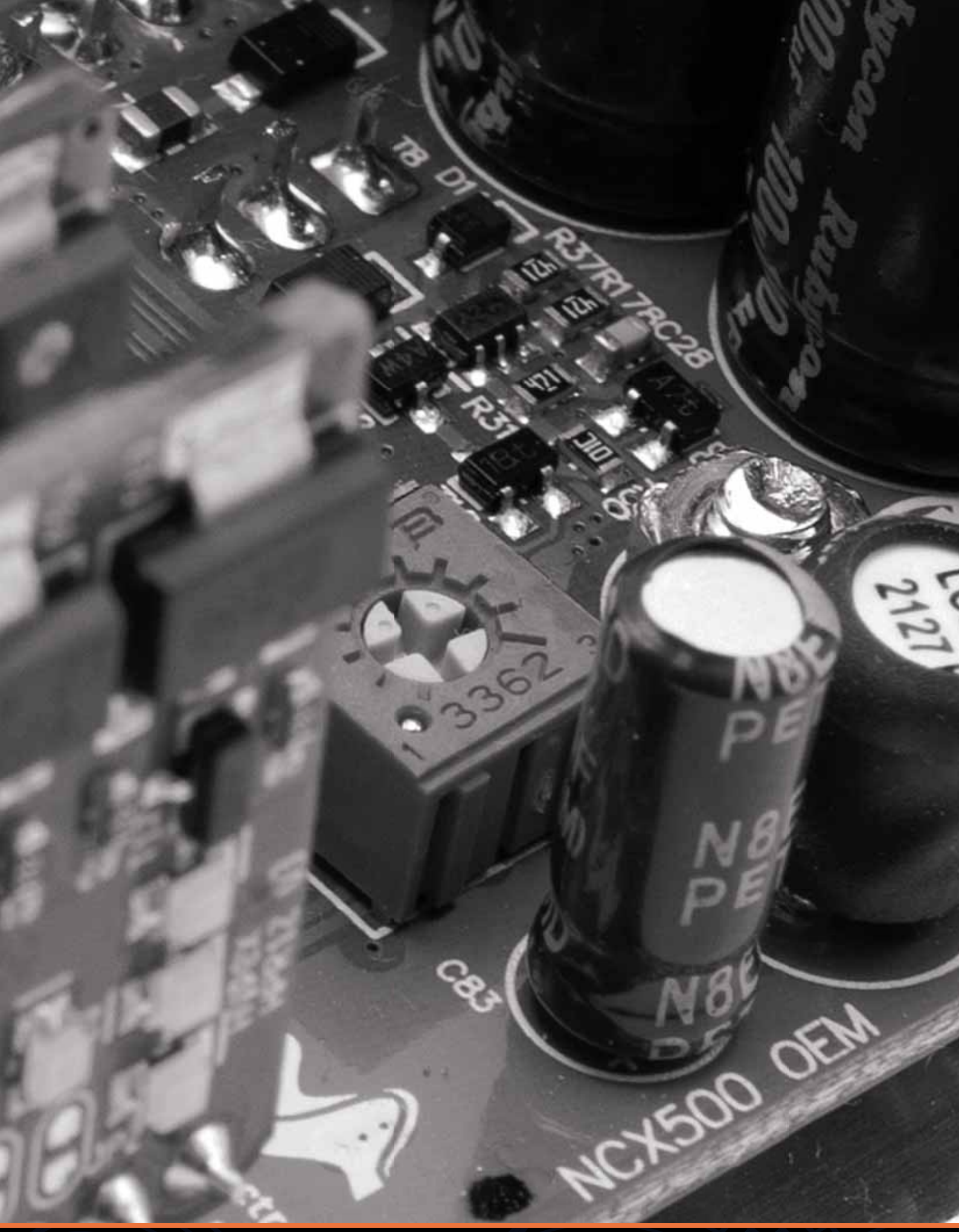
HYPEX electronics

Celebrating 30 years of amplification

OEM PRODUCT GUIDE

2026


NCX500 OEM

INTRODUCTION

Hypex Electronics was founded in 1996 as is a leading specialist supplier, designer and manufacturer of Class D power amplifiers, power supplies, DSP solutions and plate amplifiers in the HiFi, high-end and Pro Audio industries.

At Hypex Electronics, we work closely with our customers to find the ultimate solution to their applications, from initial idea to final product.

The core of our business is designing and manufacturing high-performance Class D amplifiers based on the world-renowned Nilai® NCOREx® , NCORE® and UcD™ technologies.

In this brochure we explain our technologies and showcase our OEM product range – ranging from Amplifier modules, Switch Mode Power Supplies and Mains Powered amplifier modules to DSP solutions and complete plate amplifiers.

Hypex Electronics – when sound quality matters.


hypex
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CONTENTS

ABOUT US

Hypex Electronics B.V. is a specialist supplier, designer and manufacturer of Class D power amplifiers, power supplies, DSP solutions and plate amplifiers for the HiFi, high-end and Pro Audio Industry. The company manufactures extremely high-performance and high-quality Class D amplifiers, based on our leading and world-renowned Nilai® , NCORE x® , NCORE® and UcD™ technologies.

Our goal is to provide everyone with the best possible audio experience. That's why our products are today found in some of the most high-end audio applications, and in every market segment.

Hypex products are manufactured in our own factory in Malaysia, in a strictly-controlled production environment. To ensure fast delivery, we maintain constant stock levels in a Hong Kong-based warehouse and at our Netherlands headquarters. This control over the entire production process enables us to deliver customised services and superior customer support.

Our philosophy is simple: we want our customers to implement the best possible Class D amplifier technology in the most user-friendly way. This is why we constantly strive for the best performance, combined with the best and most cost-effective solutions, efficient lines of communication and fast delivery.

WHAT WE DO

- Class D amplifier design and manufacturing
- SMPS (Switch Mode Power Supply) design and manufacturing
- DSP (digital signal processor) solution design and manufacturing
- Analog and digital circuit design and manufacturing
- Software & firmware, including network audio
- DANTE/AES70 solutions
- Extensive R&D, with regard to various high-end audio, SMPS and DSP designs
- In-house engineering and other support for all customers (OEM and DIY)
- Custom projects

At Hypex Electronics, we believe in working closely with our customers to find the ultimate solution for your applications, from initial idea to final product. Product development is divided between general power amplifier and power modules and custom projects for selected customers.

Areas where we can provide additional value include: production design; AD/DA conversion; active speaker design and DSP solutions for speaker and system control.

APPLICATIONS WE SUPPORT

- Active loudspeakers
- Home theatre
- Amplifiers for the audiophile market
- Live sound purposes
- Musical instrument amplification
- Studio based solutions

OUR STORY

Hypex Electronics was founded in 1996 by Jan-Peter van Amerongen (1964 - 2021). The company started as a supplier of plate amplifiers for live sound loudspeakers. The products attracted the attention of HiFi loudspeaker manufacturers, resulting first in a range of active subwoofer amplifiers, followed shortly by multi-channel units with active crossover filters for the studio market.

In 2003, a full migration to Class D began. The newly-invented 'Universal Class D' technology was selected for this purpose, later followed by the leading NCORE® technology. The decision was taken to not only use UcD™ and NCORE® in end-user products, but also to market these as general amplifier modules. The quality of the UcD™ and NCORE® modules were quickly recognised as the new industry standard in both measured and subjective performance.

In 2005, Hypex decided to become a technology resource instead of a technology user. Hypex now serves a wide range of leading audiophile, HiFi and Pro Audio brands, incorporating our world-class NCORE® technology into their final products.

In 2013 we built own our production facility in Malaysia – named Seetek EMS SDN BHD – to exclusively manufacture Hypex products. One of Hypex's core values is to deliver high-quality products at all times. That's why we impose strict controls during the production, assembly, and quality assurance process. The Seetek facility enables us to maintain these core values.

Hypex Electronics celebrated its 25th anniversary in 2021. Sadly, in the second half of the year company founder Jan-Peter van Amerongen lost an unwinnable battle, passing away in November. Jan-Peter was a brilliant entrepreneur with a deep and abiding passion for his work and is greatly missed, both personally and professionally. Before he passed, he appointed former R&D manager, Jan-Willem Winters, as CEO. A position he holds to this day.

1996 - 2026 | 30 years of amplification

1996

Hypex is founded in Groningen by Jan-Peter van Amerongen, operating from a small upstairs apartment. Early amplifiers are hand-built, with initial sales through a local audio retailer.

