be held responsible for any damage caused to your equipment during shipping due to improper packaging

If the packaging material needs to be replaced on its arrival at the factory, the owner will be informed of the replacement cost.

Transportation of products

Halcro pays freight one-way to return product once warranty repair is completed. Halcro requests prepaid shipment to the factory or to a designated repair center or service agency. We are not equipped to accept freight collect shipments.

Halcro is not liable for freight, courier, or other charges incurred in transporting a unit to and from a dealership, service center, or the factory unless written approval and instructions are issued in advance. Such documents must include the Halcro Return Authorization number, a detailed description of the situation, and signature of authorized Halcro representative.

Freight damage claims

If a unit being returned to Halcro is damaged in shipment, Halcro will contact the carrier for inspection. The carrier will contact the shipper regarding the claim. Halcro is not liable for damage or delays caused in shipment to or from Halcro facilities.

If you have moved

In the event that you have changed locations since your original Halcro purchase, we will happily direct you to your nearest authorized Halcro dealer on request.

Thank you for choosing Halcro!

We trust that you will enjoy the performance of your Halcro equipment long past the warranty period. Thank you for choosing Halcro!

Copyright and acknowledgements

This product is manufactured by Extraordinary Technology (Hi-Fi) Pty Ltd trading as Halcro and Halcro Audio (USA) Inc.

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