



**MACROM**<sup>®</sup>

Waves of Sound

# Waves of Sound

*WATER IS AN ESSENTIAL ELEMENT TO ALL FORMS OF LIFE. IT COMES IN MANY DIFFERENT SHAPES WHICH CAN INSPIRE AN AMAZING ARRAY OF FEELINGS FROM PLEASURE TO HORROR, SERENITY TO TERROR. EITHER WAY, EVERY DAY WE SEE THE COUNTLESS FACETS OF THIS UNIQUE ELEMENT WHICH IS BOTH INDISPENSABLE AND IRREPLACEABLE. WE CHOSE THE METAPHOR "WAVES OF SOUND" BECAUSE WE CONSIDER MUSIC AS AN ELEMENT SIMILAR TO WATER. A SONG, A PIECE OF MUSIC OR A "WAVE OF SOUND" CAN WASH OVER YOU PROVOKING THE SAME ARRAY OF FEELINGS AS WATER. IN FACT, MANY SIGNIFICANT MOMENTS IN OUR LIVES ARE ACCOMPANIED BY MUSIC. JUST A FEW NOTES FROM A PARTICULAR SONG OFTEN HAVE THE POWER OF EVOKING STRONG EMOTIONS AND MEMORIES OF MOMENTS LONG GONE.*



*At **MACROM** WE ARE FIRMLY CONVINCED THAT THE REPRODUCTION OF MUSIC IN A CAR IS ONE OF THE GREATEST CHALLENGES AN ELECTRO-ACOUSTIC ENGINEER CAN FACE. OVER THE YEARS WE HAVE FOCUSED OUR EFFORTS ON INNOVATIVE CONCEPTS AND STATE-OF-THE-ART TECHNOLOGIES IN ORDER TO ACHIEVE THE OUTSTANDING SPEAKERS IN OUR RANGE TODAY.*

*BECAUSE **MACROM** GIVES MORE IMPORTANCE TO THE MUSICAL RESULTS RATHER THAN TECHNICAL ACHIEVEMENTS, ANY TECHNICAL INNOVATION WE INTRODUCE IS JUST A MEANS TO AN END - IN-CAR MUSICAL PERFECTION. AS A RESULT OUR PRODUCTS ARE EASY TO INSTALL, FLEXIBLE AND UNBEATABLE PERFORMERS. A COMBINATION OF HIGH-END FEATURES, GREAT POWER HANDLING AND DYNAMICS ALLOW A VERY DETAILED AND NATURAL SOUND AT ANY SOUND PRESSURE LEVEL AND MAXIMUM ENJOYMENT FROM YOUR MUSIC.*

**MACROM**<sup>®</sup>

**ACCURATE AND FAITHFUL SOUND REPRODUCTION IN THE HI-FI WORLD TODAY IS FOUNDED ON THE DYNAMIC SCIENTIFIC RESEARCH AND TECHNOLOGICAL DEVELOPMENT THAT HAS FLOURISHED ON THE EUROPEAN CONTINENT.**

**NO WHERE IS THIS DYNAMISM MORE CLEARLY DEMONSTRATED THAN AT MACROM, ONE OF THE LEADING EUROPEAN MANUFACTURERS OF SOUND SYSTEMS FOR OVER A DECADE. MACROM HAS SET THE PACE IN DESIGNING AND PRODUCING INCREASINGLY MORE ADVANCED AND SOPHISTICATED IN-CAR HI FI SYSTEMS.**

**AND YET THE COMPANY IS NOT TECHNOLOGY LED. ITS POLICY IS ALWAYS TO ANTICIPATE AND RESPOND TO THE MARKET'S NEEDS. MACROM USES ITS TEAM OF SOUND SPECIALISTS IN THE FIELD TO MONITOR CHANGING REQUIREMENTS IN THE MARKET PLACE SO ENSURING THE COMPANY MAINTAINS A COMPETITIVE EDGE OVER ITS RIVALS.**

**CLEARLY MACROM CUSTOMERS WOULDN'T EXPECT ANYTHING LESS FROM THE CAR AUDIO MAKERS KNOWN AS THE "MASTERS OF SOUND".**

**MACROM®**



The stars of the European flag, printed on all MACROM gift boxes, emphasise the MACROM philosophy: we design, develop and manufacture goods to satisfy the highly demanding needs of our discerning customers in line with the evolution of our musical roots.

**A** MACROM 44.07 Programmable Amplifier  
European Car Audio Press Association 1994  
Multi-channel Power Amplifier of the Year '94

**W** MACROM 44.13 Multi-channel Amplifier  
European Car Audio Press Association 1995  
Popular Class Multi-channel Ampl. of the Year '95

**A** MACROM 58.08 Soft Dome Midrange  
European Car Audio Press Association 1995  
Component Speaker of the Year '95

**R** MACROM I 2.50 (54.17) Integra  
European Car Audio Press Association 1996  
Full range Loudspeaker of the Year

**D** MACROM I-2.50 (54.13) Integra  
Consumer Electronics Show, USA 1997  
Innovations Award - Mobile Electronics Design & Engineering

**S** MACROM 44.07 Programmable Amplifier  
Audio, Germany 1994  
Das Goldene Audio-Ohr 1994 Auto-Endstufen Aufsteiger  
(The Golden Ear 1994 - Outstanding Car Amplifier)

**G** MACROM 44.07 Programmable Amplifier  
Audio Germany 1995  
Das Goldene Audio-Ohr 1995 Auto-Endstufen Aufsteiger  
(The Golden Ear 1995 - Outstanding Car Amplifier)

**A** MACROM SE 2.60 and 55.62  
Auto Sound, Japan Vol. 20 1997  
Best Buy Car Audio  
First place in Speaker Category by Japanese professional installer

**L** MACROM 48.22 Electronic Crossover  
Car Hi-Fi, UK 1996  
Best buy, Car Audio • Star Buy

**L** MACROM 44.07 Programmable Amplifier  
Car & Hi-Fi, Germany 1993 • Absolute Spitzenklasse

**T** MACROM 43.10 Amplifier  
Car & Hi-Fi, Germany 1993 • Spitzenklasse I

**E** MACROM 44.13 Amplifier  
Car & Hi-Fi, Germany 1994 • Spitzenklasse I

**R** MACROM 44.05 Programmable Amplifier  
Auto Stereo, France 1995  
Innovative Award

**Y** MACROM 58.08 Soft Dome Midrange  
Stereo Drive, Holland 1995 • Reference speaker 1995

ECAP  
Best Product  
of the Year  
1994

ECAP  
Best Product  
of the Year  
1995

ECAP  
Best Product  
of the Year  
1996



Top3



# MACROM AMPLIFIERS

## SQUARE POWER CONNECTORS

THE SQUARE POWER CONNECTORS ARE ALL LARGER THAN NECESSARY (UP TO 21MM<sup>2</sup>) TO AVOID LOSSES AND FOR EASIER CONNECTIONS.



## SQUARE SPEAKER CONNECTORS

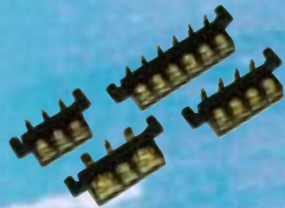
LIKE THE POWER CONNECTORS, THE SPEAKER CONNECTORS ARE ALL

LARGER THAN NECESSARY (UP TO 10 MM<sup>2</sup>) TO AVOID LOSSES AND FOR EASIER CONNECTIONS.



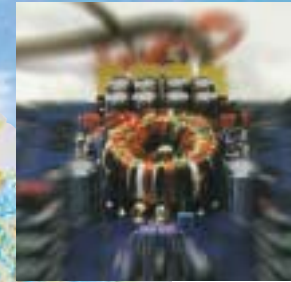
## GOLD PLATED SCREW TYPE TERMINALS

ALLOW EASY ACCESS AND ENSURE MAXIMUM POWER AND SIGNAL INTEGRITY.



## TRANSFORMERS AND POWER SUPPLY

OVERSIZED TRANSFORMERS AND POWER SUPPLIES ALLOW MORE POWER AND BETTER RELIABILITY. MOST OF THE TIME THE POWER DOUBLES UNDER 2Ω. THIS MEANS THAT THE POWER SUPPLY IS VERY STRONG AND BIGGER THAN NECESSARY. WE USE DC/DC PWM MOSFET REGULATED POWER SUPPLIES FOR EFFICIENCY, RELIABILITY AND SOUND QUALITY WHICH IS BETTER WHEN TENSION IS STABLE.



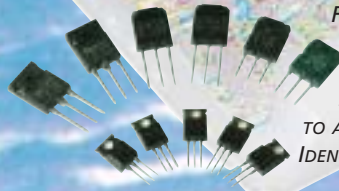
## HIGH QUALITY CAPS

MACROM WAS THE FIRST TO INTRODUCE TODAY'S VERY WELL KNOWN LARGE BLACK CAPS AFTER THE POWER SUPPLY (MOST COMMONLY FOUND IN THE MIDDLE OF THE AMP). NOW WE USE A NEW TYPE OF CAP WHICH IS SMALLER BUT MUCH FASTER. YOU CAN FEEL THIS SPEED IN THE SOUND.



## LARGE CAPABILITY TRANSISTORS

FOR BETTER RESULTS AND GREATER RELIABILITY WE ALWAYS USE OVERSIZED, HIGH QUALITY TRANSISTORS. THE FINAL STAGE IN THE AMPS IS ALWAYS SYMMETRICAL TO ACHIEVE THE INCREDIBLE SOUND QUALITY. IDENTICAL PATHS MEANS IDENTICAL SOUND!



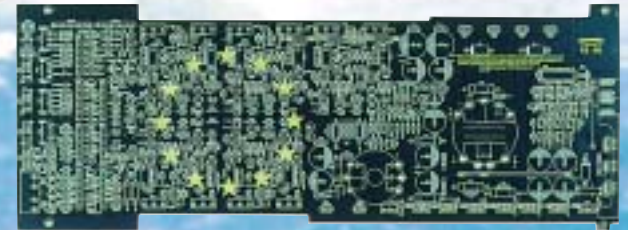
## HIGH QUALITY POTS

FLEXIBILITY REALLY MEANS SOMETHING TO MACROM. ALL THE INPUTS AND CROSSOVERS ARE CONTINUOUSLY ADJUSTABLE. HIGH QUALITY POTS ENSURE STURDINESS AND A LONG LIFE SPAN THANKS TO THE EFFECTIVE SEALING WHICH KEEPS THE DUST OUT.



## SHOCK RESISTANT PCB

THE COMPONENT'S LEGS ARE FOLDED AT A 60° ANGLE FOR BETTER CONTACT AND TO RESIST THE SUBSTANTIAL VIBRATIONS THE AMP IS SUBJECTED TO IN A CAR. CONTACT IS ALWAYS PERFECT AND THE AMPS HAVE BETTER WORKING CONDITIONS. BUT PROBABLY THE MOST IMPORTANT ADVANTAGE IS THE NEW LEVEL OF RELIABILITY WE HAVE ACHIEVED THANKS TO THIS METHOD OF INSERTING COMPONENTS.