1997–1998

Hypex gains its first international exposure when amplifier modules appear in a German audio catalogue, generating the first export orders.

1999

The company relocates to its first dedicated business facility at the Ulgersmaweg in Groningen, expanding to 250 m².

2003

Hypex introduces **UcD**™ technology, licensed from Philips. The platform quickly gains industry recognition.

A fire in a neighbouring unit causes damage to the Ulgersmaweg facility. After repairs, operations resume.

2004

Start of Belgian operations. Engineer Bruno Putzeys begins working for Hypex from his home above a bakery, marking the company's first R&D presence in Belgium.

Construction of the Kattegat 8 (Eemspoort) facility in Groningen is completed, and Hypex relocates to the new building.
Founder of Hypex Jan-Peter van Amerongen coordinates alignment between the Belgian and Dutch engineering activities.

2005

Hypex rents the former bakery space to expand its Belgian development activities.

2011

Hypex launches **NCORE®** technology, starting with the NC400 module.

A 50/50 manufacturing venture is established in Malaysia to secure additional production capacity.

2013

In Groningen, a floor was added to the top of the building to serve as the new R&D department.

2015

Hypex acquires full ownership of the Malaysian manufacturing facility, converting it into a wholly owned operation.

R&D activities are relocated from Belgium to Eindhoven to improve access to engineering talent and technical resources.

2016

To better support the growing DIY audio community, Hypex sets up a dedicated DIY department under the name DIYclassD.com. This new operation provides direct communication, specialised customer support and a focused product offering tailored to DIY users.

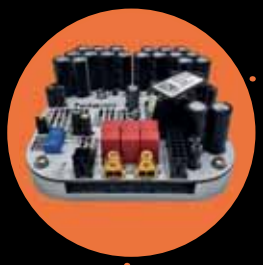
2019

The Eindhoven facility is relocated to a new site, with more space for expansion and research and development.

2021

Hypex introduces **NCOREx®** technology, enhancing performance over the original NCORE® platform. In Groningen, part of the building on the other side of the road is also being rented to serve as a listening room and additional workspaces.

After an unwinnable battle, Jan-Peter van Amerongen passed away way too early. Jan-Peter will be remembered as an enthusiastic, kind and warm person.



2023

Hypex releases **Nilai®** exclusively for the DIY market, introducing the next step in high-performance Class-D technology for hobbyists and audio enthusiasts.

2025

The Malaysian factory relocates to a new, modern production facility. Hypex continues to operate with R&D based in Groningen and Eindhoven, supported by production activities in Asia. Seetek now employs 80 people, who are committed to producing products of the highest quality.

DIYclassD.com is rebranded to Hypex Direct, creating a clearer and more unified link between Hypex and its global DIY customer base.

To support the expansion of the warehouse, the extension across the street in Groningen is being further developed. As a result, the Quality and Support department will be relocated to this site.

2026

Hypex celebrates its thirtieth anniversary, marking three decades of technological innovation, manufacturing growth and global distribution. Hypex is now a team of 30 people who are all committed to achieving the best sound quality.

PRODUCTION

Seetek EMS SDN BHD is Hypex Electronics's own Malaysian-based manufacturing affiliate. Allow us to tell you a bit more about this partnership and our working methods and how it benefits you as a customer.

In 2013, Hypex Electronics started manufacturing our audio products on a large scale at Seetek EMS SDN BHD. Malaysia is the perfect location for an internationally-focused production facility because of its strategic location; large and highly-skilled labour force; high-quality production standards and low production costs. Malaysia is also unaffected by import and export limitations thanks to the nation's stability and flexibility in business and investment policies.

Today, we have a team of 80 on-site engineers, craftsmen, and production staff members – all contributing to the success of Seetek. Their expertise and dedication – combined with the latest technology and state-of-the-art machinery – is the perfect combination of evolution and intelligence, resulting in our high-quality products. Annually, Seetek is responsible for the production of hundreds of thousands of products from our Hypex catalog.

CONTROL

Communication between our two companies has always been open and clear and we work together efficiently. One of the primary advantages of backward vertical integration is control.
Since all processing is done in-house, Hypex and Seetek staff have complete control over the entire production process, ranging from product supplies to assembly and testing. This way IP protection is completely guaranteed.

Hypex has developed an on-site test system – HTS (Hypex Test System) – which allows us to log every single step of the testing procedure. Our modules will have undergone 100% functional tests with a burn-in process at the end of the line by the time they leave our production facility. In addition, Hypex staff regularly visit Seetek for system updates or system expansions.

These face-to-face meetings and direct communication with on-site staff enhances the working relationship and promotes agility, so we can quickly respond to changes in the market. It also guarantees cost-efficient production, easy customisation and rapid testing of new prototype iterations.

At both Hypex and Seetek we value and appreciate our workers and believe that our employees' well-being is crucial to a healthy and high-performing work culture. Seetek makes it a priority to see that staff enjoy a working environment of the same high quality as our products. We believe happy employees are more productive, have greater confidence and take more responsibility – resulting in a shared commitment to deliver world-class products.

TRUSTED PARTNERSHIP

The combination of Dutch design and Malaysian manufacturing has proven to be an ideal match for Hypex and is greatly appreciated by our customers. Our business has grown rapidly and is only expected to increase further over the next decade. Over the last few years, Seetek has expanded, relocating to larger locations several times in order to meet current and future customer demands. Our current factory is our third location in Malaysia.

Hypex Electronics is proud and grateful to have Seetek as its trusted partner. Together with our Dutch and Hong Kong warehouses, we have a strong and thriving business. We look to the future with confidence and enthusiasm – delivering our Dutch-designed and Malaysian-produced products to customers all over the world.

Seetek complies with the highest quality assurance and environmental protection standards: ISO 9001:2015 and ISO 27001:2015.

TECHNOLOGY

NILAI®

Nilai is the next step in Class D amplification technologies which began with UcD™ , followed by NCORE®. One of the main concepts of UcD™ , incorporating the output filter into the feedback loop, has been an important factor for this entire series of developments. With UcD™ as a starting point, NCORE® brought us the giant step of 20dB extra loop gain throughout the audio band, without sacrificing any of the attributes which made UcD™ great. This effectively reduced distortion within the entire system by a factor of ten.

PERFORMANCE BOOST

With Nilai® we've been able to accomplish another giant leap forward and increased loop gain again by more than 20dB across the audio band. This increase brings the total error correction to over 75dB across the audio band, reducing all types of distortion from the power stage and output filter to negligible levels. Another key benefit is its near-perfect second-order roll-off at the top of the frequency band, enabling increased bandwidth without the risk of issues from large amounts of out of band noise.

- >75dB loop gain across the audio band for negligible harmonic distortion, intermodulation distortion and output impedance
- Increased bandwidth to >70kHz
- Improved load invariant frequency response

NCOREx®

Since the conception of NCORE® in 2011, the technology has always been at the forefront of high-performance Class D amplification. Despite the performance advantage NCORE® historically provided, the drive for improvement has always been present. It was this drive to further research that led us to Nilai, our latest and most advanced Class D technology.

Although NCORE® amplification is still considered high-performance and far from obsolete, its ten years of service provided us with the opportunity to upgrade, bridging the gap to our latest Nilai technology.

NCOREx® is a continuation of previous NCORE® efforts, benefiting from Nilai research that enabled us to improve its loop filter while maintaining nearly all other favorable design concepts. Enhancing the loop filter allowed us to increase loop gain by 6dB in the top two octaves of the audio band, while adding some additional gain below that.

This gave us more leeway to optimise various parameters while retaining exemplary audio performance. The result is a total of >60dB error correction within the entire audio band, greatly reducing all types of distortion originating from the power stage and output filter.

- >60dB loop gain across the audio band for ultra-low harmonic distortion, intermodulation distortion and negligible output impedance

TECHNOLOGY

NCORE®

In the realm of audio power, NCORE® is as a revolutionary technology, marking a significant milestone in performance enhancement since its debut in 2011. Born from the distinguished legacy of UcD™ , NCORE® not only inherits but elevates those strengths to an unprecedented level, surpassing them by a factor of ten. This groundbreaking technology, unveiled by Hypex after nearly two years of meticulous development, has set a new standard in the audio industry.

NCORE® technology is available in both stand-alone amplifier modules intended for use with an independent Switch Mode Power Supply (SMPS) and integrated all-in-one solutions with both an SMPS and NCORE® amplifier(s) in a single product. This approach allows our customers both flexibility and convenience in integration.

