38 Anniversary Limited Edition

USER GUIDE

All the 38 Anniversary Limited Edition components are tested and each is matched to ensure optimum performance.

Serial number _____

Approved by _____

SPECIFICATIONS

WOOFER	38 LE W
Nominal Impedance (Ohm)	4 Ω
Power Handling Wrms	140
Max. Transient Power Handling	600
Sensitivity (2.83V/1M)	88
Frequency Response Hz	49-2000
Resonant Frequency Fs Hz	47
Voice Coil Diameter mm (inch)	75 (3.00)
Voice Coil Height mm (inch)	14.5 (0.57)
Voice Coil Type/Bobbin	Titanium
Voice Coil Wire	Hexatech™ Aluminum
DC Resistance (Ohm)	3.6 Ω
Voice Coil Inductance @1 kHz (mH)	0.38
Magnet System	Neodymium
HE-Magnetic Gap Height mm (inch)	6mm (0.23)
B-Flux Density (T)	0.65
BL Product/BXL	6.3
Max. Linear Excursion/Xmax mm (inch)	± 4.25 (± 0.16)
Suspension Compliance CMS mm/N	0.36
Mechanical Q Factor QES	0.67
QTS	0.58
QMS	8
Mechanical Resistance RMS N•S/m	1.0
Moving Mass MMS gr.	20.27
Equivalent Can Air Load L (cu.ft^3)	7.06 (0.24)
Effective Piston Area SD cm^2 (inch^2)	123 (4.34)
Cone Type	Triple layer sandwich cone
Cone Material	Carbon fiber/ Rohacell sandwich
Unit Diameter mm (inch)	165 (6.50)
Mounting Depth mm (inch)	61 (2.4)
Mounting Cutout mm (inch)	141 (5.55)
Net Weight kg (lb)	0.90 (1.98)

	38 LE M	38 LE TW
Nominal Impedance (Ohm)	6 Ω	6 Ω
Power Handling (wRms)	100	130
Max Transient Power Handling W (10ms)	300	350
Sensitivity (2.83V/1M) (dB)	88	90
Frequency Response Hz	300-6000	1450-25000
FS (Hz)	450	1200
Voice Coil Diameter mm (inch)	54 (2.125)	28 (1.125)
Voice Coil Type/Former	Aluminum	Aluminum
Voice Coil Wire	Hexatech™ Aluminum	Hexatech™ Aluminum
DC Resistance (Ohm)	5.1 Ω	5.2 Ω
Magnet System	Neodymium rear vented	Double Neodymium magnet
Dome Type	Acuflex™ hand coated soft dome	Acuflex™ hand coated soft dome
Dome Material	Silk	Silk
Unit Diameter mm (inch)	100 (3.93)	62.6 (2.4)
Mounting Depth mm (inch)	18 (0.7)	14.25 (0.56)
Mounting Cutout mm (inch)	75 (2.95)	44 (1.73)
Net Weight kg (lb)	0.25 (0.55)	0.083 (0.18)
Wiring	Van den hul	Van den hul

CROSSOVER	MX280 LE	MX380 LE
Crossover Point	W: 2000Hz/12dB T:3000Hz/12dB	W:500Hz/12dB M:500Hz/6dB 3500Hz/12dB T:4500Hz/12dB
Crossover Controls	Tweeter +/- 2dB	Tweeter +/- 2dB Mid +2dB
Wiring Options	Bi Wire / Bi amp	Bi Wire / Bi amp

ENCLOSURE RECOMMENDATIONS	38 LE W
Sealed Option	0.14 ft^3 (4 Liter)
Sealed Range	0.11-0.35 ft^3 (3.1-10 Liter)
Vented Option	0.35 ft^3 (10 Liter) @ 65Hz

Music. It's what the 38 Limited Edition is all about.

The 38 Limited Edition is a tour de force of our abilities. Morel poured thirty-eight years of know-how and passion for hifi audio into each component systems to ensure that the music will be as engaging, dynamic and natural as the artist originally intended. Our engineers developed the drive units using advance speaker technology that employs materials such as titanium and carbon fibre, along with Morel's leading-edge speaker technology, to ensure the highest level of performance. Each system is hand assembled in house and fully tested at the most strict conditions to ensure a remarkable sound as well as beauty.

Morel promises the 38 Limited Edition will reproduce a whole new level of performance for a vibrant and engaging life-like encounter.

