The Architects of Sound

HALCRO Reference Audio

In October 2002 the highly respected Stereophile Magazine (USA) released an issue with a headline on the front cover stating "Halcro's dm58: The Best Amplifier Ever!"

"The Halcro dm58 is a paradigm-destroying component that could well justify the creation of a 'Class A+' amplifier category in 'Recommended Components'. It really is that good."

Paul Bolin, Stereophile Magazine, October 2002.

HALCRO Reference Audio

Reference is a term used far too loosely in the high-end audio world. Most companies name a line of products 'reference quality'. To be truly reference quality a product must show it can reproduce music exactly as it was recorded, this is not the case with most products.

Halcro's team of physicists and engineers led by Bruce Candy, a highly regarded physicist and committed audiophile, have created true reference quality products without adding any exaggerated characteristics or coloration to the music. Halcro reference audio delivers 'straight wire with gain' transparency resulting in purity and musicality of the finest nature. A lower noise floor brings you more dynamic range and improved sound staging. Top-end, mid-range and bass are life-like and untainted.

If you are passionate about the natural and emotional response produced by music, you must own Halcro.

What do you do
when you make...

...the best amplifier ever! *Stereophile Magazine, October 2002.*

You improve it.

Announcing the new
dm88 and dm78
monoblock amplifiers.

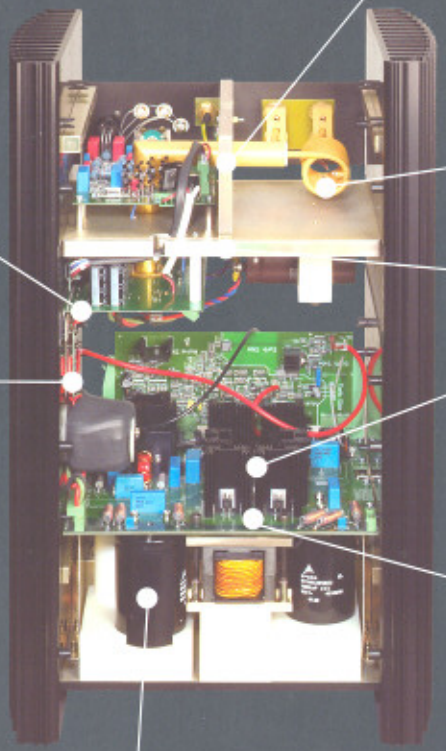
Components used are industrial-grade. They are more tolerant to extremes of temperature and have a longer life than commercial-grade components.

Substantial eddy current and electrostatic shielding used throughout reduces noise coupling which lowers distortion.

Air-pressure activated power switch to minimise interference.

Six-layer Printed Circuit Boards used in amplification stage to isolate and shield functional areas to lower high-end THD.

Twelve MOSFETs provide amplification, allowing amplifier to drive all loudspeaker loads.



Gold-plated wound copper tube connected to speaker terminals lowers inductance.

Housing the amplification and power supply in separate compartments reduces supply-generated noise leaking into the audio section.

Universal Power Factor Corrected power supply. This power supply has no toroidal transformer. It is a switching, not a linear, power supply.

Four-layer Printed Circuit Boards in power supply isolates and shields functional areas improving power supply efficiency.

Fibreoptics are used for the standby/on light. This increases safety and minimises interference.

Large capacitors deliver extremely low Equivalent Series Resistance (ESR) enabling faster response time to signal, resulting in a more natural sound.

Beneath the elegant outer casing of a Halcro amplifier lies a combination of revolutionary circuitry, meticulous attention to detail and plain commonsense. Halcro's proprietary circuitry configuration is such a lateral step, it is not recognizable as that of an amplifier to many engineers. The power supply and audio compartments are physically separated and heavily shielded to retain purity of the signal. Levels of distortion and interference are a fraction of that of all other amplification technologies.

Total Harmonic Distortion is now less than 500 parts per billion at full power (20kHz). This is as close to perfection as the laws of physics will allow. It is also a fact of physics that distortion is responsible for creating ghost notes. For example; when two notes are played simultaneously, say E in one octave and C in the octave above, the distortion of an amplifier will create a third note; G, in the octave below that of E. Within harmonically complex music, distortion clutters the signal with exaggerated, harsh and confusing sounds. Halcro's circuitry has been designed to eliminate these intrinsic non-linear effects.

A quantum leap.

Halcro's Power Factor Corrected power supply is responsible for the reduction in interference. It delivers a seamless continuum of power, operating normally at any mains voltage between 85V and 270V rms without internal or external switches. It balances the incoming current and voltage waveforms so that they are identical and in-phase. Ambient inner detail, previously buried under low-level interference, is allowed to breathe.