# SYNTHESIS 1000

THIS AMP HAS BEEN DEVELOPED WITH THE PURPOSE OF BECOMING THE REFERENCE CONCERNING SOUND QUALITY. ALL THE FEATURES ARE DESIGNED TO REACH ULTIMATE SOUND QUALITY.

SYNTHESIS 1000 REPRESENTS MORE THAN FIFTEEN YEARS OF EXPERIENCE AND THREE YEARS OF DEVELOPMENT. IT IS HERE TODAY BECAUSE IT IS CAPABLE BETTER PERFORMANCES THAN ANY OTHER AMP ON THE MARKET.

WITH THIS NEW LINE OF AMPS, MACROM WANTS TO ALLOW ALL FANATICS TO REACH THE TOP BUT AT AN ACCESSIBLE PRICE LEVEL.

NO COMPROMISES BETWEEN POWER, QUALITY, DYNAMICS AND STAGING. ALL IN ONE.

MACROM DID EVERYTHING TO ACHIEVE ITS GOAL. THE DEVELOPMENT WAS VERY LONG BUT NECESSARY TO PERMIT THE INTRODUCTION OF THE NEW CONCEPTS AND INNOVATIVE CIRCUITS WHICH MAKE THIS AMP MUSICAL, DYNAMIC, PRECISE AND POWERFUL.

YOU HAVE TO HEAR IT TO BELIEVE IT! WE COULD TELL YOU THAT THE SENSATION OF POWER IS INCREDIBLE, THAT THE SOUND IS CLEAR AS CRYSTAL, THAT THE IMAGE WASHES NATURALLY OVER THE DASH, THAT THE CONTROL OF THE WOOFER IS AWESOME, THAT THE SPEAKERS GO LOWER THAN EVER WITHOUT DISTORTION, THAT YOU WILL NOT RECOGNIZE YOUR INSTALLATION. THE DYNAMICS OF THIS AMP ARE ABSOLUTELY INCREDIBLE WITHOUT DAMAGING THE MUSICALITY. ALL THE DETAILS ARE THERE, EVEN THE ONES YOU NEVER HEARD BEFORE. BUT TO BELIEVE US, YOU HAVE TO TEST IT IN A CAR THAT YOU KNOW WELL. YOU WILL FEEL THE DIFFERENCE.

**NB: IF YOU CONNECT THIS AMP TO AN EXISTING SYSTEM, PLEASE LISTEN TO IT ONE LAST TIME BECAUSE YOU WILL NEVER RECOGNISE YOUR SPEAKERS AGAIN.**



- **BUILT FOR EXTREME SOUND QUALITY AND PERFORMANCES**
- **IHF POWER 1500 W (1000 W BRIDGED UNDER 2Ω)**
- **HIGH QUALITY COMPONENTS FOR HIGH QUALITY SOUND**
- **OVERSIZED CONSTRUCTION (HEATSINK, TRANSFORMER, CONNECTORS...)**
- **FCA TECHNOLOGY: 21 MM<sup>2</sup> CONNECTORS FOR AN EXTERNAL CAP (FAST CAP ACCESS)**
- **DCT TECHNOLOGY FOR THE TRANSISTORS ON THE POWER STAGES (DIRECT CAP ON TRANSISTOR)**
- **50°C REGULATED FAN CONNECTORS FOR AN EXTERNAL FAN**
- **1Ω (STEREO) AND 2Ω (BRIDGED) COMPATIBLE**
- **ULTRA COMPLETE INTERNAL ACTIVE CROSSOVER (HP OR LP)**
- **LINE OUT WITH X-OVER (HIGH PASS 12dB OR LOW PASS 12/24dB)**
- **OVERSIZED FULLY REGULATED PWM MOSFET POWER SUPPLY**
- **ALL THE TUNINGS ARE ON THE TOP OF THE AMP**

## Synthesis 1000 Amplifier



- IHF 202: 1500 W
- RMS @ 1 kHz < 0.08% THD at 4 ohms: 125 W x 2
- RMS @ 1 kHz < 0.2% THD at 2 ohms: 250 W x 2
- RMS @ 1 kHz < 0.5% THD at 1 ohms: 500 W x 2
- RMS @ 1 kHz < 0.2% THD mono at 4 ohms: 500 W x 1
- RMS @ 1 kHz < 0.5% THD mono at 2 ohms: 1000 W x 1
- Low-Pass: 30-600 Hz
- Low Pass crossover slope: 12-24 dB/Octave
- High-Pas: 30-600 Hz
- High Pass crossover slope: 12 dB/Octave
- Frequency response ± 1 dB: 10 - 50,000 Hz
- Total harmonic distortion: 0.08%
- A-weighted S/N (signal-to-noise ratio): >100 dB
- Input sensitivity/impedance: 200-8000 mV/22 kohms
- Speaker impedance  
stereo: 0.5 ohms min - mono: 1 ohms min
- Power supply: 14.4 V DC (11-16 V allowed)
- Weight: 4.5 kg
- Size: 259(l) x 67(h) x 320(d) mm

# 2 CHANNEL AMPLIFIERS

## 42.27 Amplifier



- IHF 202: 400 W
- RMS @ 1 kHz < 0.08% THD at 4 Ohm: 70 W x 2
- RMS @ 1 kHz < 0.5% THD at 2 Ohm: 140 W x 2
- RMS @ 1 kHz < 0.5% THD mono at 4 Ohm: 270 W x 1
- High-Pass, Low-Pass: (30 - 600) Hz
- Crossover slope: 12 dB/Octave
- Frequency response  $\pm 1$  dB: 10 - 50,000 Hz
- Total harmonic distortion: 0.08%
- S/N (signal-to-noise ratio) IHFA-weighted: >100 dB
- Input sensitivity/impedance: 200-4000 mV/22 kOhm
- Speaker impedance  
stereo 1 Ohm min  
mono 2 Ohm min
- Power supply: 14.4 V DC (11-16 V allowed)
- Weight: 1.9 Kg
- Size: 217(l)x49(H)x190(D)mm

## 42.25 Amplifier



- IHF 202: 230 W
- RMS @ 1 kHz < 0.08% THD at 4 Ohm: 50 W x 2
- RMS @ 1 kHz < 0.5% THD at 2 Ohm: 100 W x 2
- RMS @ 1 kHz < 0.5% THD mono at 4 Ohm: 160 W x 1
- High-Pass, Low-Pass: (30 - 600) Hz
- Crossover slope: 12 dB/Octave
- Frequency response  $\pm 1$  dB: 10 - 50,000 Hz
- Total harmonic distortion: 0.08%
- S/N (signal-to-noise ratio) IHFA-weighted: >100 dB
- Input sensitivity/impedance: 200-4000 mV/22 kOhm
- Speaker impedance  
stereo 1 Ohm min  
mono 2 Ohm min
- Power supply: 14.4 V DC (11-16 V allowed)
- Weight: 1.7 Kg
- Size: 217(l)x49(H)x170(D) mm

## 42.24 Amplifier

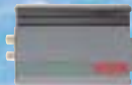
- IHF 202: 154 W
- Maximum power @ 4  $\Omega$ , 1 kHz at 10% THD: 60 Wx2
- Nominal RMS @ 4  $\Omega$ , at 0,1% THD: 45 Wx2
- Nominal RMS @ 2  $\Omega$ , at 0,1% THD: 75 Wx2
- Bridged Power Output:  
Maximum power, 4  $\Omega$ , 1 kHz at 0,1% THD: 125 W
- Frequency response +0, -1dB: 10-50,000 Hz
- A-weighted S/N (signal to noise ratio): 105 dB
- Input sensitivity/Impedance  
(for nominal power output)
- Control in mid position: 500 mV/10k $\Omega$
- Variable control: 100-2,000 mV/10k $\Omega$
- Speaker impedance: 4 or 2  $\Omega$  (stereo)
- 4  $\Omega$  (bridged, mono)
- Power supply (negative ground):  
14.0V DC (11-16 V allowed)
- Size: 217(W)x50(H)x150(D) mm

## 42.29 Amplifier

- IHF 202: 450 W
- Nominal RMS 4  $\Omega$ : 90 Wx2
- Nominal RMS 2  $\Omega$ : 180 Wx2
- Nominal RMS mono-bridged 4  $\Omega$ :  
350 Watt x 1
- Low-Pass control  
(amplifier section or Pre-output section):  
30-600 Hz at 12 dB/oct
- High-Pass control (Pre-output section):  
30-600 Hz at 12 dB/oct
- Pre-output sensitivity: 1-1
- Frequency response  $\pm 1$  dB: 10 - 50,000 Hz
- Total harmonic distortion: 0.08%
- A-weighted S/N (signal-to-noise ratio): >100 dB
- Input sensitivity/impedance: 200-4000 mV/22k $\Omega$
- Speaker impedance:  
stereo: 1  $\Omega$  min - mono: bridged 2  $\Omega$  min
- Power supply: 14.4 V DC (11-16 V allowed)
- Size: 217(W)x49(H)x280(D) mm

## 42.12 BTL Amplifier

- IHF power: 70 W
- RMS power:  
2x15 W @ 4  $\Omega$ , 20 Hz - 20 kHz, < 0.05% THD
- 2x20 W @ 2  $\Omega$ , 20 Hz - 20 kHz, < 0.1% THD
- Adjustable RCA input sensitivity: 100mV-2V/10k $\Omega$
- Adjustable High Level (Booster) Input: 0.5-9V/47 $\Omega$



- Frequency response: 10 Hz - 40 kHz ( $\pm 1$  dB)
- S/N: 90 dB
- 2  $\Omega$  stable (stereo)
- Size: 100(W)x23(H)x70(D) mm

## 40.90 Amplifier

- IHF power: 135 W
- Maximum bridged power: 125 W
- Low-pass filter: off/80/120 Hz
- Size: 217(W)x50(H)x150(D) mm



# AMPLIFIERS

MACROM HAS ALWAYS PAID CLOSE ATTENTION TO CHANGING MUSICAL TASTES AND INSTALLATION LOGIC BEHIND CAR HI-FI SYSTEMS.

THE LATEST MUSICAL TRENDS ARE ORIENTED TOWARDS THE USE OF SUBWOOFERS AND IT IS OBVIOUS THAT A PRODUCT DESIGNED FOR THE LATEST GENERATION OF CAR HI-FI LOVERS MUST BE EXTREMELY VERSATILE. THE LATEST AMPLIFIERS INTRODUCED TO THE MACROM RANGE ARE JUST THAT AS WELL AS HAVING A STRONG BUILD AND AGGRESSIVE LOOK.

THE 41.06 MONO AMPLIFIER ALLOWS THE EXPANSION OF SYSTEMS WITH THE ADDITION OF ANY TYPE OF SUBWOOFER. IT IS EXTREMELY POWERFUL, FLEXIBLE AND STABLE AT 2 OHMS AND 1 OHM. THE MACROM MONO CHANNEL WAS CREATED TO SOLVE ALL THE PROBLEMS TIED TO THIS TYPE OF INSTALLATION, THANKS TO THE NUMEROUS ADJUSTMENTS (ALL CONTINUOUSLY ADJUSTABLE) INCLUDING A BUILT-IN CROSSOVER, LOW BOOST, WAVE ALIGNMENT AND A SUBSONIC FILTER.