UCD™

Over the past two decades UcD™ (Universal Class D) has played a significant role in the advancement of Class D amplifier technology. What started at the time as a modest amplifier for the DIY market soon became a worldwide success.

2003 saw the start of a migration of all Hypex products to Class D. For this, a licence deal was closed with Philips for the 'Universal Class D' circuit. Recognising the circuit's market potential, Hypex decided not only to use the technology in completed subassemblies, but also to sell amplifier modules to the DIY market. The UcD180 and UcD400 modules have quickly established themselves as the new standard, in terms of both measured and subjective performance.

The astonishing simplicity, combined with powerful performance, guaranteed that UcD™ successfully found its way into numerous homes, churches, cinemas, recording studios and even stadiums. UcD™ is used in HiFi, high-end and Pro Audio applications and has become a highly appreciated and true universal amplifier technique.

To this date UcD™ is still manufactured and sold by Hypex as the most cost-effective solution.

TECHNOLOGY

SWITCH MODE POWER SUPPLIES (SMPS)

SMPS is a high-efficiency, switch mode power supply, specifically designed to be used in combination with our modules. Key features include high efficiency over the entire load range, extremely small form factor, light weight and very low radiated and conducted EMI.

The SMPS also features an upgraded overcurrent protection which, in the case of temporary overload, simply reduces the output voltage. If the overload condition is prolonged, the supply will enter hiccup mode until the overload condition disappears. This feature – combined with large electrolytic buffer capacitors – creates the ability to deliver high dynamic headroom power to the connected amplifier.

Our SMPS units offer a selectable input voltage range, accommodating various power input specifications. The PS series are fitted with a high efficiency power factor corrector with full global mains input voltage range (90V-264Vac / 50-60Hz). This flexibility enhances adaptability for different regions and power grid configurations, making them a versatile choice for international applications. An auxiliary isolated supply to power possible user applications and a separate mains powered isolated standby supply are also included.

The supply is triggered for normal operation or latched off in case of a critical fault via built-in actuators. The SMPS is optimised from the first phase of design to final implementation to achieve the low EMI signature required of the most demanding audio applications.

POWER SUPPLY (PS) MODULES

The upcoming PS series supplies, starting with the PS1000, represent a new generation of high-power, high-efficiency Class 2 switch mode power supplies. Designed for seamless integration with NCORE® and NCOREx® amplifier modules, they deliver exceptional performance through features such as advanced Power Factor Correction (PFC), precise voltage regulation, low EMI, and universal mains compatibility (90V-264Vac).

These supplies incorporate robust overcurrent protection, which limits output current during temporary overloads and transitions to hiccup mode only if conditions persist. Coupled with large buffer capacitors and tight voltage regulation, the PS modules ensure high dynamic headroom and stability for demanding audio applications.

While the PS1000 marks the beginning of this new line, future PS modules are already planned to expand the range and capabilities further, offering even greater versatility and innovation to meet the evolving needs of professional audio systems.

HYPEX DSP SOLUTIONS

We are proud to introduce our dynamic family of DSP solutions, each crafted to elevate your audio experience. Our DSP solutions are tailored for synergy with our mains-powered NCORE® amplifier power bricks. The lineup consists of several solutions for different purposes with different functionalities, supporting professional active speakers with up to 4-way configurations. With SigmaStudio/HFD as the graphical software, programming and tuning your system is a breeze.

TECHNOLOGY

Expand its capabilities with optional boards for digital inputs or (high-level) subwoofer inputs, and customise behaviour with the software, supporting both IIR and FIR filter options. Configure multiple boards for a premium 2.1 system, with features like Auto-signal-detect and adjustable standby settings ensuring a seamless audio experience.

CERTIFICATION

YOUR SOUND, YOUR SUCCESS, OUR EXPERTISE

At Hypex Electronics, we understand that safety certification is vital for your product's success. Our innovative audio solutions and comprehensive testing procedures guarantee compliance with industry regulations and guidelines. From electrical safety to electromagnetic compatibility, we cover it all, leaving no room for compromise.

Our highly-skilled engineers and technicians have extensive experience in audio product safety certification. With their deep understanding of the latest standards and meticulous attention to detail, they work tirelessly to identify potential risks and offer effective solutions to mitigate them. We are committed to safeguarding your brand's reputation and protecting your customers.

Partnering with Hypex Electronics means having a dedicated compliance team throughout the certification process. We offer personalised consultations, tailored to your specific needs, to ensure a seamless experience. Our customer-centric approach and timely responses make us the trusted choice for numerous successful audio product manufacturers.

INTEGRATION

An active audio system thrives on the right electronics. A proper integration of these electronics often holds the key to extracting the maximum potential from your audio product, and indeed will distinguish a good audio system from an exceptional one.

TRUSTED SINCE 1996

Hypex Electronics has been a trusted OEM audio industry partner since 1996. We specialise in providing, designing, and manufacturing Class D amplifiers, power supplies, DSP solutions, and plate amplifiers for the HiFi, High-End and Pro Audio industries.

Leveraging our extensive experience and broad knowledge in the audio field, we are the go-to partner for integration advice. From design to the final product, we work closely with our clients, to ensure they get precisely what they want.


KATTEGAT B. HL-97
HK/YR: 1218
UcD700HG with HxR
UcD

UcD Family

UcD™ is a proven Class D amplifier technology developed over more than two decades ago and widely adopted across DIY, HiFi and professional audio applications due to its solid measured performance and cost effective implementation.

UcD™ modules are used in a broad range of audio products and installations. The design allows manufacturers and system integrators to achieve reliable performance across different power levels and use cases.

FLAT FREQUENCY RESPONSE

The amplifier modules are designed to maintain a flat frequency response independent of load impedance. Distortion behaviour remains largely consistent across the frequency range, and radiated and conducted electromagnetic interference is kept at low levels through circuit topology and PCB layout.

The amplifier architecture is based on a phase shift controlled self oscillating loop with feedback taken directly at the loudspeaker output. This control method supports stable operation across varying load conditions and contributes to predictable electrical behaviour in practical audio systems.

The UcD family follows a modular system design. Half bridge and full bridge amplifier modules are offered separately and are intended to be combined with dedicated switch mode power supplies. This approach allows system designers to select amplifier and power supply combinations according to channel count, power level and application requirements.

UcD amplifier modules are intended for professional audio applications that require multiple amplifier channels, such as multichannel power amplifiers, line array systems and other scalable audio installations. The modular structure supports efficient system design and straightforward integration in applications with higher channel density requirements.

AVAILABLE MODULES

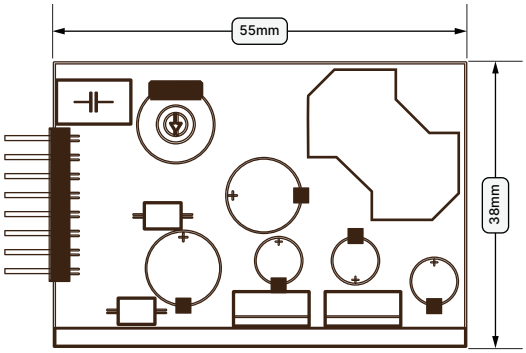
Module name	Channels	Bridgable?	Power 4Ω	Power 8Ω
UcD180LP OEM	1	Yes	180W	120W
UcD250LP OEM	1	Yes	250W	180W
UcD400LP OEM	1	Yes	400W	250W
UcD102 OEM	2	Yes	2 × 100W	2 × 60W
UcD180 OEM	1	Yes	180W	120W
UcD400 OEM	1	Yes	400W	250W
UcD700LZ OEM	1	Yes	700W	440W
UcD2k OEM	1	No	2500W	1600W

UcD180LP OEM - Amplifier module

The UcD180LP OEM amplifier module is part of a family of Class D amplifier modules developed for efficient and stable audio amplification. The design focuses on predictable electrical behaviour and suitability for integration in a broad range of audio systems.

The module can be applied in active studio monitors, public address systems, line array systems and immersive audio installations. Its electrical and mechanical characteristics make it suitable for both fixed and scalable system designs, where consistent output power and reliable operation are required.

The UcD180LP OEM amplifier module is intended for professional audio applications as well as controlled home audio systems, supporting designs that require compact Class D amplification with established performance characteristics.