Not only does Halcro provide a clearer signal, it delivers with life-like speed. The power supply rail droop in the Halcro units is a fraction of that of a conventional power supply; hence a slew rate of 100V per microsecond at peak output voltage. The refresh rate is 1/115,000 of a second, compared with standard peak rectification power supplies that refresh approximately every 1/100th of a second.

The best way to truly understand the effects of these technological advancements is to simply listen to Halcro.

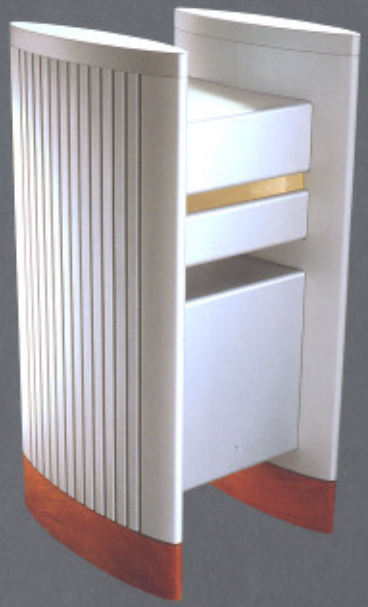
Over the past decade the Halcro Research and Development Team has perfected the quality of its products in both electronic and mechanical design through continual development and thorough testing. The flagship of Halcro's range is the dm88 monoblock amplifier. With a power rating of 270 Watts at 8 ohms (continuous), and up to 2.1 kW at peak, this amplifier has no equal.

With superior reliability and improved performance, the Halcro power amplifiers are a triumph of form and function. Wrapped in silky anodised aluminium with solid hardwood feet, these freestanding units complement any environment without overwhelming it.

Power amplifiers

The power supply and amplification units are housed in completely separate compartments. This departure from the traditional 'one-box' format freed up the designers to create something approaching sculpture. Attention to detail extends as far as hiding all fasteners from sight. This innovative design received a 2002 Good Design Award from the Chicago Athenaeum: Museum of Architecture and Design; the oldest and most prestigious industrial design award in the USA.

They sound as good as they look



dm88 monoblock amplifier

- Operates at up to 2.1 kW at peak
- 270 Watts continuous into 8 ohms
- 500 Watts continuous into 4 ohms
  (Continuous - Halcro power ratings are measured at continuous power unlike many competitors who publish measurements tested at peak ratings)
- Distortion of less than 500 parts per billion at full power (20kHz). Immeasurable at normal listening levels.
- Four input options: Balance voltage input
  Unbalanced voltage input
  Minimal path voltage input
  Current input
- New universal power factor corrected power supply 85V - 270V RMS. Superior reliability with heavy shielding.
- Discrete codes for On/Standby trigger.
  This simplifies the remote control of the amplifier by another source component.
- Series and common mode filtering on the mains input
- Drives all loudspeakers, including electrostatics
- Solid Mahogany feet
- 7 year warranty

dm78 monoblock amplifier

- Operates at up to 2.0 kW at peak
- 225 Watts continuous into 8 ohms
- 400 Watts continuous into 4 ohms
  (Continuous - Halcro power ratings are measured at continuous power unlike many competitors who publish measurements tested at peak ratings)
- Distortion of less than 1,000 parts per billion at full power (20kHz). Immeasurable at normal listening levels.
- Three input options: Balance voltage input
  Unbalanced voltage input
  Current input
- New universal power factor corrected power supply 85V - 270V RMS. Superior reliability with heavy shielding.
- Series and common mode filtering on the mains input
- Drives all loudspeakers, including electrostatics
- Solid Mahogany feet
- 5 year warranty

dm38 stereo amplifier

- Operates at up to 1.8 kW at peak
- 180 Watts continuous into 8 ohms per channel
- 350 Watts continuous into 4 ohms per channel
  (Continuous - Halcro power ratings are measured at continuous power unlike many competitors who publish measurements tested at peak ratings)
- Distortion of less than 3,000 parts per billion at full power (20kHz). Immeasurable at normal listening levels.
- Three input options: Balance voltage input
  Unbalanced voltage input
  Current input
- Power factor corrected power supply
- Discrete codes for On/Standby trigger.
  This simplifies the remote control of the amplifier by another source component.
- Series and common mode filtering on the mains input
- Drives all loudspeakers, including electrostatics
- Solid Mahogany feet
- 5 year warranty

Given the quantum leap in sound reproduction quality delivered by a Halcro power amplifier, it is only logical that other elements of the signal chain need to be of the same high standards. Hence the range of Halcro preamplifiers. Levels of THD and IM distortion are so low that they are immeasurable. Noise specifications are also exceptionally low.