THE 45.40 FIVE CHANNEL AMPLIFIER IS AN EXTRAORDINARY EXAMPLE OF INSTALLATION FLEXIBILITY. THIS AMPLIFIER MAKES EX NOVO INSTALLATIONS OF SYSTEMS WITH A SUBWOOFER AS EASY AS POSSIBLE. IN ORDER TO MAKE IT SUITABLE FOR EVERY TYPE OF INSTALLATION, MACROM HAS EQUIPPED THIS AMP WITH EVERY POSSIBLE FEATURE: INDEPENDENT CROSSOVER, HIGH PASS ON THE FRONT AND REAR SECTIONS, SUBWOOFER SECTION WITH DEDICATED CROSSOVER AND WAVE ALIGNMENT. THE BUILD QUALITY IS ALSO EMBLEMATIC OF THE LEVEL MACROM HAS ACHIEVED WITH THIS NEW FIVE CHANNEL UNIT. THE DUAL TRANSFORMER ALLOWS A GREAT IMPROVEMENT TO THE BALANCING BETWEEN CHANNELS AND AN INCREASE IN DYNAMIC POWER WHEREAS COMPLETELY SEPARATE GROUNDS BETWEEN THE FRONT AND REAR AVOID POSSIBLE GROUND LOOPS WHEN USING THE AMP WITH A FOUR CHANNEL HEAD UNIT.



## 41.06

### Mono Power Amplifier

- IHF power: 240 W
- Nominal RMS 4  $\Omega$ , 300 Hz at 0.08% THD: 60 W
- Nominal RMS 2  $\Omega$ , 300 Hz at 1% THD: 120 W
- Nominal RMS 1  $\Omega$ , 300 Hz at 10% THD: 240 W
- Low-pass control (amplifier section): 30-600 Hz at 18 dB/Oct
- High-pass control (pre-output section): 30-600 Hz at 12 dB/Oct
- Pre-output sensitivity (Front & Rear) 1-1
- Low-boost filter control (amplifier section): 0+12 dB at 45 Hz
- Subsonic filter control (amplifier section): 15-150 Hz at 24 dB/Oct.
- Continuous adjustment of the phase shifter (amplifier section): Min (0°) to Max (180°)
- Total harmonic distortion: 0.08%
- A-weighted S/N (signal-to-noise ratio): 100 dB
- Input sensitivity/impedance 200-2000 mV/10 k $\Omega$
- Speaker impedance: 1  $\Omega$  min
- Low-pass filter in the end section
- Double pre-output (front & rear) with high-pass
- Continuous phase adjustment of the low-pass output (Wave Alignment)
- Continuous adjustment of the subsonic filter
- Continuous adjustment of the low-boost
- Mos-fet power supply
- Status indicator
- Remote on and off
- Gold-plated RCA input connections
- Professional gold-plated screw-type supply terminals
- Size: 217(W)x49(H)x150(D) mm



## 45.40

### Five Channel Amplifier

- IHF 202 power: 490 W
- Nominal RMS @ 4  $\Omega$ : 45 W x 2 front, 35 W x 2 rear, 80 W x 1 sub
- Nominal RMS @ 2  $\Omega$ : 90 W x 2 front, 70 W x 2 rear, 160 W x 1 sub
- Crossover frequencies:
  - high-pass, front/rear: flat, 80 or 120 Hz
  - low-pass, sub: 50, 60 or 120 Hz
- Crossover point: 12 dB per octave
- Frequency response ( $\pm 1$  dB): 10-50,000 Hz
- Total harmonic distortion: 0.08%
- A-weighted S/N ratio: >100 dB
- Speaker Impedance: 2  $\Omega$  min.
- Five channel amplifier (2 front ch, 2 rear ch plus sub in mono)
- High-pass or low-pass crossover switch
- Three position frequency cut switch
- Continuous adjustment of input sensitivity
- Continuous phase adjustment of sub output (wave alignment)
- 4 ch or 2 ch switch
- Mos-fet power supply with double dc-dc converter
- Status indicator
- Triple protection
- Remote on and off
- Gold-plated RCA input connections
- Professional gold-plated screw type terminals
- Size: 217(W)x49(H)x370(D)mm

# PROGRAMMABLE

FLEXIBILITY IS THE MAIN FEATURE OF THIS SERIES OF MACROM AMPLIFIERS, CALLED "PROGRAMMABLE" BY MACROM IN ORDER TO DRAW ATTENTION TO THE INFINITE CONFIGURATION POSSIBILITIES THEY OFFER, MAINLY THANKS TO THE ABUNDANCE OF FEATURES AND UNIQUE FUNCTIONS WHICH DIFFERENTIATE THEM FROM OTHER MULTI-CHANNEL AMPLIFIERS ON THE MARKET. MACROM'S "PROGRAMMABLE" AMPLIFIERS ARE ABLE TO PILOT HIGH POWERS ON TWO, THREE OR FOUR CHANNELS. IN FACT, THE NUMBER OF INPUT AND OUTPUT CHANNELS CAN BE FREELY SELECTED WHICH ALLOWS THE USER TO PERSONALISE HIS SYSTEM AND DISTRIBUTE THE POWER ACCORDING TO HIS NEEDS. WHETHER TWO OR FOUR INPUTS ARE CONNECTED THE AMPLIFIER CAN WORK IN THE BRIDGED MODE, TRANSFORMING IT INTO A "MONSTER" OF UNDISTORTED MUSICAL POWER ON TWO CHANNELS. THESE AMPLIFIERS ALSO OFFER A UNIQUE FEATURE THE POSSIBILITY OF ACTIVATING SEPARATELY THE INTERNAL ASYMMETRICAL CROSSOVER AND ADJUSTING THE SEPARATE CROSSOVER POINTS FOR THE LOW AND HIGH PASS AT ANY TIME. THIS OPTIMISES THE ACOUSTICS IN VARIOUS CARS AND ALLOWS THE USER TO ADJUST THE PERFORMANCE TO SUIT HIS REQUIREMENTS. ADDITIONALLY, THE PREAMPLIFIER BY PASS IS AVAILABLE WHEN THERE ARE ONLY 2 PRE INPUTS THUS ALLOWING FURTHER SYSTEM EXPANSION. THE PROGRAMMABLE AMPLIFIERS CAN ALSO BE USED IN 5 OR 6 CHANNEL CONFIGURATIONS THANKS TO THE SIMULTANEOUSLY BRIDGEABLE FEATURE.

The quality of MACROM's programmable amplifiers has been recognised by experts all over the world and has earned them many of the field's most prestigious awards (ECAP Best Product of the Year 1995 for the 44.13, ECAP Best Product of the Year 1994 and Audio's 1994 and 1995 Golden Ear for the 44.07, Auto Stereo's Innovative Award for the 44.05).



**ECAP  
Best Product  
of the Year  
1994**



**44.07**

## "Programmable" dc-dc Amplifier

- IHF power: 500 W
- RMS power:
  - 4x55 W @ 4 Ω, 20 Hz - 20 kHz, < 0.05% THD
  - 4x80 W @ 2 Ω, 20 Hz - 20 kHz, < 0.1% THD
- Mono bridged power:
  - 140 x 2 W @ 4 Ω, 20 Hz - 20 kHz, < 0.1% THD
- IASCA standard (11.6V - continuous RMS):
  - 35 W @ 4 Ω, 20 Hz - 20 kHz, < 0.05% THD
- RCA input sensitivity: adjustable 100mV-2V/10kΩ
- Frequency response: 10 Hz - 60 kHz (+0-1 dB)
- S/N: 105 dB
- 2 or 4 channel input with internal Pre-amp
- Stable up to 4 Ω bridged (2 Ω stereo)
- Low and High Pass asymmetrical crossover:
  - from 50 to 160 Hz
- Mixed mono
- Size: 280(W)x55(H)x300(D)mm



**44.50**

## "Programmable" dc-dc Amplifier



- IHF 202: 480 W
- RMS power:
  - Front/Rear @ 1 kHz < 0.08% THD at 4 Ohm: 4 x 50 W
  - Front/Rear @ 1 kHz < 0.5% THD at 2 Ohm: 4 x 100 W
  - Front/Rear @ 1 kHz < 0.5% THD mono at 4 Ohm: 2 x 150 W
- High-Pass, Front and Rear: (30-600) Hz
- Low Pass, Front and Rear: (30-600) Hz
- Crossover slope: 12 dB/Octave
- Frequency response ± 1 dB: 10 - 50,000 Hz
- Total harmonic distortion: 0.08%
- S/N (signal-to-noise ratio) IHFA-weighted: >100 dB
- Input sensitivity/impedance: 200-4000 mV/22 kOhm
- Speaker impedance
  - stereo 1 Ohm min
  - mono 2 Ohm min
- Power supply: 14.4 V DC (11-16 V allowed)
- Weight: 2.7 Kg
- Size: 217(l)x49(H)x280(D)mm

The preamplified input, an important function which MACROM was the first to use in its pioneering 44.06, is activated by selecting the 2 channel input and 4 channel output mode. It doubles the signal which is received by the two inputs onto the other two free inputs. Most multi-channel amplifiers on the market only allow this function with the use of an external connection cable to separate the signal but, on doing so, the signal level is halved thus compromising the signal to noise ratio with a substantial loss of quality.



**ECAP  
Best Product  
of the Year  
1995**

**44.13**

## Four Channel dc-dc Amplifier

- IHF power: 260 W
- RMS power:
  - 4x30 W @ 4 Ω, 20 Hz - 20 kHz, < 0.05% THD
  - 4x45 W @ 2 Ω, 20 Hz - 20 kHz, < 0.1% THD
- Mono bridged power:
  - 90 W @ 4 Ω, 20 Hz - 20 kHz, < 0.1% THD
- IASCA standard (11.6V - continuous RMS):
  - 20 W @ 4 Ω, 20 Hz - 20 kHz, < 0.05% THD
- RCA input sensitivity: adjustable 100mV-2V/10kΩ
- Frequency response: 10 Hz - 60 kHz (+0-1 dB)
- S/N: 105 dB
- 2 or 4 channel input with internal Pre-amp
- Stable up to 4 Ω bridged (2 Ω stereo)
- Low and High Pass asymmetrical crossover:
  - off, 80, 120 Hz
- Size: 217(W)x50(H)x235(D)mm



# ACTIVE CROSSOVERS

GENUINE PROFESSIONAL ELECTRONIC CROSSOVERS ARE THE HEART OF A TRUE HI-FI SYSTEM AND NATURALLY MACROM OFFERS YOU THE BEST AND MOST FLEXIBLE ON THE MARKET.