CRAFTED TO BE COMPACT

One of the hallmarks of the LP family of modules is the carefully-crafted and compact design. This is not merely an aesthetic consideration – it fulfills a very real need for space-limited applications. The combination of its low-profile design and great audio capabilities positions the UcD™ family as the epitome of sophistication in amplifier technology.

With the growing demand for audio solutions that serve space-limited environments, the UcD™ family is the perfect choice for multichannel applications where a compact footprint and uncompromised audio quality are paramount.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Unbuffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD180LP OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		120			W	
Output Power 4Ω		180			W	
Output Power 8Ω		120			W	
Distortion			0.02		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		17	25		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		48		kHz	+0/-3dB. All loads
Power Supply Voltage	20	45	50		HV+/-	
Idle Power		2.8	3.1		W	With external VDR
Idle Power		3.6	4		W	With internal VDR
Output Impedance			22		mΩ	f < 1kHz
Output Impedance			90		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS400A180 / SMPS1200A180

COMPATIBLE MODULES

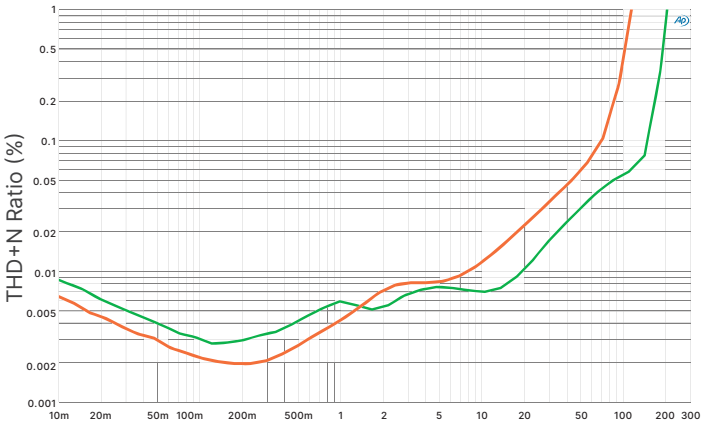
UcD™ xxxLP OEM Evaluation Board

SIZE AND WEIGHT

55 × 38 × 26 mm (LxWxH), 55 g

MEASUREMENTS

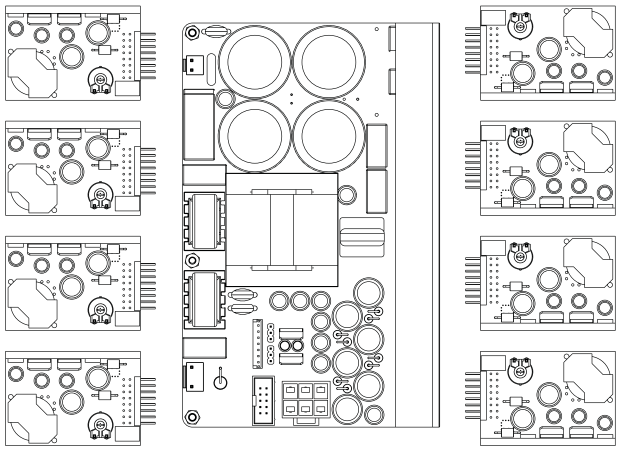
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

8 channel amplifier



8 x UcD180LP OEM + 1 x SMPS1200A180

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Short circuit protection

POSSIBLE APPLICATIONS

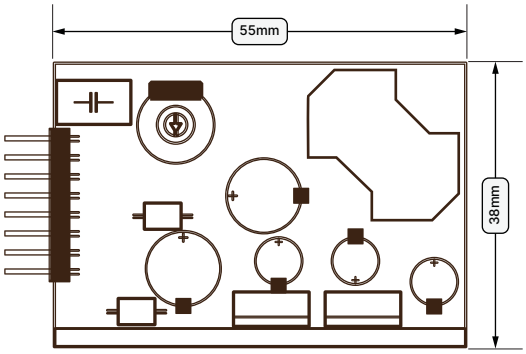
Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers

UcD250LP OEM - Amplifier module

The UcD250LP OEM amplifier module is designed to support a wide range of professional audio applications where higher output power is required within a compact form factor.

The low profile mechanical design allows integration in space constrained systems and makes the module suitable for multi-channel configurations. The module provides increased output power compared with lower power variants, while maintaining efficient Class D operation and predictable performance characteristics.

The UcD250LP OEM amplifier module is intended for use in public address systems, studio equipment and controlled home audio applications. Its design supports reliable operation under typical operating conditions encountered in professional audio installations.



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With the growing demand for audio solutions that serve space-limited environments, the UcD™ family is the perfect choice for multichannel applications where a compact footprint and uncompromised audio quality are paramount.

HIGHLIGHTS

Flat, fully load-independent frequency response

Low output impedance

Very low, frequency-independent THD

Very low noise

Fully passive loop control

FEATURES

Unbuffered input

Runs on unregulated +/- rails

Pop-free start and stop control

Differential audio input

UcD250LP OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		220			W	
Output Power 4Ω		250			W	
Output Power 8Ω		180			W	
Distortion			0.02		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		20	25		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		56		kHz	+0/-3dB. All loads
Power Supply Voltage	25	60	68		HV+/-	
Idle Power		4.6	5.2		W	With external VDR
Idle Power		6.6	7.4		W	With internal VDR
Output Impedance		15	22		mΩ	f < 1kHz
Output Impedance		60	90		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS400A400 / SMPS1200A400 / SMPS3kA400

COMPATIBLE MODULES

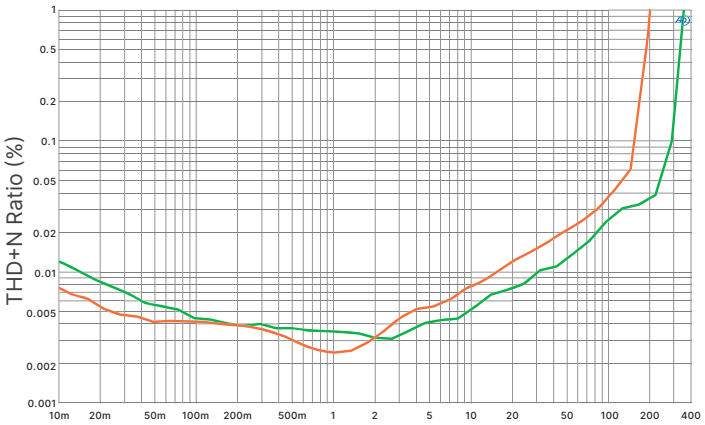
UcD™ xxxLP OEM Evaluation Board

SIZE AND WEIGHT

55 × 38 × 26 mm (LxWxH), 55 g

MEASUREMENTS

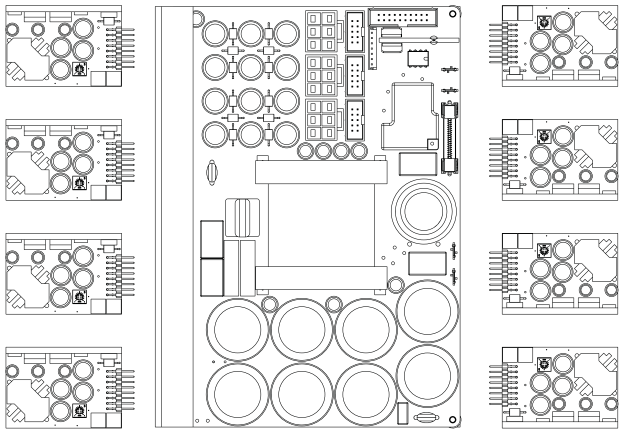
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

8 channel amplifier



8 x UcD250LP OEM + 1 x SMPS3kA400

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Short circuit protection

POSSIBLE APPLICATIONS

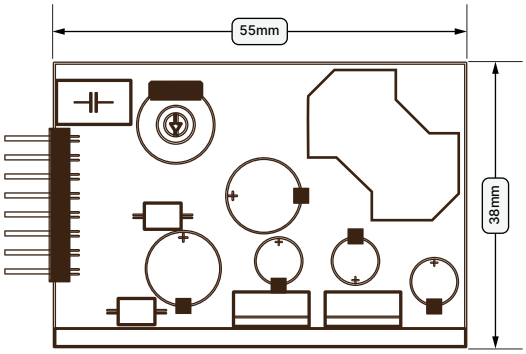
Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers

UcD400LP OEM - Amplifier module

The UcD400LP OEM amplifier module is the highest power variant within the low profile UcD amplifier module family. It is based on the same Class D topology and design principles as the other modules in this range.