As with the power amplifiers, softer forms and textures are used for the outer casing. Fasteners are concealed and the heatsinks are integrated into the external form to maintain clean simple lines. 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.

Preamplifiers

The dm10 includes a reference quality phono stage which allows for cartridge loading adjustment, with continuously variable capacitance and resistance, which means you can precisely calibrate the cartridge to your system.

The remote controls are machined from an aluminum extrusion and sit comfortably in your hand with a small array of buttons falling within the natural sweep of the thumb.

Every effort has been made to keep this product free of unnecessary complexity.

dm10 preamplifier

Balance, mute, phase invert, and mono functions all on the front panel, as well as on the remote control

5V DC trigger, to turn Halcro amplifiers on and off in conjunction with the preamp

All input sockets can be programmed for any source

Power supply and audio section are heavily shielded

Reference quality phono stage with continuously variable cartridge loading adjustment

RCA voltage & current inputs

XLR voltage inputs

RCA voltage & current outputs

Headphone amplifier

5 year warranty

dm8 preamplifier

Balance, mute and phase invert functions all on the front panel, as well as on the remote control

5V DC trigger, to turn Halcro amplifiers on and off in conjunction with the preamp

All input sockets can be programmed for any source

RCA voltage & current inputs

XLR voltage inputs

RCA voltage & current outputs

4 year warranty

Each preamplifier comes with a full function remote control housed in a finely textured aluminum extrusion.

dm10

dm8

"They are truly the closest design yet to the ideal of a straight wire with gain. They simply present truthfully what was recorded without editorializing. As a recording engineer I believe that is the highest praise one can bestow on any audio component."

Peter McGrath - Recording Engineer, Harmonia Mundi.

HALCRO

"Stereophile" (USA)
'2002 Product of The Year'

"Stereophile" (USA)
'2002 Amplifier of The Year'

"Robb Report" (USA)
2002 Best of the Best Award 2002
'Best Audio Equipment'

Chicago Athenaeum: Museum of Architecture and Design
'Good Design Award 2002'

"Stereo Magazine" (Japan)
2002 Best Buy Component Awards
'Best Buy in the Power Amplifier category above 1 million yen'

'Halcro Does it Again, With The dm38 Amp'
"Stereophile" (USA) Front Cover, October 2004

"FM Fan" (Japan) Audio Best Buy 2001
'No.1 Power Amplifier in all categories'

"Radio Technique" (Japan) Best Stereo Component Grand Prix 2001 Awards
'Grand Prix Award for No.1 Power Amplifier in all price categories'

"Super AV" magazine (Hong Kong)
'The Outstanding PowerAmplifier 2001'

"Hi Fi Review" magazine (Hong Kong)
'Product Of The Year 2001'

HALCRO dm88, 78, 38 power amplifier

Specifications and Features

dm88 MONOBLOCK

POWER
Power output into 4ohms resistive
> 500W

Power output into 8ohms resistive
> 270W

DISTORTION (Footnote 1)
At full power output, all harmonic distortion orders

THD <-126dB (< 500 parts per billion) up to 20kHz (100kHz B.W.) at 500W into 4ohms.

THD @ 1kHz is <-140dB (<100 parts per billion).

For a sum of 19 and 20kHz tones, each delivering 100W into 4ohms = peak power 500W, intermodulation products each <-126dB relative to output.

SMPTE-IM intermodulation products each <-126dB relative to output

INPUTS
There are 4 input modes:

- An unbalanced voltage mode input with an impedance of 100kOhm
- A balanced voltage mode input with an impedance of 100kOhms +100kOhms
- A current-mode input with a 60Ohm input impedance to minimize cable reflections (to be fed from an infinite impedance current source)
- A minimal path voltage mode with an input impedance of 660Ohms.

The voltage gain of the balanced and unbalanced inputs is 60V/V and 30V/V for the minimal path mode.

The gain of current mode is 9V/mA.

COMPARTMENTS
There are 4 heavily shielded compartments:

- A power supply unit
- An input amplifier section
- A power amplifier compartment
- An output filter compartment

dm78 MONOBLOCK

POWER
Power output into 4ohms resistive
> 400W

Power output into 8ohms resistive
> 225W

DISTORTION (Footnote 1)
At full power output, all harmonic distortion orders

THD <-120dB (< 1000 parts per billion) up to 20kHz (100kHz B.W.) at 400W into 4ohms.

THD @ 1kHz is <-134dB (<200 parts per billion).

For a sum of 19 and 20kHz tones, each delivering 100W into 4ohms = peak power 400W, intermodulation products each <-120dB relative to output.