DC-DC CONVERTERS, SEPARATE LOW-, MID- AND HIGH-PASS OUTPUT LEVEL CONTROLS, INFINITE ELECTRONIC CROSSOVER DESIGN, FINE ASYMMETRICAL ADJUSTMENT OF CROSSOVER FREQUENCIES, PHASE SWITCH ON THE LOW AND HIGH-PASS OUTPUTS AND 2ND ORDER BUTTERWORTH FILTERS ARE JUST A FEW OF THE HIGH END FEATURES OF THESE EXCEPTIONAL SIGNAL PROCESSING SYSTEMS.

COMBINING THESE CROSSOVERS WITH EACH OTHER OR WITH THE BUILT-IN CROSSOVERS OF MACROM'S PROGRAMMABLE AMPLIFIERS, IS AN EASY WAY OF OBTAINING 3, 4, 5 OR 6 WAY ACTIVE SYSTEMS.

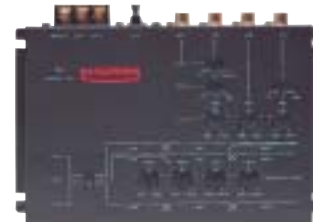
THANKS TO THE ORIGINAL CUTTING FREQUENCY OF THESE CROSSOVERS, A HIGH END 6 WAY ACTIVE CROSSOVER CAN BE OBTAINED AT A COMPETITIVE PRICE JUST BY CONNECTING A 48.22 IN CASCADE WITH A 48.13 AND 48.12.

It is here at the heart of the installation that MACROM has obtained a very interesting and sought-after recognition: Car Audio's Star Buy destined for high quality products at an extremely reasonable price.



## 48.22 Two Way Front & Rear Asymmetrical Electronic Crossover

- dc-dc converter:  $\pm 15V$
- Mono/Stereo switch:  
24 dB/12dB per octave subwoofer slope
- Subwoofer wave alignment (continuous from 0 to 180°)
- Subwoofer fading option
- Adjustable crossover frequencies: 30 - 600Hz
- 12 dB level adjustment
- Two inputs with preamplified bypass or four front & rear inputs
- Frequency response: 10Hz - 50kHz ( $\pm 1$  dB)
- S/N: 120 dB
- Maximum output level: 7.5 Wrms
- Size: 193(W)x39(H)x120(D) mm



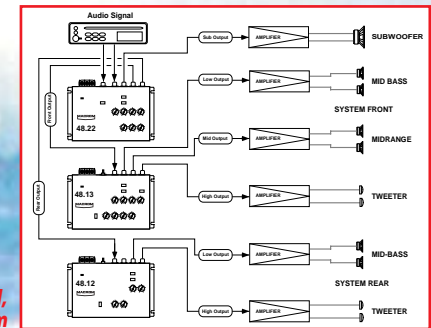
## 48.13 Two/Three Way Asymmetrical Electronic Crossover

- dc-dc converter:  $\pm 15V$
- 12 dB slope per octave
- Selectable crossover frequencies:  
50 - 1600 Hz and 400 Hz - 10 kHz
- Stereo/Mono switch
- Level adjustment:  $\pm 6$  dB
- Phase selector
- Frequency response: 10 Hz - 50 kHz ( $\pm 1$  dB)
- S/N: 100 dB
- Size: 193(W)x39(H)x120(D)mm



## 48.12 Two Way Asymmetrical Electronic Crossover

- dc-dc converter:  $\pm 15V$
- 2 dB slope per octave
- Selectable crossover frequencies:  
50 - 800 Hz or 860 Hz - 16 kHz
- Stereo/Mono switch
- Level adjustment:  $\pm 6$  dB
- Phase selector
- Preamplified Bypass
- Frequency response: 10 Hz - 50 kHz ( $\pm 1$  dB)
- S/N: 100 dB
- Size: 193(W)x39(H)x120(D)mm



## 4-Channel, 6 Way System

# MACROM SPEAKERS

## CAR FILTER

THESE VARIOUS LITTLE PIECES OF FOAM ARE THE MOST IMPORTANT THING FOR CAR AUDIO APPLICATIONS. WHEN THE SPEAKER IS PLAYING AT LOW VOLUMES, THE FILTER REMAINS INACTIVE, THE CONE IS FREE, MICRO INFORMATION AND DETAILS ARE THERE. WHEN THE SPEAKER MOVES MORE THIS FILTER BEGINS TO BLOCK THE AIR UNDER THE DOME CREATING INTERNAL PRESSURE WHICH HAS THE EFFECT OF CONTROLLING THE SPEAKER LIKE AN ENCLOSURE. THIS TECHNOLOGY HAS A GREAT IMPORTANCE FOR CAR AUDIO SYSTEMS WHERE IT IS ALMOST IMPOSSIBLE TO MAKE A GOOD ENCLOSURE IN THE DOORS.

## TWEETERS

THE MACROM TWEETERS ARE RENOWNED AS AMONG THE BEST TWEETERS IN THE WORLD. MOST USE VERY LARGE 28MM VOICE COILS WHICH MEANS YOU CAN PUT MORE WIRE IN THE AIR GAP TO OBTAIN MORE POWER AND MORE TRANSIENT RESPONSE. THE RESONANT FREQUENCY GOES AS LOW AS 700HZ.

## NEODYMIUM MAGNETS

THE USE OF NEODYMIUM ALLOWS A DRASTIC REDUCTION IN SIZE WITHOUT LOSING STRENGTH. THE PICTURE SHOWS TWO MAGNETS OF THE SAME STRENGTH, ONE IN STRONTIUM AND THE OTHER IN NEODYMIUM.

## GIANT VOICE COIL WITH INTERNAL MAGNETS

LARGE VOICE COILS ALLOW US TO DRIVE VERY FLAT CONES AVOIDING CONE BREAKAGE. FLAT CONES ARE THE BEST FOR OPEN SOUND AND GOOD, REALISTIC BASS FREQUENCIES. THE HEXATECH ALUMINIUM VOICE COIL MAKES THE MOVING MASS LIGHTER THAN THE SAME SIZE COIL IN COPPER. THIS MEANS A HIGHER TRANSIENT RESPONSE AND HIGH POWER HANDLING.

## CONES

MACROM'S HIGH END SPEAKERS USE POLYPROPYLENE CONES WHICH ARE RESISTANT TO WATER AND THERMAL VARIATIONS. THIS MEANS BETTER RELIABILITY. THE CONE AND THE DOME ARE IN ONE PIECE, THEY ARE PERFECTLY SEALED SO THAT WHEN THE CAR FILTER IS ACTIVE THERE ARE NO LOSSES.

## I SERIES

MACROM WAS THE FIRST TO INTRODUCE THIS INCREDIBLE CONCEPT IN THE CAR AUDIO WORLD. THE TWEETER IS IN THE BOTTOM OF THE WOOFER, THE TWO ARE PERFECTLY IN PHASE AND ON THE SAME AXIS. YOU GET ONE SOURCE POINT, THE IMAGE IS FANTASTIC AND THE SYSTEM IS VERY SMALL.

# SLIM EXTREME

SLIM EXTREME, THE MOST EXTRAORDINARY LINE OF CAR SPEAKERS ACTUALLY AVAILABLE ON THE MARKET.

THE SLIM EXTREME RANGE OF SYSTEMS WAS DESIGNED FOR THE MOST DEMANDING IN-CAR MUSIC LOVERS AND FOR THIS REASON MACROM TOOK PARTICULAR CARE OF DETAILS TO OFFER NOTHING BUT THE BEST. FROM THE CHOICE OF MATERIALS TO THE PACKAGING, IT IS CLEAR THAT THIS LINE OF SPEAKERS IS EXCEPTIONAL.

**WOOFERS:** A LIGHT OVERALL WEIGHT AND VERY HIGH POWER HANDLING WERE OBTAINED WITH THE USE OF NEODYMIUM MAGNETS AND A VERY RIGOROUS DESIGN FOR EVERY MOVING PART. THE SLIM EXTREME WOOFERS GUARANTEE AGGRESSIVE AND CONTROLLED BASS AND AN EXCELLENT TRANSIENT RESPONSE. OUTSTANDING EFFICIENCY IS ANOTHER IMPORTANT FACTOR WHICH CONTRIBUTES TO THE TOP CLASS REPRODUCTION OF SOUND.

**TWEETERS:** THE ACOUSTIC PERFORMANCES OF THE SLIM EXTREME TWEETERS ARE UNBEATABLE, MOREOVER THEY ARE EXTREMELY SIMPLE TO INSTALL THANKS TO THE SPECIAL MOUNTING KIT SUPPLIED WITH THE SYSTEM WHICH ALLOWS FLUSH INSTALLATION IN THE DOOR (WITHOUT NECESSARILY REMOVING THE PANEL) OR ANGLED SURFACE INSTALLATION.



## SE 2.40

- Power handling 90 W
- Frequency response 50-25,000 Hz
- Sensitivity (1W/1M) 89 dB
- Woofer Ø 100 mm (4")
- Tweeter Ø 43 mm (1 3/4")
- Crossover SE series with tweeter options

## Dedicated Crossover

- 2.8 kHz cutting point with graduated slope (6 to 12 dB)
- Inductance compensation network
- High quality capacitor in series with the tweeter



## SE 2.50

- Power handling 120 W
- Frequency response 45-25,000 Hz
- Sensitivity (1W/1M) 90 dB
- Woofer Ø 130 mm (5")
- Tweeter Ø 43 mm (1 3/4")
- Crossover SE series with tweeter options



**Top3**

## SE 2.60

- Power handling 150 W
- Frequency response 45-25,000 Hz
- Sensitivity (1W/1M) 91 dB
- Woofer Ø 160 mm (6 1/4")
- Tweeter Ø 43 mm (1 3/4")
- Crossover SE series with tweeter options

# ECS EUROCLASS

THE EUROCLASS COMBINABLE SEPARATES ARE DESIGNED AND MANUFACTURED IN EUROPE. THEY REVOLUTIONISE THE LOUDSPEAKER CONCEPT. THESE SPEAKERS CAN BE USED AS COMPO SYSTEMS OR COAXIAL UNITS ACCORDING TO THE INSTALLATION REQUIREMENTS. THEREFORE FROM ONE SET OF SPEAKERS YOU CAN OBTAIN EITHER:

- A POWERFUL COAXIAL WITH THE TWEETER LOCATED IN THE CENTRE OF THE WOOFER, SUITABLE FOR INSTALLATION IN 13 CM OR 16 CM FACTORY CUT OUTS (ECS 2.50 AND ECS 2.60 RESPECTIVELY).
- A 2-WAY SYSTEM WITH THE TWEETER LOCATED IN A SEPARATE SUPPORT FOR CUSTOMISED INSTALLATIONS.