The low profile mechanical design allows integration in space constrained systems while supporting higher output power. This makes the module suitable for applications where power density and mechanical height are limiting factors.

The UcD400LP OEM amplifier module can be applied in public address systems, studio equipment and home audio systems. It is intended for use in designs that require compact Class D amplification with consistent and predictable performance.



CRAFTED TO BE COMPACT

One of the hallmarks of the LP family of modules is the carefully-crafted and compact design. This is not merely an aesthetic consideration – it fulfills a very real need for space-limited applications. The combination of its low-profile design and great audio capabilities positions the UcD™ family as the epitome of sophistication in amplifier technology.

With the growing demand for audio solutions that serve space-limited environments, the UcD™ family is the perfect choice for multichannel applications where a compact footprint and uncompromised audio quality are paramount.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Unbuffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD400LP OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		320			W	
Output Power 4Ω		400			W	
Output Power 8Ω		250			W	
Distortion			0.02		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		20	25		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Power Supply Voltage	45	64	73		HV+/-	
Idle Power		4.3	4.6		W	With external VDR
Idle Power		6.6	7.4		W	With internal VDR
Output Impedance			18		mΩ	f < 1kHz
Output Impedance			40		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS1200A400 / SMPS3kA400

COMPATIBLE MODULES

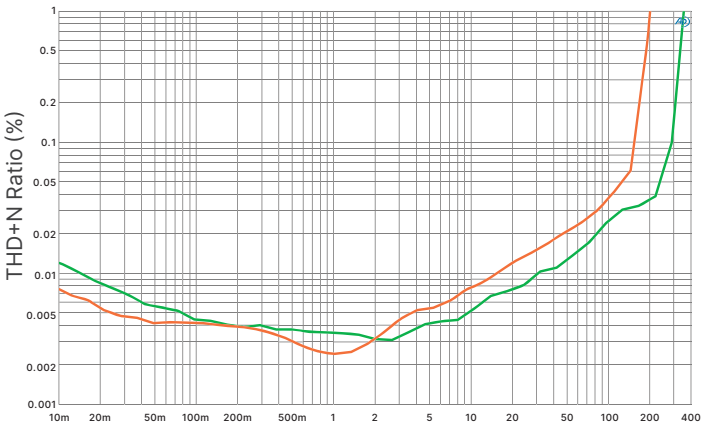
UcD™ xxxLP OEM Evaluation Board

SIZE AND WEIGHT

55 × 38 × 26 mm (LxWxH), 55 g

MEASUREMENTS

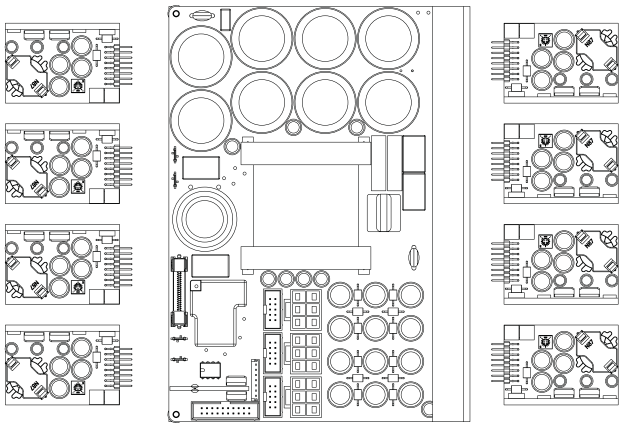
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

8 channel amplifier



8 x UcD400LP OEM + 1 x SMPS3kA400

PROTECTIONS

Overcurrent protection

Overvoltage protection

DC-fault detection

Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use

Power Amplifiers, for home and professional use

Line Array and Immersive Systems

Home Theatre Systems

Multichannel Power Amplifiers

UcD102 OEM - Amplifier module

The UcD102 OEM, the singular dual-channel UcD™ amplifier module, is designed to deliver 100W @4Ohm per channel. This module not only sets a standard in audio amplification but also seamlessly integrates into a diverse array of applications, ranging from the precision demands of studio monitor loudspeakers to the immersive landscapes of advanced audio systems

The UcD102 OEM is a dual channel amplifier module integrating two identical Class D amplifier channels on a single board, each capable of delivering up to 100 W. This configuration supports balanced and predictable performance across a broad range of audio applications.

The module is widely used by manufacturers due to its flexible integration options and consistent electrical behaviour. Its design allows it to be applied in different system topologies without requiring application specific modifications.

The UcD102 OEM is suitable for both stereo amplifier designs and multichannel systems, with support for configurations of up to 16 channels. This makes it appropriate for scalable audio platforms where channel density and uniform performance are required.

The module can be used in professional audio equipment, home audio systems and studio installations. Its feature set and performance characteristics meet common requirements for power, stability and repeatability in Class D amplifier applications.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Unbuffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD102 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		2 × 60			W	
Output Power 4Ω		2 × 100		100	W	
Output Power 8Ω		2 × 60		200	W	
Distortion			0.03		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		17	25		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		48		kHz	+0/-3dB. All loads
Power Supply Voltage	20	36	42		HV+/-	
Idle Power		4	4.5		W	With external VDR
Idle Power		6			W	With internal VDR
Output Impedance			22		mΩ	f < 1kHz
Output Impedance			90		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS400A100 / SMPS1200A100

COMPATIBLE MODULES

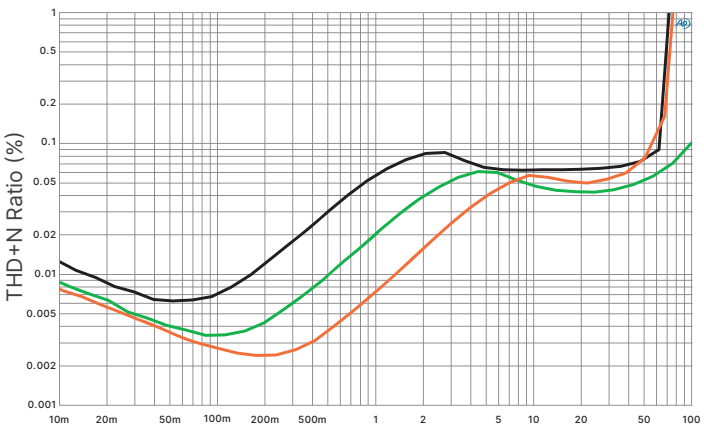
UcD102 Evaluation board

SIZE AND WEIGHT

70 × 70 × 24 mm (LxWxH), 55 g

MEASUREMENTS

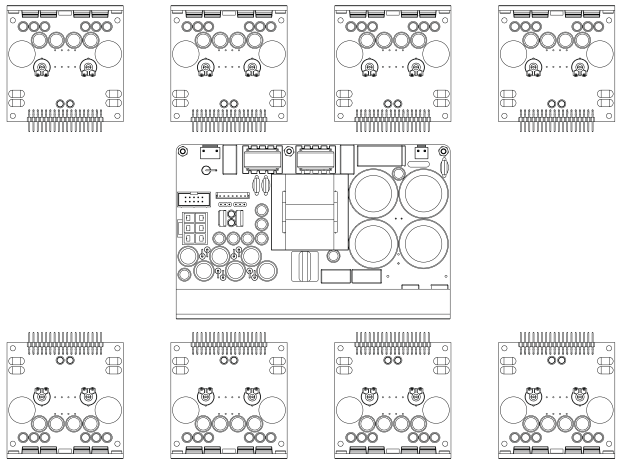
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

16 channel amplifier



8 x UcD102 OEM + 1 x SMPS1200A100

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers

UcD180 OEM - Amplifier module

The UcD180 OEM amplifier module is an extended version of the low profile UcD amplifier module. It is a Class D amplifier module designed for use in a wide range of audio applications. The module is intended for integration in professional audio equipment and home audio systems, where predictable performance and efficient operation are required.

The module is designed to provide consistent audio performance across a wide range of applications. Based on Class D architecture, it offers a practical balance between efficiency and sound quality, making it suitable for professional use where reliability is essential.

Compared with the low profile version, this OEM module includes additional monitoring functionality. In particular, the module provides clipping detection, allowing system level supervision of amplifier operation under high signal conditions.

The UcD180 OEM amplifier module includes an integrated buffer stage to support proper signal interfacing and stable operation within larger system designs. This helps maintain signal integrity and predictable performance.