SMPTE-IM intermodulation products each <-120dB relative to output

INPUTS
There are 3 input modes:

- An unbalanced voltage mode input with an impedance of 100kOhm
- A balanced voltage mode input with an impedance of 100kOhms +100kOhms
- A current-mode input with a 60Ohm input impedance to minimize cable reflections (to be fed from an infinite impedance current source)

The voltage gain of the balanced and unbalanced inputs is 60V/V

The gain of current mode is 9V/mA.

COMPARTMENTS
There are 4 heavily shielded compartments:

- A power supply unit
- An input amplifier section
- A power amplifier compartment
- An output filter compartment

dm38 STEREO UNIT

POWER
Power output into 4ohms resistive
> 350W

Power output into 8ohms resistive
> 180W

DISTORTION (Footnote 1)
At full power output, all harmonic distortion orders

THD <-110dB (<3000 parts per billion) up to 20kHz (100kHz B.W.) at 350W into 4 ohms.

THD @ 1kHz <-130dB (<300 parts per billion).

For sum of 19 and 20kHz tones, each delivering 100W into 4 ohms = peak power 350W, intermodulation products each <-110dB relative to output.

SMPTE-IM intermodulation products each <-110dB relative to output.

INPUTS
There are 3 input modes:

- An unbalanced voltage mode input with an impedance of 10kOhm
- A balanced voltage mode input with an impedance of 10kOhms +10kOhms
- A current-mode input with a 60Ohm input impedance to minimize cable reflections (to be fed from an infinite impedance current source)

The voltage gain of the balanced and unbalanced inputs is 30V/V

The gain of the current mode is 5V/mA

COMPARTMENTS
There are 3 heavily shielded compartments:

- A power supply unit
- An input amplifier section
- A power amplifier compartment

Specifications and Features
dm88, 78, 38 power amplifier
HALCRO

HALCRO dm8 preamplifier with remote control

Specifications and Features

INPUTS
- 3 RCA Unbalanced Voltage Mode
- 3 XLR Balanced Voltage Mode
- 1 RCA Current Mode

Any 5 of the above I/Ps are user programmable to respond to the device names; CD, Tuner, Tape, Aux1, Aux2

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

POWER SUPPLY
Switch-mode, >200kHz 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.
85-240VAC, 50-60Hz
Conforms with PFC and EU emission standards set for 2002

POWER CONSUMPTION
100W max via IEC input

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

CONTROLS
On/Standby:
Front Panel:
1 x Push Button
Remote Control:
1 x Push Button

Volume:
Front Panel:
Optical Rotary Encoder with Halcro Flux Detent
Remote Control:
2 x Push Buttons

Input Select:
Front Panel:
Optical Rotary Encoder with Halcro Flux Detent
Remote Control:
5 x Push Buttons

Balance:
Front Panel:
2 x Push Buttons
Remote Control:
Function Key,
2 x Push Buttons

Mute:
Front Panel:
1 x Push Button
Remote Control:
1 x Push Button

Phase:
Front Panel:
1 x Push Button
Remote Control:
Function Key,
1 x Push Button

Input Program:
Rear Panel:
7 x Push Buttons

Toggle Display Backlight On/Off
Remote Control:
Function Key,
1 x Push Button

Display:
Backlit LCD Displays L&R volume setting, source selected, selected input, and phase.

DIMENSIONS
Width: 448mm, 17.64 inches
Depth: 400mm, 15.74 inches
Height: 240mm, 9.44 inches
Weight: 22.5kg, 48lbs

REMOTE DIMENSIONS
Length: 183mm, 7.2 inches
Width: 50mm, 1.96 inches
Thickness: 24mm, .94 inches
Weight: 280gm, 0.6 lbs

SHIPPING DIMENSIONS
– Wooden case
Width: 585mm, 23 inches
Depth: 535mm, 21 inches
Height: 515mm, 20 inches
Weight: 36 kg, 81 lbs

– Aluminium case
Width: 585mm, 23 inches
Depth: 535mm, 21 inches
Height: 390mm, 15.5 inches
Weight: 38 kg, 81 lbs

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

INPUT IMPEDANCE
- 10kohm + 10kohm balanced
- 10kohm unbalanced
- 50ohms for current mode

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

DISTORTION
Unmeasurable- below noise floor. At full specified output, < 250 parts per billion (-132dB) for balanced and un-balanced and current modes.

VOLUME CONTROL
+20dB to -60dB in 0.5dB steps.

PCB
4-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 memorised 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.

Specifications and Features
dm8 preamplifier with remote control
HALCRO

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