THE MULTI-INSTALLATION CONCEPT BUILT-IN TO THE NEWLY DEVELOPED ECS SERIES ALLOWS THESE SPEAKERS TO OBTAIN UNEQUALLED LEVELS OF FLEXIBILITY, PERFORMANCE AND PRICE. FURTHERMORE, THE ECS ARE CHARACTERISED BY A FEW DISTINCTIVE FEATURES:

IRRESPECTIVE OF THE INSTALLATION MODE, THE TWEETER IS EQUIPPED WITH FOUR OPTIONS:

- **0 dB IN PHASE, 0 dB OUT OF PHASE, -3 dB IN PHASE, -3 dB OUT OF PHASE.** THESE OPTIONS CAN BE SELECTED WITH DURING OR AFTER INSTALLATION WITH A SIMPLY TWIST OF THE TWEETER IN ITS SUPPORT. THE RESULT IS FASTER AND EASIER INSTALLATION WITH NO NEED FOR EXTERNAL COMPONENTS.
- **BUILT-IN CROSSOVER** (IN THE MAGNET COVER)
- **1' NEOMAC™ TWEETER**
- **LARGE ALUMINIUM VOICE COIL** (2" / 54 MM Ø)
- **RUBBER SURROUND**
- **METALLIZED PAPER CONE**
- **TRIPLE FERRITE MAGNET MOTOR STRUCTURE FOR WOOFER**
- **PROGRESSIVE FLAT SPIDER**



## ECS 2.50 Euroclass Combinable Separates

- Power handling 100 W (max. music.)
- Frequency response 50-25,000 Hz
- Sensitivity (1W/1M) 90 dB
- Woofer Ø 13 cm (5")
- Tweeter Neodymium



## ECS 2.60 Euroclass Combinable Separates

- Power handling 120 W (max. music.)
- Frequency response 45-25,000 Hz
- Sensitivity (1W/1M) 90 dB
- Woofer Ø 16 cm (6 1/4")
- Tweeter Neodymium

SEPARATE  
COMBINED

••••• 1 SYSTEM 2 POSSIBILITIES

••••• 1 SYSTEM 2 POSSIBILITIES

SEPARATE  
COMBINED

# I SERIES

THE I SERIES CONCEPT WAS DEVELOPED IN 1982 AFTER YEARS OF RESEARCH AND IT REPRESENTS THE IDEAL SOLUTION TO PROBLEMS CONNECTED WITH THE INTEGRATION OF SEPARATE UNITS WHICH REPRODUCE DIFFERENT FREQUENCIES IN THE SOUND SPECTRUM.

THE FREQUENCY RESPONSE CURVE OF ANY TRADITIONAL COAXIAL SPEAKER NORMALLY SHOWS A LARGE "HOLE" AROUND 3 KHz (A TRADITIONALLY CRITICAL AREA FOR THE OPTIMAL REPRODUCTION OF VOCALS AND INSTRUMENTS SUCH AS THE SAX), THIS "HOLE" IS PRACTICALLY NON-EXISTENT IN THE I SERIES.

MACROM CREATED TWO DIFFERENT MAGNET CIRCUITS INCORPORATED IN A SINGLE MAGNET SYSTEM TO DRIVE BOTH THE WOOFER AND TWEETER WHICH, MOUNTED CONCENTRICALLY, REPRESENT A TRUE POINT-SOURCE SPEAKER. THE SOFT DOME TWEETER'S 28 MM (1 1/8") DIAMETER VOICE COIL IS SITUATED INSIDE THE MAGNET SYSTEM WHEREAS THE 54 MM (2 1/4") VOICE COIL WHICH DRIVES THE MID-BASS FREQUENCIES IS SITUATED OUTSIDE THE MAGNET SYSTEM. THE TWEETER IS FITTED WITH A REAR CHAMBER INSIDE THE WOOFER'S MAGNET CIRCUIT WHICH ALLOWS FAITHFUL REPRODUCTION OF EVEN THE LOWEST RANGE OF THE MEDIUM FREQUENCIES BY ELIMINATING DISTURBING HOLLOW SOUNDS.

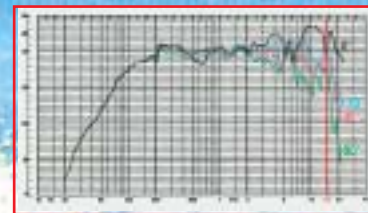
THE ORIGINAL DESIGN OF THE TWEETER ALLOWS PHASE INTEGRATION BETWEEN THE TWO UNITS. ANOTHER UNUSUAL FEATURE OF THE I SERIES IS THE EXCEPTIONAL OFF-AXIS DISPERSION, PROVEN BY LABORATORIES ALL OVER THE WORLD, WHICH ALLOWS THE BEST ACOUSTIC RESULTS EVEN AT 60° ANGLES.

And these, together with the extraordinary acoustic results, are only some of the features which earned the I 2.60 I series ECAP's "Best Product of the Year 1996" and the I 2.50 I series the Las Vegas WCES "1997 Innovation Award".



## I 2.40 10 cm (4") ø Four Magnet with Bi-Wiring

- Power handling 80 W satellite  
50 W full range
- Frequency response 80-25,000 Hz
- Sensitivity (1W/1M) 89 dB
- Diameter 10 cm (4")
- Installation Depth 49 mm



The I series are characterised by their extremely smooth frequency response in particular off-axis - even at 60°. The graph refers to the 54.10 and shows an exceptional performance in the bass area for such a small unit.



## I 2.50 13 cm (5") ø Neodymium Magnet with Bi-wiring

- Power handling 100 W
- Frequency response 60-25,000 Hz
- Sensitivity (1W/1M) 89 dB
- Diameter 13 cm (5")
- Installation Depth 58 mm (2.3")

The I 2.50 and I 2.60 are supplied with a pair of additional "open" horns which can be used to replace the standard horn to change the angle of dispersion of the high and mid-high frequencies. The horns are screwed down so changing them is a simple operation.



**ECAP  
Best Product  
of the Year  
1996**



## I 2.60 16 cm (6 1/4") ø Neodymium Magnet with Bi-wiring

- Power handling 120 W
- Frequency response 50-25,000 Hz
- Sensitivity (1W/1M) 90 dB
- Diameter 16 cm (6 1/4")
- Installation Depth 60 mm (2.36")



# TWEETERS

LIKE ALL MACROM PRODUCTS THESE SPEAKERS ARE BASED UPON A SOPHISTICATED PROJECT CONCEPT.

AN EXCLUSIVE DESIGN CHARACTERISES THESE OUTSTANDING COMPACT TWEETERS WHICH INCORPORATE AN ACOUSTIC LENS WITH THE DUAL FUNCTION OF PROTECTING THE DOME AND OBTAIN AN EXCELLENT OFF-AXIS FREQUENCY RESPONSE. THANKS TO MACROM'S HIGH TECHNOLOGY AND THE AMAZING 28 MM DIAMETER HAND-TREATED DOME, A RESONANT FREQUENCY OF BELOW 900 HZ CAN BE OBTAINED. THIS LOW RESONANT FREQUENCY ALLOWS THE REALISATION OF EXCELLENT TWO WAY SYSTEMS WHERE THE USE OF A MIDRANGE IS NOT POSSIBLE OR CAN MAKE A SWEETER AND MORE HARMONIC CROSSING POINT BETWEEN THE MIDRANGE AND TWEETER IN A THREE WAY SYSTEM. THESE TWEETERS ALSO BOAST HIGH POWER HANDLING, LIQUID COOLING AND A BROAD FREQUENCY RESPONSE. THEY ARE ALL SUPPLIED WITH A NEW KIT OF ACCESSORIES WHICH COVER ALL INSTALLATION POSSIBILITIES.



## 57.10 Neomac™ Tweeter

- Power handling at 5 kHz/12dB 80 W
- Frequency response 2,500-20,000 Hz
- Sensitivity (1W/1M) 90 dB
- Resonant frequency 900 Hz
- Diameter 42 mm (1 3/4")
- P.E.S.V. voice coil 28 mm Ø
- Selected soft linen
- Multi installation kit



## 57.11 Neomac™ Tweeter

- Power handling at 5 kHz/12dB 100 W
- Frequency response 2,500-22,000 Hz
- Sensitivity (1W/1M) 91 dB
- Resonant frequency 900 Hz
- Diameter 42 mm (1 3/4")
- Hexatech voice coil 28 mm Ø
- Selected soft linen
- Multi installation kit



## 57.13 Double Magnet Neomac™ Tweeter

- Power handling at 5 kHz/12dB 120 W
- Frequency response 2,500-25,000 Hz
- Sensitivity (1W/1M) 93 dB
- Resonant frequency 900 Hz
- Diameter 42 mm (1 3/4")
- Hexatech voice coil 28 mm Ø
- Hand treated dome fabric
- Multi installation kit



**57.16S:**  
A reference tweeter for car hi-fi. A high flux triple magnet system, an incredibly rigid, hand-treated silk dome and a double chamber for adequate venting result in extremely low resonant frequency, extraordinary power handling and absolutely unbeatable clarity.

## 57.16S Matched Pair Tweeter

- Power handling at 5 kHz/12dB 200 W
- Frequency response 1,800-25,000 Hz
- Sensitivity (1W/1M) 92 dB
- Resonant frequency 700 Hz
- Diameter 10 cm (4")
- Hexatech voice coil 28 mm Ø
- Hand treated dome fabric



## 57.18 NeoMac™ Tweeter

- Power handling at 5 kHz/12dB 50 W (80 W Max music)
- Frequency response 2,500-22,000 Hz
- Sensitivity (1W/1M) 90 dB
- Diameter 40 mm (1 1/2")
- Neodymium magnet
- P.E.S.V. voice coil 18 (3/4") mm Ø
- Multi installation kit



## 57.19 NeoMac™ Tweeter

- Power handling at 5 kHz/12dB 80 W
- Frequency response 2,500-22,000 Hz
- Sensitivity (1W/1M) 90 dB
- Diameter 38 mm (1 1/2")
- Neodymium magnet
- P.E.S.V. voice coil 19 mm (3/4") Ø
- Multi installation kit

# MIDRANGE

MACROM CONSIDERS THE MIDRANGE THE MOST IMPORTANT PART OF THE WHOLE SOUND SPECTRUM. IN FACT, THESE ARE THE MOST FUNDAMENTAL FREQUENCIES FOR THE MAJORITY OF MUSICAL INSTRUMENTS AND IT IS THEREFORE IMPORTANT TO USE COMPONENTS ABLE TO REPRODUCE THEM PERFECTLY.

MACROM HAS A HISTORY FOR MANUFACTURING MIDRANGES WITH AMAZING CLARITY AND NATURALNESS, FROM THE FAMOUS CDM 75 TO THE MORE RECENT 58.16 WHICH IS STILL A REGULAR IN IASCA WINNING VEHICLES.

WITH THE ADVENT OF THE 58.08, MACROM FULFILLS THE PROFESSIONAL INSTALLER'S DREAM OF A LIGHTWEIGHT, COMPACT MIDRANGE WITH THE SAME TOP QUALITY PERFORMANCES THE 58.16 GAVE THEM.

MACROM'S 58.08 IS THE FIRST AND ONLY MIDRANGE TO INCORPORATE A REVOLUTIONARY MAGNET SYSTEM CONSISTING OF FOUR NEODYMIUM SEGMENTS WHICH PILOTS THE 54 MM DIAMETER VOICE COIL OBTAINING RESULTS THAT WOULD REQUIRE AN ABSURDLY LARGE TRADITIONAL MAGNET. THE PLASTIC BODY ELIMINATES ANY DISPERSION OF MAGNETIC FLUX AND REDUCES EVEN FURTHER THE WEIGHT OF THE UNIT.