The module can be used in studio equipment, home audio systems and embedded audio applications. Its long standing use in the market demonstrates that it is a proven solution for applications requiring dependable Class D amplification.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Buffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD180 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		100			W	
Output Power 4Ω		180			W	
Output Power 8Ω		120			W	
Distortion			0.05		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			80		µV	With or without input buffer
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50		kHz	+0/-3dB. All loads
Power Supply Voltage	25	45	50		HV+/-	
Idle Power		4			W	
Output Impedance			20		mΩ	f < 1kHz
Output Impedance			150		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS400A180 / SMPS1200A180

COMPATIBLE MODULES

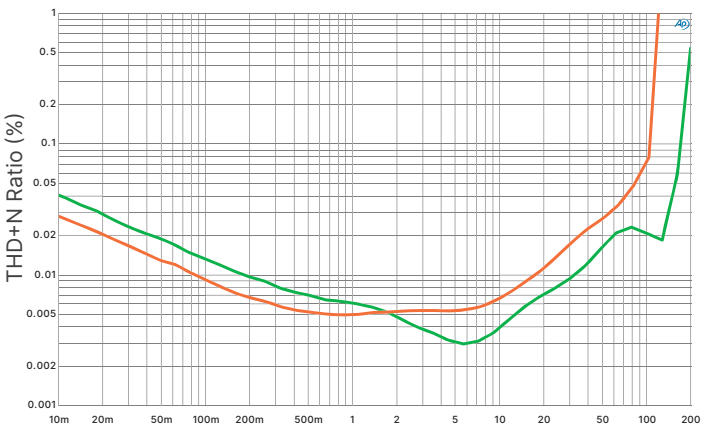
UcD180/400 Evaluation Board

SIZE AND WEIGHT

73 × 67 × 33 mm (LxWxH), 100 g

MEASUREMENTS

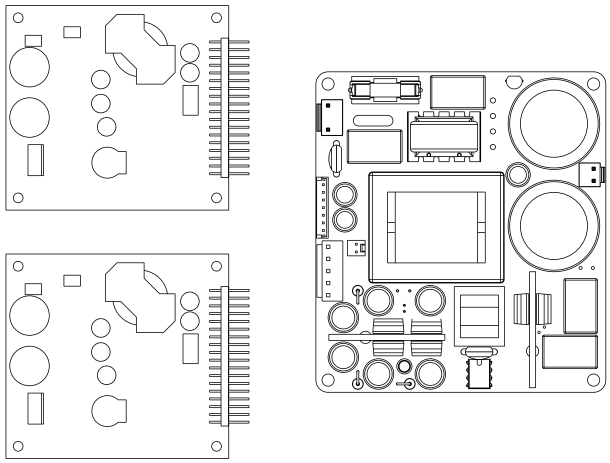
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

stereo amplifier



2 x UcD180 OEM + 1 x SMPS400A180

PROTECTIONS

Overcurrent protection

Overvoltage protection

DC-fault detection

Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use

Power Amplifiers, for home and professional use

Line Array and Immersive Systems

Home Theatre Systems

Multichannel Power Amplifiers

UcD400 OEM - Amplifier module

The UcD400 OEM amplifier module is a Class D amplifier module designed for efficient audio amplification in a wide range of applications.

Compared with the low profile version, this OEM module includes additional detection and protection functions. These include clipping detection and DC fault protection, which are intended to reduce the risk of damage under abnormal operating conditions and support stable long term operation.

The module incorporates an integrated buffer stage to support proper signal interfacing and stable operation within larger system designs. This contributes to controlled signal handling and predictable behaviour.

The UcD400 OEM amplifier module is suitable for integration in professional audio equipment, studio installations, home audio systems and other audio amplification applications where higher output power and reliable operation are required.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Buffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD400 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		400			W	
Output Power 4Ω		400			W	
Output Power 8Ω		250			W	
Distortion			0.005		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			80		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Power Supply Voltage	45	64	73		HV+/-	
Idle Power		4			W	With external VDR
Idle Power		7			W	With internal VDR
Output Impedance			11		mΩ	f < 1kHz
Output Impedance			35		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS400A400 / SMPS1200A400 / SMPS3kA400

COMPATIBLE MODULES

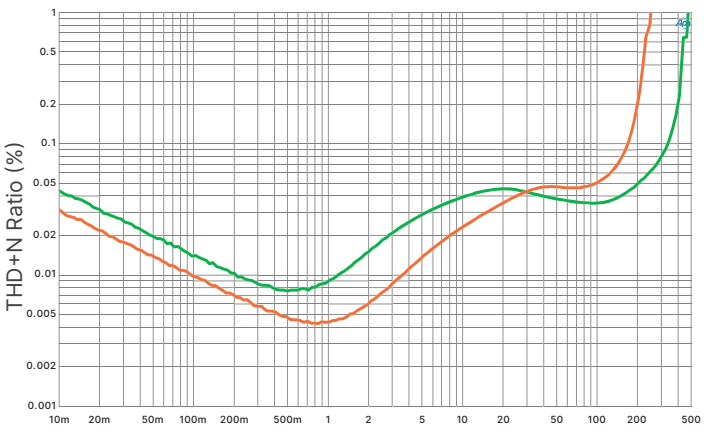
UcD180/400 Evaluation Board

SIZE AND WEIGHT

82 × 75 × 38 mm (LxWxH), 145 g

MEASUREMENTS

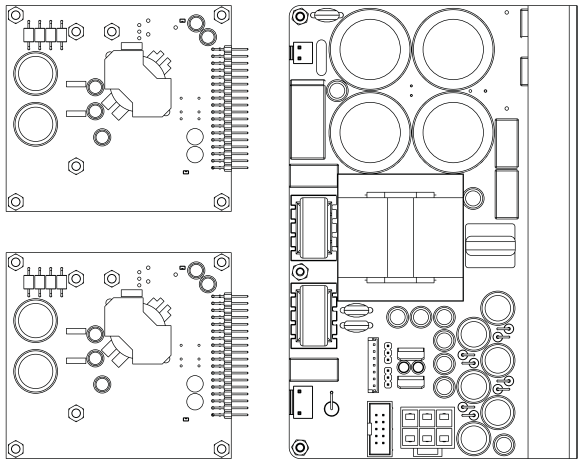
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

stereo amplifier



2 x UcD400 OEM + 1 x SMPS1200A400

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers

UcD700LZ OEM - Amplifier module

The UcD700LZ OEM amplifier module is a high power Class D amplifier module designed for applications that require operation with low impedance loads. The LZ designation indicates enhanced low impedance capability, allowing the module to deliver up to 1200 W into 2 Ohms.

While standard UcD amplifier modules are stable at low impedance levels, the UcD700LZ OEM is designed to supply higher output current. This makes it suitable for applications with demanding load conditions where sustained operation at low impedance is required.

The module includes protection functions such as over temperature, overcurrent and overvoltage protection. These features are intended to support safe operation and reduce the risk of damage under fault or overload conditions.

The UcD700LZ OEM amplifier module is suitable for use in professional audio systems, studio installations and high power home audio applications. Its electrical characteristics support integration in systems where high output power and low impedance drive capability are key design requirements.

HIGHLIGHTS

Flat, fully load-independent frequency response

Low output impedance

Very low, frequency-independent THD

Very low noise

Fully passive loop control

FEATURES

Buffered and unbuffered input

Runs on unregulated +/- rails

Pop-free start and stop control

Differential audio input

Short term 1200W in 2Ω

UcD700LZ OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		1200			W	
Output Power 4Ω		700		2400	W	
Output Power 8Ω		440		1400	W	
Distortion			0.005		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		30	35		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Power Supply Voltage	75	90	95		HV+/-	
Idle Power		15			W	
Output Impedance			20		mΩ	f < 1kHz
Output Impedance			150		mΩ	f < 20kHz