TECHNOLOGY FEATURES

1. One Piece Carbon Fibre Sandwich Cone

Derived from the drivers of our award winning fat lady speaker system, this cone design is comprised of two exterior carbon fibre skins sandwiching a layer of Rohacell, a high strength, featherweight foam. The combination forms a cone that is light, strong and properly damped for naturally uncoloured audio reproduction.

2. External Voice Coil (EVC)™ Technology

Morel speakers with EVC™ technology utilize voice coils that are up to three times larger than those used in conventional loudspeakers. The EVC™ design moves the magnetic drive system to within the voice coil, eliminating stray magnetic flux by effectively directing all the magnetic energy to the voice coil. The result is an ultra efficient and powerful design, efficient heat dissipation and reduced cone breakup for lower distortion, that is highly compact with.

3. Shielded Magnet Technology

The modern car environment is highly sensitive to stray magnetic fields. Vehicles now use several computer control devices throughout the car, and conventional non-shielded speakers can be a threat to the vehicle's electrical integrity. Morel speakers featuring the compang's EVC™ technology are more than 90% shielded—safe for installation in today's high-tech vehicles.

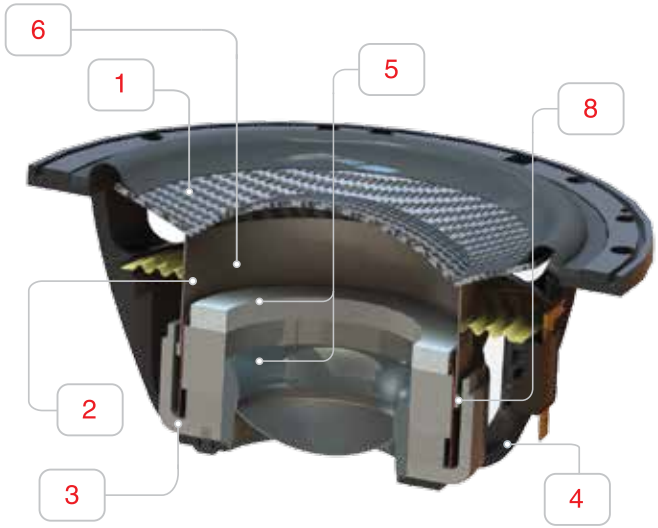
4. Uniflow Air™ Chassis

The Uniflow Air™ chassis uses an open design that is aerodynamically efficient, allowing air and sound waves to flow uniformly and smoothly. Its geometric shape also eliminates interference with the woofer's moving components, enabling the use of a low-profile spider for greater support and stability.

5. Neodymium magnet motor

Morel's experience in motor design allows it to harness the magnetic energy in extremely effective manners.The most powerful magnet available, neodymium, enables Morel to create physically compact speakers, such as tweeters and midrange, that fit in very limited spaces without limiting the quality of sound.

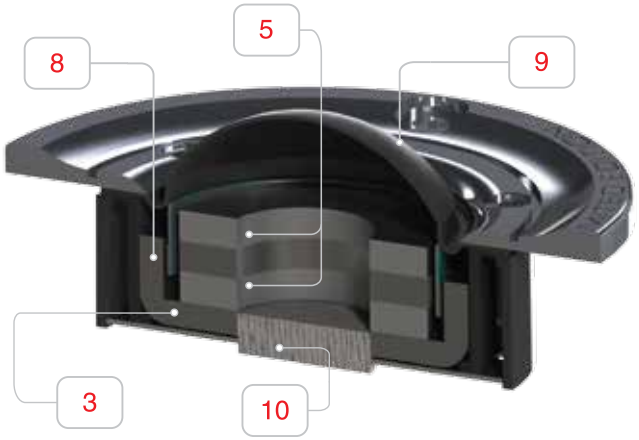
38 LIMITED EDITION WOOFER CUT-SECTION



6. Titanium Bobbin (Voice coil former)

The bobbin material influences the acoustical parameters of the driver, its power handling and the reproduced sound quality. By using titanium bobbin, Morel intended to raise the Mechanical Factor (QMS) in order to enable a wider selection of enclosure types and sizes. As for the sound quality, one is able to discern a distinctively “crisper” sound when compared to an equivalent driver with aluminum bobbin. The rigid characteristic of titanium, along with its other advantages, produce a driver that is tonally balanced and accurate, with exceptionally fast transient response.