THANKS TO THE EXTREMELY RIGID DOME DRIVEN BY THE 54 MM DIAMETER VOICE COIL, THIS SPEAKER REPRODUCES THE MIDRANGE WITH SUCH SPEED AND TRANSPARENCY THAT THE RESULTS ARE AN AMAZINGLY LIFE-LIKE SOUND. THE EXTREMELY LOW RESONANCE ALLOWS CROSSOVER POINTS FROM 800 HZ AND A TOTAL LACK OF BREAK-UP OF THE CONE ALLOWS THE USE OF 6 dB PER OCTAVE FILTERS.



## 58.08 8.7 cm (3 1/4") ø NeoMac™ Dome Midrange

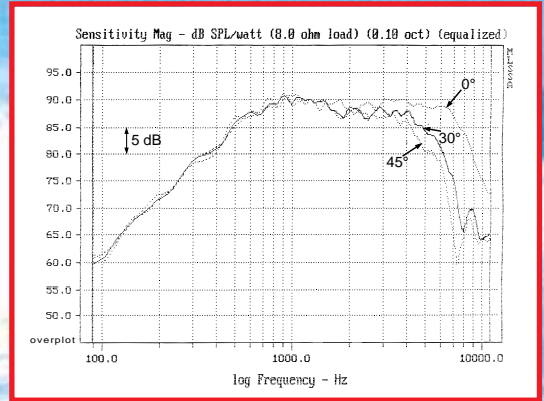
- Power handling 80 W
- Frequency response 400-7,000 Hz
- Sensitivity (1W/1M) 90 dB
- Resonant frequency 420 Hz
- C.A.R. filter
- Installation diameter 76 mm (3")
- Installation depth 25 mm (1")
- Hand treated dome fabric



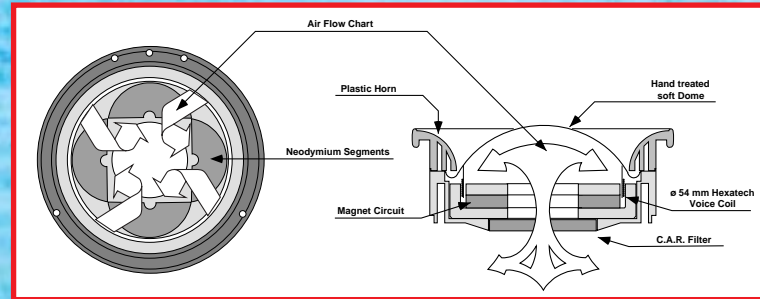
**ECAP  
Best Product  
of the Year  
1994**



It is no wonder that the 58.08 midrange has obtained world-wide recognition including the prestigious ECAP "Best Product of the Year" award and the nomination as "Reference Speaker" in Holland.



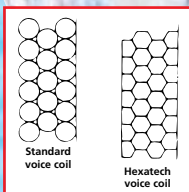
Frequency response at 0°, 30° and 45°.



# WOOFERS

MACROM'S OBJECTIVE OF BUILDING A WOOFER WITH DEEP, FULL-BODIED BASS, AN EXCELLENT TRANSIENT RESPONSE AND INCREASED THE POWER HANDLING WITHOUT MOUNTING THE WOOFER IN A CABINET LED TO THE DEVELOPMENT OF THE UNIQUE C.A.R. (CONTROLLED ACOUSTIC RESISTANCE) TURBO DUCT PRINCIPLE.

THE UNUSUAL LOW DISPERSION MULTI-MAGNET SYSTEMS USED FOR MACROM'S MIDRANGES AND WOOFERS HAVE REAR VENTS EQUIPPED WITH ACOUSTIC FILTERS (C.A.R. FILTERS). THE AIR PRESSURE INSIDE THE MAGNET SYSTEM CREATED BY THE CONE MOVEMENT IS RELEASED THROUGH THIS DUCT, DAMPED BY THE C.A.R. DEVICE LOCATED INSIDE IT, ACCORDINGLY CONTROLLING THE ACOUSTIC RESISTANCE OF THE SPEAKER. THIS ALLOWS MORE ACCURATE BASS, HIGHER POWER HANDLING WITHOUT THE NECESSITY OF ADDITIONAL REAR LOADING. THE FINAL EFFECT IS CLOSE TO THAT OF A CONVENTIONAL CABINET HI-FI SYSTEM SIMPLY BY MOUNTING THE SPEAKER IN DOOR PANELS OR ON A REAR SHELF.



C.A.R. TURBO DUCT PRINCIPLE



## 59.17 16 cm (6 1/4" ) Double Magnet Midwoofer

- Power handling 120 W
- Frequency response 45-5,000 Hz
- Sensitivity (1W/1M) 91 dB
- Resonant frequency 66 Hz
- C.A.R. filter
- Installation diameter 13.8 cm
- Installation depth 64 mm



## 59.22 22 cm (8" ) Double Magnet Woofer

- Power handling 120 W
- Frequency response 30-3,800 Hz
- Sensitivity (1W/1M) 91 dB
- Resonant frequency 40 Hz
- C.A.R. filter
- Installation diameter 19.4 cm
- Installation depth 64 mm



## 59.10 10 cm (4" ) Triple Magnet Midwoofer

- Power handling 90 W
- Frequency response 55-7,200 Hz
- Sensitivity (1W/1M) 88 dB
- Resonant frequency 68 Hz
- C.A.R. filter
- Installation diameter 9.4 cm
- Installation depth 49 mm



## 59.13 13 cm (5" ) Double Magnet Midwoofer

- Power handling 100 W
- Frequency response 45-5,000 Hz
- Sensitivity (1W/1M) 88 dB
- Resonant frequency 56 Hz
- C.A.R. filter
- Installation diameter 11.8 cm
- Installation depth 47 mm

Precise control of the flux density and maximum flux utilisation are vital for excellent speaker design. The Hexatech voice coils used for the MACROM speakers are assembled by using aluminium formers and wire; during the manufacturing process the coils assume their particular hexagonal shape by filling all the spaces that normally exist between the windings, thus increasing the number of windings. This lessens the need for overwinding and makes full use of the available flux.



# ACCESSORIES

TO COMPLEMENT THIS EXCELLENT RANGE OF SPEAKERS, MACROM OFFERS METAL GRILLES IN FOUR DIFFERENT SIZES TO FIT ITS COMPONENTS.



**95.64 B** • 10 cm (4") Ø

**95.65 B** • 13 cm (5") Ø

**95.66 B** • 16 cm (6") Ø

**95.68 B** • 22 cm (8") Ø

**Grilles**

THESE CROSSOVERS AND DIVIDING FILTERS ARE ALL MADE WITH HIGH QUALITY COMPONENTS AND SATISFY ANY INSTALLATION REQUIREMENT.



**95.86**

**Two way crossover with tweeter option**

- Max. power: 200 W
- 12 dB per octave slope
- 5,000 Hz crossover point
- Three tweeter options: +3 dB, 0 flat, -3 dB
- ABS cabinet
- Gold plated screw terminals
- Size: 80(W)x34(H)x107(D) mm



**95.87**

**Three way crossover**

- Max. power: 200 W
- 12 dB per octave slope
- 800 and 5,000 Hz crossover points
- ABS cabinet
- Gold plated screw terminals
- Size: 80(W)x34(H)x107(D) mm



**95.89**

**Two way dividing filter**

- Max. power: 200 W
- Crossover Point: 400 Hz
- 12 dB per octave slope
- Combines with existing crossover to create a 3 way system
- Low-pass output below 400 Hz to mid-bass
- High Pass output (400Hz up) to next crossover or Satellite
- Gold-plated screw terminals
- Size: 80(W)x34(H)x107(D) mm

# UNS SYSTEMS

THE UNS SERIES OFFER THE BEST SOLUTIONS FOR THE FACTORY LOCATIONS IN ANY KIND OF CAR. A RANGE OF SYSTEMS WITH AN OPTIMUM PRICE/PERFORMANCE RATIO THAT WILL ALLOW YOU TO ENJOY EXCELLENT IMAGING AND STAGING WITHOUT SPENDING VERY MUCH AT ALL.

THE UNS REPRESENT A GREAT IMPROVEMENT TO STANDARD TWO WAY SYSTEMS. MANY IMPORTANT DETAILS HAVE BEEN ADDED TO THE WOOFERS (VENTILATED MAGNETS FOR MORE EFFICIENT HEAT DISPERSION, NEW RUBBER SUSPENSION, NEW VPC CONE, NEW DESIGN) AND TO THE TWEETERS (18 MM NEODYMIUM WITH MULTI INSTALLATION KIT).

THE MAIN FEATURES OF THE UNIVERSAL SYSTEMS SERIES ARE:

- **UNLIMITED TECHNOLOGY it really means something here!**
- **"VPC" CONE (VELVET PAPER CONE)** For a smoother, sweeter frequency response and great reduction in harmonic distortion
- **12dB/Oct EXTERNAL X-OVER 12dB high pass** for ideal coupling between the woofer and tweeter as well as better tweeter protection
- **18 mm POLYMER DOME TWEETER WITH MULTI MOUNTING KIT** Smoother frequency response, Very easy to install in any position.
- **FERROFLUID COOLED TWEETER** or better heat dissipation and more power handling
- **3Ω VOICE COIL** to increase sensitivity by about 1 dB
- **REINFORCED SPIDER** for an increase in power handling
- **ANTI-RESONANCE BASKET** to improve sound quality
- **ALUMINIUM VOICE COIL** for better heat dissipation and more power handling
- **GRILLES WITH MACROM LOGO INCLUDED** for better flexibility and better look
- **EXTENDED VENTED POLE PIECE** for better heat dissipation which increases the applicable power
- **RUBBER SUSPENSION AND STRONTIUM MAGNET** for better reliability and better efficiency



## UNS 2.41 10 cm (4") ø Two Way Compo System

- Max. music power 80 W
- Sensitivity 90 dB
- Impedance 4 Ohm
- Installation depth 44 mm
- Frequency response 60-25,000 Hz



## UNS 2.51 13 cm (5") ø Two Way Compo System

- Max. music power 100 W
- Sensitivity 91 dB
- Impedance 4 Ohm
- Installation depth 56 mm
- Frequency response 50-25,000 Hz



## UNS 2.61 16 cm (6 1/4") ø Two Way Compo System

- Max. music power 120 W
- Sensitivity 91 dB
- Impedance 4 Ohm
- Installation depth 64 mm
- Frequency response 45-25,000 Hz



# UN SPEAKERS

AMONG THE SEVERAL INNOVATIVE FEATURES, MACROM HAS ADOPTED ALUMINIUM VOICE COILS FOR ITS WOOFERS WHICH RESULTS IN GREATER POWER AND BETTER CONTROL OF THE DYNAMIC RANGE.

RUBBER SUSPENSION ON ALL MODELS FURTHER INCREASES THE ALREADY GOOD CONTROL OF THE CONE'S MOVEMENT. SPECIAL EMPHASIS HAS BEEN PUT ON THE CANCELLATION OF EXTERNAL VIBRATIONS AND INTERNAL RESONANCE CAUSED BY HIGH POWER THROUGH THE USE OF AN ATTRACTIVE NEW GRILLE WITH SQUARE HOLES.