COMPATIBLE SMPS

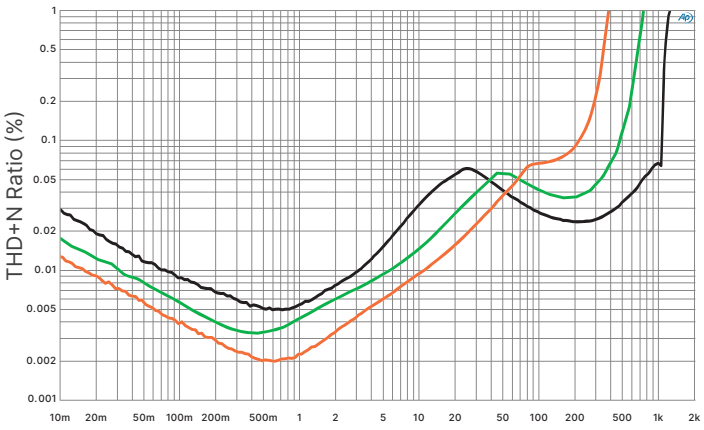
SMPS1200A700 / SMPS3kA700

SIZE AND WEIGHT

130 × 79 × 36 mm (LxWxH), 250 g

MEASUREMENTS

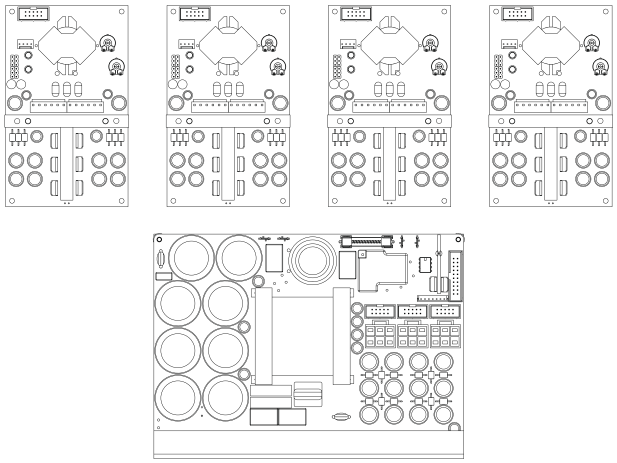
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

4 channel touring amplifier



4 x UcD700LZ OEM + 1 x SMPS3kA700

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers

UcD2k OEM - Amplifier module

The UcD2k OEM amplifier module is a full bridge Class D amplifier module designed for high power audio applications such as subwoofer systems and touring amplifiers.

The module is capable of delivering up to 2500 W output power, making it suitable for applications that require high continuous power levels. The full bridge Class D topology supports efficient operation and controlled thermal behaviour under high load conditions.

The UcD2k OEM amplifier module is intended for use in professional subwoofer systems and touring amplifier platforms where power density and reliability are key design requirements. Its electrical characteristics support integration in systems that operate under demanding conditions.

The module includes protection functions such as overcurrent and overvoltage protection to support safe operation and reduce the risk of damage during fault conditions or overload situations. The UcD2k OEM amplifier module can be applied in fixed and mobile professional audio systems where high output power and predictable performance are required.

HIGHLIGHTS

Flat, fully load-independent frequency response
Low output impedance
Very low, frequency-independent THD
Very low noise
Fully passive loop control

FEATURES

Buffered and unbuffered input
Runs on unregulated +/- rails
Pop-free start and stop control
Differential audio input

UcD2k OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		2000			W	
Output Power 4Ω		2500			W	
Output Power 8Ω		1600			W	
Distortion			0.03		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			35		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Power Supply Voltage	50	90	98		HV+/-	
Idle Power		35			W	
Output Impedance			10		mΩ	f < 1kHz
Output Impedance			50		mΩ	f < 20kHz

COMPATIBLE SMPS

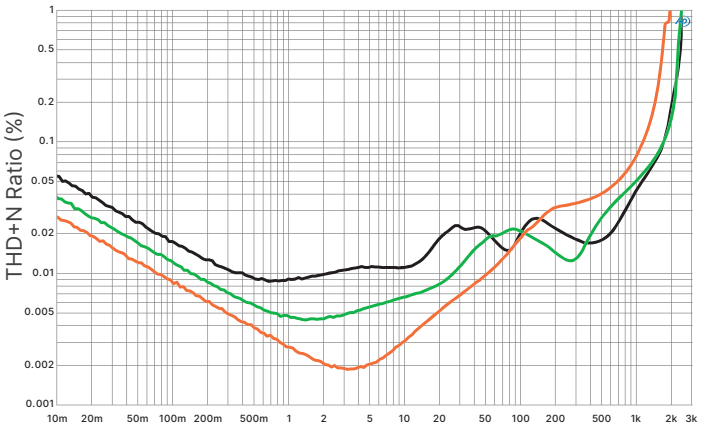
SMPS1200A400 / SMPS1200A700 /
SMPS3kA400 / SMPS3kA700

SIZE AND WEIGHT

141 × 108 × 38 mm (LxWxH), 550 g

MEASUREMENTS

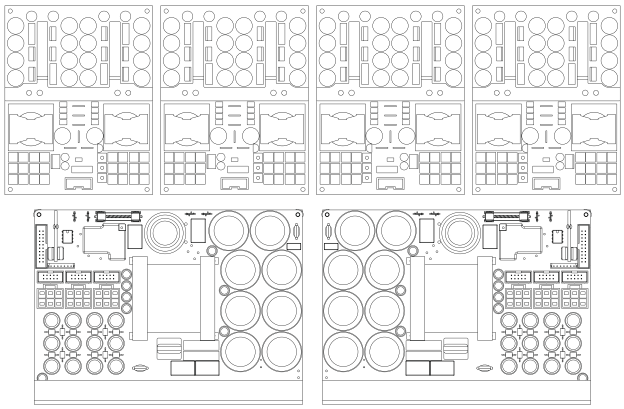
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

4 channel touring amplifier



4 x UcD2k OEM + 2 x SMPS3kA700

PROTECTIONS

Overcurrent protection
Overvoltage protection
DC-fault detection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers


HYPEX ELECTRONICS B.V.
TTEGAT 8, NL-9723JP
K/YR: 3318
01628-0103A0196-0003
NC2KUEM
hypex electronics
Electronics BV NC2k

NCORE Family

NCORE® is a Class D amplifier technology introduced by Hypex in 2011 as a further development of the earlier UcD topology. The design builds on the operating principles of UcD while applying refinements intended to further reduce distortion, output impedance and load dependency over the full operating range.

The development of NCORE® focused on improving measured electrical performance while maintaining the efficiency and stability associated with Class D amplification. The technology was developed over an extended design and validation period and represents a subsequent generation within the Hypex amplifier architecture portfolio.

The amplifiers are based on a non hysteresis fifth order self oscillating control loop that applies feedback directly at the loudspeaker output.

SCALABLE SYSTEM DESING

NCORE®-based systems follow a modular design approach. Amplifier modules are available in half bridge and full bridge configurations and are intended to be combined with separate switch mode power supplies. This modular structure supports scalable system design and allows system builders to select amplifier and power supply combinations according to application specific power and channel requirements.

NCORE® amplifier modules are intended for high end audio and HiFi applications where low distortion, stable behaviour with varying load impedances and predictable performance are required. The modules are designed for integration rather than application specific tuning, allowing their use in a wide range of audio system designs.

The NCORE® platform provides a flexible Class D amplifier solution for designers developing high performance audio systems that require consistent electrical characteristics and modular system architecture.

AVAILABLE MODULES

Module name	Channels	Bridgable?	Power 2Ω	Power 4Ω	Power 8Ω
NC500 OEM	1	Yes	550W	700W	400W
NC1200 OEM	1	Yes	1200W	700W	400W
NC2k OEM	1	no	2000W	2500W	1600W

NC500 OEM - Amplifier module

The NC500 OEM is an NCORE® amplifier module developed as a successor to the earlier UcD™ module family. It is a Class D amplifier design intended for applications that require high measured performance combined with efficient power operation..

The amplifier is based on a non hysteresis fifth order self oscillating control loop that applies feedback directly at the loudspeaker output. This control concept is intended to reduce load dependency and distortion across the operating range and contributes to predictable electrical behaviour.

The NC500 OEM is designed as an unbuffered amplifier module. This allows system designers to implement an external input buffer according to their own design requirements. The absence of an integrated buffer supports flexible system tuning and integration without imposing a fixed input stage topology.

The module includes a differential audio input to support robust signal transmission and reduce sensitivity to external interference. This supports signal integrity when integrated into larger audio systems.

Typical applications include high end stereo and multichannel power amplifiers active loudspeakers for studio monitoring and mastering as well as premium home theatre systems.

The NC500 OEM is specified with conservative operating margins and component ratings. This design approach is intended to support long term reliability under normal operating conditions in professional and high end audio applications.