38 LIMITED EDITION
TWEETER & MIDRANGE
CUT-SECTION



7. Advance Crossover topology

Morel’s new advance crossover topology combines several new concepts and features that, improve the sound presentation and sound quality of this system.

8. Hexatech™ Aluminium Voice Coil

Made from 100% aluminium wire shaped like a honeycomb, the Hexatech™ voice coil reduces air gaps in the coil windings thereby increasing efficiency by up to 20%. Being lightweight, Hexatech™ voice coils are largely responsible for the extraordinary fast transient response Morel drive units are known for.

9. Acuflex™ Technology

A specially engineered damping compound applied to the soft domes of specific Morel tweeters and midranges. The combination of these materials creates a diaphragm that exhibits controlled cancelling break up (accurate–flexing), meaning each break-up mode is counteracted by another in the opposite direction. This cancellation of break-up modes leaves nothing but the pure, natural sound Morel tweeters and midrange are famous for.

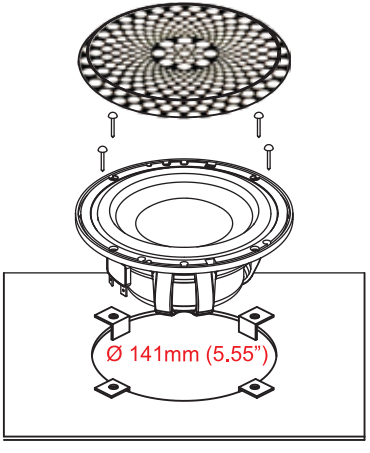
10. C.A.R. (Controlled Acoustic Resistance) Filter™

In most automotive applications, speakers are installed in a virtual free-air environment, such as a door, which provides minimal acoustic loading. The C.A.R. filter™ improves the acoustic loading by controlling airflow within the driver, mimicking the effects of a cabinet while improving power handling by 30%. This provides greater control over the cone movement for improved bass dynamics.

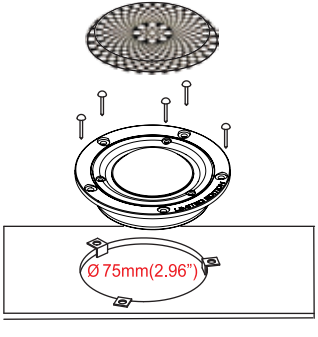
11. Lotus Grille

The new Morel grille has a specific pattern of holes in different shapes and diameters engineered to minimize the “horn” effect (high frequency peak caused by the resonant frequency of multiple same-size holes). Innovative metal processing enabled the construction of a very thin nearly transparent grille that hardly affects the sound at all frequencies whilst maintaining structural integrity to protect the drivers.

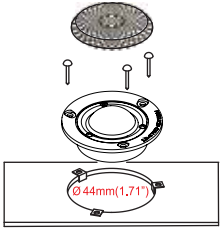
38 LE WOOFER MOUNTING



38 LE MIDRANGE MOUNTING



38 LE TWEETER MOUNTING



We highly recommend using the enclosure specifications to achieve optimal performance (see page 2).
Should you have any further questions, please consult an authorized dealer for assistance.

Active Configuration

Setting up the 38 Limited Edition system using an external electronic crossover network may vary on the processor itself, the car cabin acoustic attributes, and mounting location of the drive units. Choosing proper crossover points and slopes can greatly effect the system performance.

The following guidelines should be used to assure each drive unit in the system performs to the highest level. The Optimal Crossover Points/Slope guide should be used for most vehicle applications. Advanced users may refer to the Recommended Crossover Range/Minimum Slope guide for system fine tuning.

38 LE 603
Optimal Crossover Points/Slope
Tweeter highpass: 3300Hz/12dB
Midrange lowpass: 3300Hz/12dB
Midrange highpass: 450Hz/12dB
Woofer lowpass: 450Hz/12dB
*Woofer highpass: 60Hz/12dB

Recommended Crossover Range/Minimum Slope
Tweeter highpass: 1800Hz-4000Hz/12dB
Midrange lowpass: 1800Hz-4000Hz/6dB
Midrange highpass: 300Hz-750Hz/12dB
Woofer lowpass: 350Hz-750Hz/6dB
*Woofer highpass: 40Hz-80Hz/12dB

38 LE 602
Optimal Crossover Points/Slope
Tweeter highpass: 2000Hz/12dB
Woofer lowpass: 1800Hz/12dB
*Woofer highpass: 60Hz/12dB

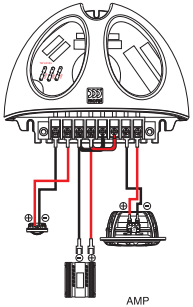
Recommended Crossover Range/Minimum Slope
Tweeter highpass: 1800Hz-3000Hz/12dB
Woofer lowpass: 1800Hz-3000Hz/6dB
*Woofer highpass: 40Hz-80Hz/12dB

*When used with an active subwoofer system.