AND, LAST BUT NOT LEAST, THE GREAT LOOKING PACKAGING IS WRITTEN IN FIVE LANGUAGES AND INCLUDES ALL THE INFORMATION ON THE PRODUCT.

THE MAIN FEATURES OF THE UN (UNIVERSAL) SERIES ARE:

- **UNLIMITED TECHNOLOGY** it really means something here!
- **"VPC" CONE (VELVET PAPER CONE)** For a smoother, sweeter frequency response and great reduction in harmonic distortion
- **POLYMER DOME TWEETER** Smoother frequency response and greater sensitivity at high frequencies
- **13 mm FERROFLUID COOLED TWEETER** for better heat dissipation and more power handling
- **3Ω VOICE COIL** to increase sensitivity by about 1 dB
- **REINFORCED SPIDER** for an increase in power handling
- **ANTI-RESONANCE BASKET** to improve sound quality
- **ALUMINIUM VOICE COIL** for better heat dissipation and more power handling
- **GRILLES WITH MACROM LOGO** for better flexibility and better look
- **STRONTIUM MAGNET** for better efficiency
- **RUBBER SUSPENSION** for better reliability



## UN 2.41 10 cm (4") $\phi$ Two Way Universal Coaxial Speaker

- Max. music power 80 W
- Frequency response 60-25,000 Hz
- Sensitivity 90 dB
- Installation depth 44 mm



## UN 2.51 13 cm (5") $\phi$ Two Way Universal Coaxial Speaker

- Max. music power 100 W
- Frequency response 50-25,000 Hz
- Sensitivity 91 dB
- Installation depth 56 mm



## UN 2.61 16 cm (6 1/4") $\phi$ Two Way Universal Coaxial Speaker

- Max. music power 120 W
- Frequency response 45-25,000 Hz
- Sensitivity 91 dB
- Installation depth 64 mm



# OVAL SPEAKERS

*THE 6x9 SPEAKER CONTINUES TO BE IN HIGH DEMAND IN MANY MARKETS BECAUSE OF ITS EASE OF INSTALLATION AND THE FACT THAT IT REPRESENTS A SIMPLE SOLUTION TO MANY PROBLEMS. HOWEVER, ITS OVAL SHAPE USUALLY MAKES THE CONE ACOUSTICALLY UNBALANCED.*

*IN DESIGNING THESE TWO WAY 6x9 UNITS MACROM HAS MANAGED TO SATISFY THE DEMAND FOR 6x9 UNITS WITH MINIMUM COMPROMISES REGARDING ACOUSTIC RESULTS. IN FACT, THESE UNITS ARE CHARACTERISED BY DEEP BASS AND CLEAR VOCALS.*

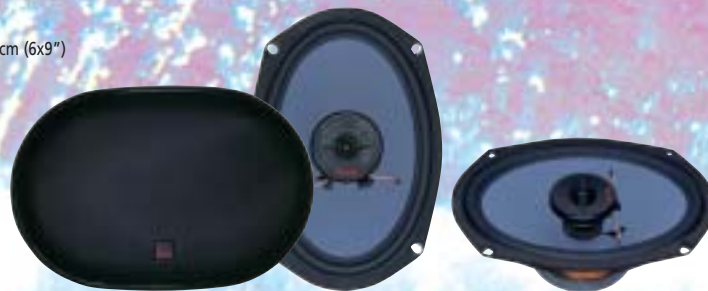
*FOR PARTICULARLY COMPLEX SYSTEMS, THE BI-WIRING OPTIONS GIVES THE POSSIBILITY OF USING EXTERNAL PASSIVE CROSSOVERS TO MODIFY THE CROSSING POINT BETWEEN THE TWO UNITS. THE 62.90 IS AT THE TOP OF ITS CATEGORY AND USES MACROM'S EXCLUSIVE NEW SOFT DOME TWEETER.*

**UN 2.69**



## **Two Way Coaxial Speaker**

- Max. music power 120 W
- Frequency response 45-25,000 Hz
- Sensitivity 91 dB
- Impedance 4 ohm
- Size woofer 16x23 cm (6x9")



**62.90**

## **Two Way Coaxial Speaker**

- Max. music power 150 W
- Frequency response 40-25,000 Hz
- Sensitivity 92 dB
- Size 16x23 cm (6x9")
- Bi-wiring
- 20 mm ø soft dome tweeter



# CF SPEAKERS

MACROM IS RENOWNED WORLDWIDE FOR THE EXTRAORDINARY PERFORMANCES OF ITS CONVENTIONAL SPEAKER RANGE. THE CONSUMER'S FIRST STEP INTO THE MAGIC WORLD OF CAR HI-FI WITH A GREAT SOUND AT A VERY REASONABLE PRICE. THE NEW CF AND UN SERIES ARE ADAPTED TO THE FACTORY LOCATIONS AND ACOUSTICS OF MOST CARS ON THE MARKET TODAY. FEATURES INCLUDE: SPECIAL MAGNETS, MORE POWERFUL THAN TRADITIONAL FERRITE ONES, FOR A MORE RAPID TRANSIENT RESPONSE AND TO ENSURE AN EVERMORE PRECISE AND CLEAR SOUND DEFINITION; 13 MM BALANCED TWEETERS WHICH ARE LIQUID COOLED TO AVOID OVERHEATING OF THE VOICE COIL AND TO INCREASE POWER HANDLING; NEW TREATED PAPER CONES WHICH GIVE MACROM'S CF AND UN LOUDSPEAKERS THEIR CHARACTERISTIC DEEP BASS TOGETHER WITH OPEN AND FULL MEDIUM FREQUENCIES.



**CF 2.60** 16.5 cm (6 1/2")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 120 W
- Frequency response 45-25,000 Hz
- Sensitivity 91 dB
- Installation depth 54 mm



**CF 2.42** 10 cm (4")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 80 W
- Frequency response 55-25,000 Hz
- Sensitivity 90 dB
- Installation depth 42 mm



**CF 2.30** 8.7 cm (3 1/4")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 60 W
- Frequency response 70-25,000 Hz
- Sensitivity 90 dB
- Installation depth 32 mm



**CF 2.46** 10x15 cm (4x6")  
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 80 W
- Frequency response 50-25,000 Hz
- Sensitivity 90 dB
- Installation depth 47 mm



**CF 2.40** 10 cm (4")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 80 W
- Frequency response 60-25,000 Hz
- Sensitivity 90 dB
- Installation depth 43 mm



**CF 2.50** 13 cm (5")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 100 W
- Frequency response 45-25,000 Hz
- Sensitivity 91 dB
- Installation depth 44 mm



**CF 2.41** 10 cm (4")  $\phi$   
Two Way Custom Fit  
Coaxial Speaker

- Max. music power 80 W
- Frequency response 60-25,000 Hz
- Sensitivity 90 dB
- Installation depth 42 mm

# HI-BASS

CONTINUING IMPROVEMENTS IN THE QUALITY OF HEAD UNITS AND AMPLIFIERS HAVE INCREASED THE DEMAND FOR SPEAKERS ABLE TO REPRODUCE COMPLETELY THE TREMENDOUS DYNAMICS OF DIGITAL RECORDINGS WITHOUT DISTORTION OR COMPRESSION.

FURTHERMORE, IN ORDER TO OBTAIN A HIGH LEVEL OF MUSICAL PERFORMANCE WITH TODAY'S MUSIC IT IS NECESSARY TO USE PROJECT CONCEPTS THAT ARE RADICALLY DIFFERENT FROM THOSE USED FOR SPEAKERS DESTINED TO THE REPRODUCTION OF JAZZ AND CLASSICAL MUSIC. MACROM HAS DEVELOPED THESE TERRIFIC WOOFERS WITH PARTICULAR ATTENTION TO HIGH DYNAMICS AND POWER HANDLING FOR A YOUNG AND MUSICALLY AGGRESSIVE PUBLIC.

THE COST/PERFORMANCE RATIO IS EXTREMELY COMPETITIVE ESPECIALLY WHEN CONSIDERING THE RESULTS WHICH ARE ABSOLUTELY AMAZING IN TERMS OF SOUND PRESSURE AND LACK OF DISTORTION AND INTER-MODULATION.



## 68.10 Hi-Bass

- Max. music power
- Frequency response
- Installation depth
- Paper cone woofer
- Aluminium voice coil

10 cm (4") ø

90 W  
92-12,000 Hz  
60 mm  
25 mm (1")



## 69.13 Hi-Bass

- Max. music power
- Frequency response
- Installation depth
- Paper cone woofer
- Aluminium voice coil

13 cm (5") ø

120 W  
80-10,000 Hz  
55 mm  
32 mm (1 1/4")



## 69.16 Hi-Bass

- Max. music power
- Frequency response
- Installation depth
- Paper cone woofer
- Aluminium voice coil

16.5 cm (6 1/2") ø

140 W  
50-9,000 Hz  
72 mm  
32 mm (1 1/4")



Discover how to design and build a true car hi-fi subwoofer. All the subwoofer cabinet projects for the Hi-Bass series.

### Small & Thiele Parameters (68.10 - 69.13/16)

	.16	.13	.10		.16	.13	.10	
<b>Re</b> (DC VC Res)	3.2	3.2	3.2	Ohm	<b>Qms</b> (Mech Q)	2.47	3.28	2.66
<b>Fs</b> (Res Freq)	53	55	92	Hz	<b>Qes</b> (Elect Q)	0.39	0.49	0.52
<b>Sd</b> (Piston Area)	165	89	55	sqM	<b>Qts</b> (Total Q)	0.34	0.42	0.43
<b>Bl</b> (Flux Length)	7.93	7.93	4.73	TM	<b>Vas</b> (Acous Vol)	14.9	10.6	2.03
<b>Xmax</b> (Max Exc.)	± 4.5	± 5	± 3.5	mm	<b>Cms</b> (Compliance)	387	944	473
<b>no</b> (Ref Effncy)	0.54	0.35	0.29	%	<b>Mms</b> (Total Mass)	23.3	8.8	6.31
<b>SPL</b> (SPL at 1W)	90	89	88	dB				

# HI-BASS

MANUFACTURED WITH THE SAME CARE AND PASSION AS THE 68.10, 69.13 AND 69.16, THESE MACROM HI-BASS SUBWOOFERS REPRODUCE THE LOW FREQUENCIES WITH AN OVERWHELMING PERFORMANCE INSOFAR AS SPL AND DISTORSION-FREE SOUND ARE CONCERNED. THE ALUMINIUM VOICE COILS HAVE VERY WIDE DIAMETERS (50 MM FOR THE 20 CM MODEL) AND SUPPORT HEAT VERY WELL.

THEY GUARANTEE A LONG LIFESPAN EVEN WITH INTENSE USE. THESE SUBWOOFERS MOVE SO MUCH AIR THAT LISTENING TO THEM IS TRANSFORMED INTO A PHYSICAL EXPERIENCE!

MACROM RECOMMENDS THE USE OF THE LARGER MODELS (69.25 AND 69.30) WITH BAND PASS LOADING (SYMMETRICAL OR DOUBLE REFLEX) WHICH ALLOW, THE USE OF EXTREMELY HIGH ELECTRICAL POWER.



## 69.90 Hi-Bass

16x23 cm (6x9")

- Max. music power 140 W
- Frequency response 40-5,000 Hz
- Installation depth 85 mm
- Paper cone woofer
- Aluminium voice coil 32 mm (1 1/4")



## 69.20 Hi-Bass

20 cm (8") ø

- Max. music power 250 W
- Frequency response 40-5,000 Hz
- Installation depth 98 mm
- Paper cone woofer
- Aluminium voice coil 51 mm (2")

## 69.25 Hi-Bass

25 cm (10") ø

- Max. music power 300 W
- Frequency response 33-6,000 Hz
- Installation depth 104 mm
- Paper cone woofer
- Aluminium voice coil 51 mm (2")

## 69.30 Hi-Bass

30 cm (12") ø

- Max. music power 400 W
- Frequency response 30-5,000 Hz
- Installation depth 127 mm
- Paper cone woofer
- Aluminium voice coil 51 mm (2")



### Small & Thiele Parameters (69.30/25/20/90)

	.30	.25	.20	.90	
<b>Re</b> (DC VC Res)	3.6	3.6	3.2	3.2	Ohm
<b>Fs</b> (Res Freq)	29	30	41	42	Hz
<b>Sd</b> (Piston Area)	530	330	220	204	sqM
<b>Bl</b> (Flux Length)	10.3	9.46	9.7	4.87	TM
<b>Xmax</b> (Max Exc.)	± 6	± 5	± 5	± 4.5	mm
<b>no</b> (Ref Effncy)	0.72	0.6	0.32	1.32	%
<b>SPL</b> (SPL at 1W)	92	91	90	93	dB
<b>Qms</b> (Mech Q)	2.66	2.55	1.96	2.15	
<b>Qes</b> (Elect Q)	0.48	0.37	0.43	0.40	
<b>Qts</b> (Total Q)	0.41	0.32	0.35	0.34	
<b>Vas</b> (Acous Vol)	153	89	20.9	75.5	Liters
<b>Cms</b> (Compliance)	384	573	304	1277	µM/N
<b>Mms</b> (Total Mass)	79.6	49.6	49.1	11.3	Gram

# 24 CARAT

THE 24 CARAT PRODUCT LINE HAS BEEN DEVELOPED WITH STRONG DEVOTION TO REAL WORLD FUNCTION AND STYLE. TODAY'S CAR AUDIO HAS A NUMBER OF DIFFERENT ACCESSORY BRANDS WHICH ARE NO MORE THAN BRANDS. THE COMPANIES BEHIND THEM DON'T PUT MUCH EFFORT INTO R&D AND NOR DO THEY PAY MUCH ATTENTION TO HOW THEIR PRODUCTS WILL WORK IN REAL LIFE FOR THE PROFESSIONAL INSTALLER OR THE ENTHUSIASTIC OWNER.

THE GOAL FOR MACROM'S WHOLE 24 CARAT LINE IS TO GIVE SOMETHING MORE THAN THIS. THANKS TO OVER 13 YEARS OF EXPERIENCE WITH A WIDE RANGE OF CAR AUDIO PRODUCTS, MANY OF WHICH HAVE BEEN RECOGNISED AS AMONG THE "BEST" CAR AUDIO HAS TO OFFER, WE ARE WELL AWARE OF THE REQUIREMENTS FOR A FUNCTIONAL ACCESSORY PROGRAM.

24  
Carat



MASTERS  
of CONNECTION

**A glimpse into the  
24 Carat world.**

**See the 24 Carat catalogue  
for MACROM's full accessory range.**

**MACROM®**

## High Current Carrier

Macrom 24 Carat HCC (High Current Carrier) utilises a special winding technique to increase the actual amount of conducting material and reduce skin and proximity effects. The tighter winding also stops air and humidity from entering the conductor thus reducing dramatically the oxidation time.

HCC are measured not only in AWG but also in real resistance area.

The HCC series cables are manufactured in Europe for best possible performance and reliability.



## Audio Resolution Carrier

A very price competitive range of standard speaker cables with an attractive sapphire blue jacketing which matches the GP and AG-series line cables. These cables are super flexible and a different shape jacketing distinguishes plus and minus to avoid connection errors. They boast a higher construction quality than any other three pole cable which permits a particularly high transfer of power for a better frequency response.



## PLY

PLY is the first scientifically recognised speaker cable. PLY is a low inductive benign oxide concept speaker cable in which the conductors are flat and lie flat surface to flat surface. The tin plated strands and the special design of this cable allows it to be considered a real scientific cable.



## CALCULATION TABLE FOR POWER SUPPLY CABLES

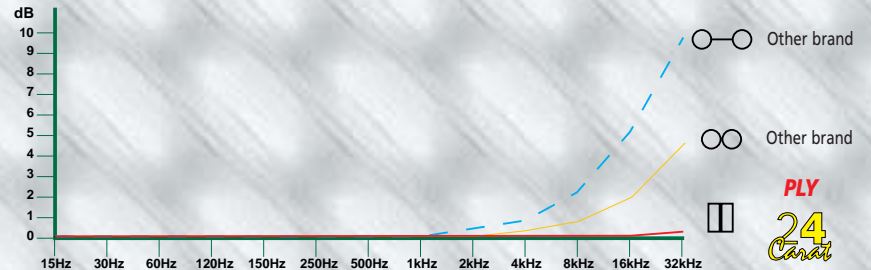
(\*)

P O W E R	C U R R E N T	O U T P U T	A B S O R B E D	CABLE LENGTH									
				0 • 1	1 • 2	2 • 3	3 • 4	4 • 5	5 • 6	6 • 7	7 • 8		
1100 W (RMS)	1 (A)	150 • 180											
900	120 • 150												
700	100 • 120												
600	80 • 100												
500	60 • 80												
350	40 • 60												
200	20 • 40												
100	8 • 20												

L (m)

A.W.G.	CABLE SECTION	mm <sup>2</sup>
1/2		35
4/5		16
8		8

(\*) Approximate power output: to be precise the current absorbed is the equal to the total of the power of all the amplifiers divided by their current and divided by the tension of the car's electronic circuit.





### NPC sleeve

Sleeve for professional ending of the NPC to a pair of RCA's and remote.



### Audiophile Gold

This top quality signal cable is triple shielded with only one shield connected to the source for maximum sound quality and noise rejection. This is the same cable that is used for the Audiophile Gold extension cables. Follow the direction of the printing on the cable during installation.

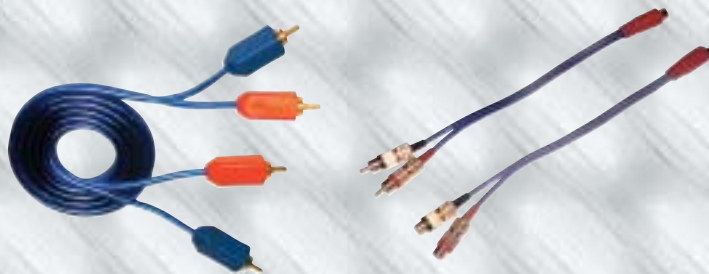
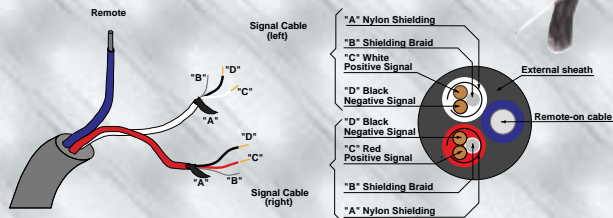


### Audiophile Gold (Semi-balanced)

The Audiophile Gold directional signal carrier is equipped with the unique RECM connectors and an integrated, removable remote lead the length of which exceeds the coaxial cable by 20 cm each end for maximum flexibility. Double shielded compact cable with the outer shield only connected to the source side for maximum sound quality and noise rejection.

### Noise Protection Carrier

Macrom's 24 Carat Dual balanced NPC (Noise Protection Carrier) is a revolutionary way of solving problems with strayfields and it is totally free from microphone effect and capacitance variations. NPC keeps noise out of the system even in extreme conditions thanks to its special semiconductive nylon screen which shields the symmetrical twisted conductors and the remote conductor. Unparalleled in competitions in balanced, semibalanced or even unbalanced connections.



### Standard Quality

A very complete range with "everyday" type of cables at a very competitive price despite the exclusive 24 Carat blister packaging. Square molded connectors give a good grip and the nice packing make this product very attractive.



### General Purpose

The next step up in the line covers the "not too advanced consumer" who still wants something more attractive than just basic (the GP series is also known as the JEEP cable). The connectors are in metal, unusual for cables at this price level, and the product itself is sturdy looking with 5 mm blue jacketing.



### Battery Terminals

Extreme flexibility through the use of both bolt mounted connections and an integrated slot for cables. The use of HEX bolt is superior, in both looks and installation height, to the standard wing nut model. Suitable for use with PT 21, PT 35 and PT 50. Fitted with two other connections for 16 mm<sup>2</sup> cables.



### BTC Battery and Power Terminal Covers

This silicone cover is designed for sophisticated installations and competition cars in which details are very important. They give installations a very tidy professional look.



### RECM Plug - RECF Socket

Patented High Grade RCA connectors with Teflon isolation unique to MACROM. They combine extraordinary style with practical flat sides which give the installers' fingers an outstanding grip.

The world's first square metal connector, shiny polished charcoal with a 24 Carat logo. This connector is the ultimate choice for a high end installation, must be seen!  
Packed in blisters of two pairs and distinguished by an elegant red and black marking.



### Power Enhancer

An excellent energy tank to stabilise your amplifier especially if installed far from the battery.

### Glass fuseholder

Fuseholders with flat screws mean no hassle in finding the right HEX wrench. Special spring action fuseholder ensures full contact under all circumstances. Rubber washers protect the critical parts inside from moisture.



### Power Cable Terminals

These heavy connectors have no trouble with big currents and the HEX screw is tanded to ensure perfect contact. Supplied in an elegant Macrom 24 Carat blister (1 piece per blister).



### Power Fuse Split

A true power distribution centre with an input side that has one 50 mm<sup>2</sup> connection and two 35 mm<sup>2</sup> connection for input/distribution use. Unlike the competitors' tiny 10 mm<sup>2</sup> outputs the PFS series gives you up to four fused 21 mm<sup>2</sup> outputs, enough even for high power amplifiers.



**MACROM<sup>®</sup>**



MACROM Ltd. • Emsworth, Kinsealy Dublin 17, Ireland  
Main Office: MACROM Ltd., 3 Moree St., CH - 6850 Mendrisio, Switzerland  
Tel.: 091.6460010 • Fax: 091.6460128  
<http://www.vol.it/macrom>

Due to continuing product improvement, the features and the design are subject to change without notice. 98.05 • Copyright © 1998 • MACROM Ltd. reserves all rights.