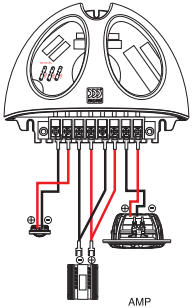
38 ANNIVERSARY LIMITED EDITION CROSSOVER

MX280 LE 2-WAY CROSSOVER WIRING OPTIONS

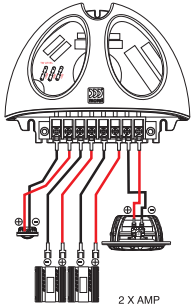
1 Standard wire connection
With bridged jumpers



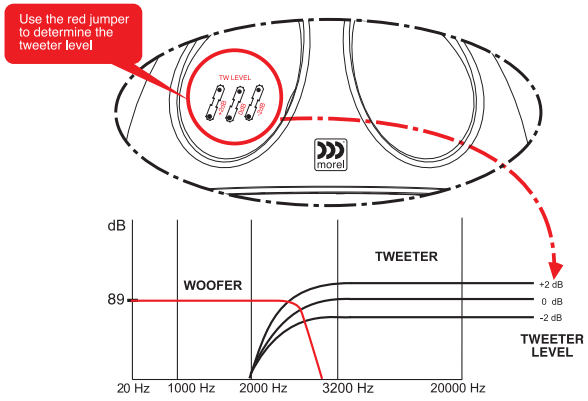
2 Bi Wire connection
No bridged jumpers



3 Bi Amp connection
No bridge jumpers

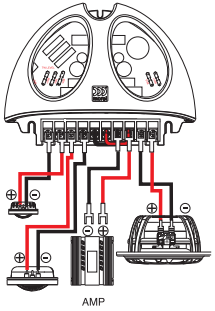


MX280 LE CROSSOVER ALIGNMENT SYSTEMS

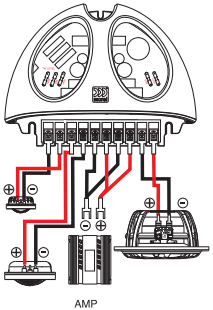


MX380 LE 3-WAY CROSSOVER WIRING OPTIONS

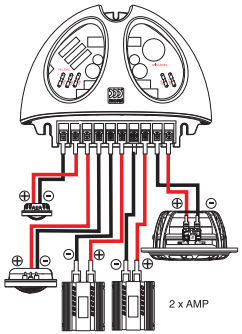
1 Standard wire connection
With bridged jumpers



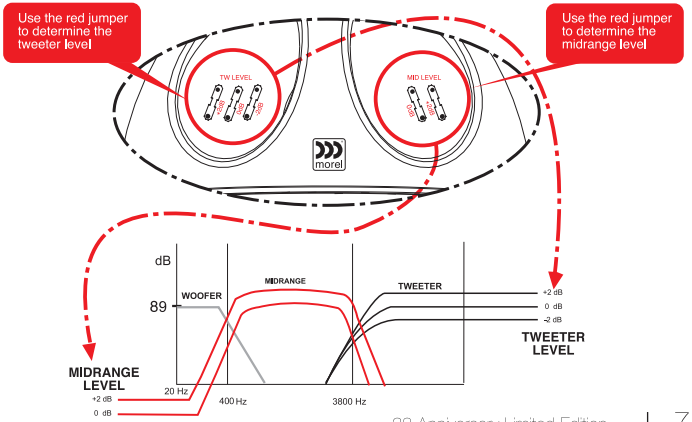
2 Bi Wire connection
No bridged jumpers



3 Bi Amp connection
No bridge jumpers



MX380 LE CROSSOVER ALIGNMENT SYSTEMS



UNLEASH THE MUSIC

www.morelhifi.com