HIGHLIGHTS

Extremely low distortion across the frequency and power range

Exceptionally low output impedance for precise speaker control

Minimal noise for a pure audio experience

Remarkably neutral and transparent sound reproduction

FEATURES

Differential audio input

Microprocessor-controlled error protection

NC500 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		550			W	
Output Power 4Ω		700		1100	W	
Output Power 8Ω		400		1400	W	
Distortion			0.001		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		9	10		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		50		kHz	+0/-3dB. All loads
Power Supply Voltage	35	84	98		HV+/-	
Idle Power		6.3	7		W	
Output Impedance		1.5	2		mΩ	f < 16kHz
Output Impedance			5		mΩ	f < 20kHz

COMPATIBLE SMPS

SMPS1200A400 / SMPS1200A700 / SMPS3kA400 / SMPS3kA700

COMPATIBLE MODULES

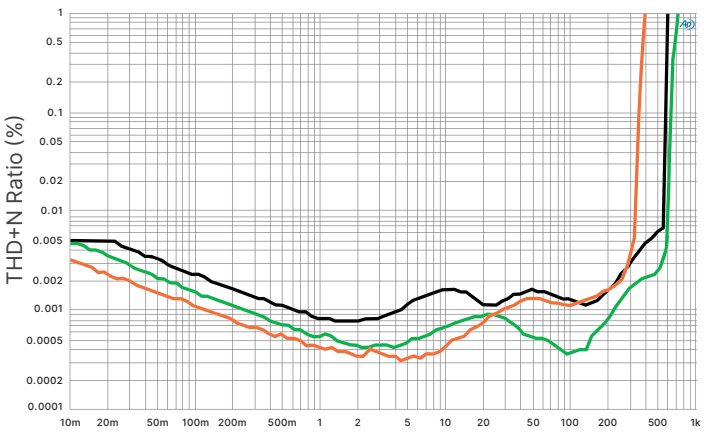
NC500 Evaluation board

SIZE AND WEIGHT

82 × 63 × 32 mm (LxWxH), 135 g

MEASUREMENTS

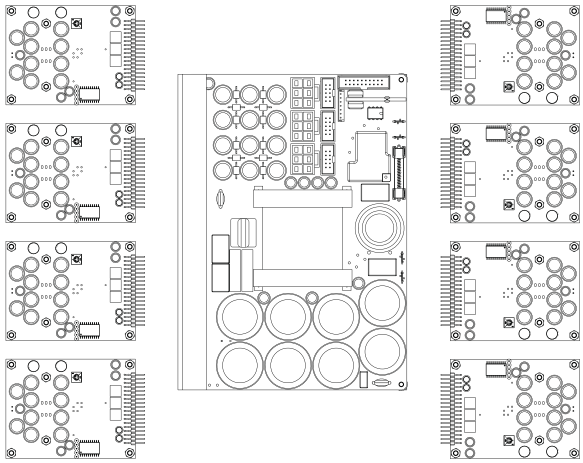
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

8 channel amplifier



8 x NC500 OEM + 1 x SMPS3kA700

PROTECTIONS

Overcurrent protection

Under- and overvoltage protection

Clip indicator

DC protection

POSSIBLE APPLICATIONS

Audiophile Home Theatre systems

Audiophile Power Amplifiers; for home and professional use

Audiophile Immersive Audio systems

Audiophile Multichannel Power Amplifiers

NC1200 OEM - Amplifier module

The NC1200 OEM amplifier module is a high power NCORE®-based Class D amplifier module designed for applications that require high output current and operation with low impedance loads.

The module is capable of delivering high output power into 2Ω, making it suitable for use with the most demanding low impedance loudspeakers and high performance audio systems. Its electrical design supports stable operation under low impedance conditions.

The NC1200 OEM operates in Class D and is based on a non hysteresis fifth order self oscillating control loop that applies feedback at the loudspeaker output. This control approach is intended to minimise load dependency and maintain consistent electrical performance across the operating range.

The amplifier module is intended for integration in high end home audio systems, professional studio equipment and other audio applications where high output power, efficiency and predictable behaviour are required.

HIGHLIGHTS

Extremely low distortion across the frequency and power range

Exceptionally low output impedance for precise speaker control

Minimal noise for a pure audio experience

Remarkably neutral and transparent sound reproduction

FEATURES

Differential audio input

2-Ohm powerhouse for current hungry applications

Microprocessor-controlled error protection

NC1200 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		1200			W	
Output Power 4Ω		700		2400	W	
Output Power 8Ω		400		1400	W	
Distortion			0.001		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		20	28		µV	Including input buffer
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		50		kHz	+0/-3dB. All loads
Power Supply Voltage	35	84	98		HV+/-	
Idle Power		15	17		W	
Output Impedance			2		mΩ	f < 1kHz
Output Impedance			3		mΩ	f < 20kHz

COMPATIBLE SMPS

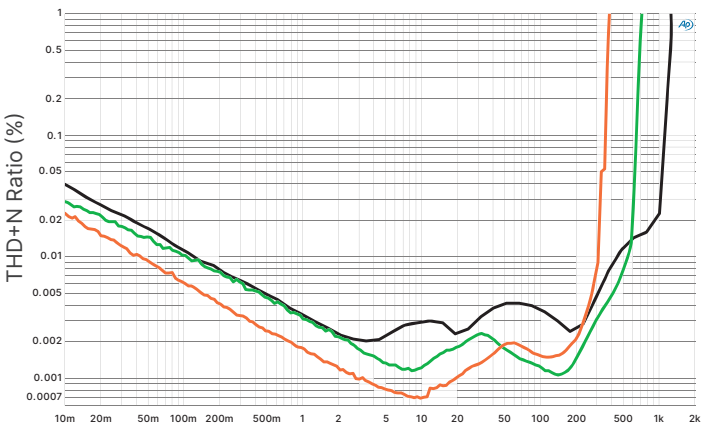
SPMS1200A400 / SMPS1200A700 /
SMPS3kA400 / SMPS3kA700

SIZE AND WEIGHT

130 × 79 × 42,8 mm (LxWxH), 135 g

MEASUREMENTS

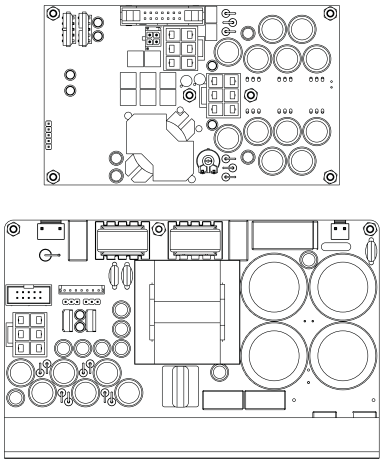
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

high-end mono block



1 x NC1200 OEM + 1 x SMPS1200A700

PROTECTIONS

Overcurrent protection
Over temprature protection
Under- and overvoltage protection
Clip indicator
DC protection

POSSIBLE APPLICATIONS

Audiophile Home Theatre systems
Audiophile Power Amplifiers; for home and professional use
Audiophile Immersive Audio systems
Audiophile Multichannel Power Amplifiers

NC2k OEM - Amplifier module

The NC2k OEM amplifier module is a high power NCORE®-based Class D amplifier module designed for applications that require very high output power and operation under demanding load conditions.

The module delivers up to 2500 W output power and is intended for use in professional audio systems such as touring amplifiers, large scale PA systems and high power subwoofer applications. Its electrical design supports sustained high power operation while maintaining efficient Class D behaviour.

The NC2k OEM operates using a non hysteresis fifth order self oscillating control loop with feedback taken at the loudspeaker output. This control topology is intended to minimise load dependency and maintain consistent electrical performance across frequency and power ranges.

The amplifier supports a voltage peak of up to 160 V, allowing it to drive professional loudspeakers that require high voltage swing. This characteristic supports the reproduction of high dynamic signals and transient peaks commonly encountered in live sound reinforcement and large venue applications.

The NC2k OEM amplifier module can be used as a standalone power amplifier, in active loudspeaker systems, in professional studio installations and in high end home theatre systems. It is also suitable for integration in touring amplifiers and stadium scale subwoofer systems.

The module includes protection functions such as overcurrent and overvoltage protection to support safe operation and reduce the risk of damage under fault or overload conditions. The design approach focuses on predictable behaviour and long term reliability in demanding professional environments.

HIGHLIGHTS

Extremely low distortion across the frequency and power range

Exceptionally low output impedance

Minimal noise for a pure audio experience

Remarkably neutral and transparent sound reproduction

FEATURES

Differential audio input

48A current capability

2-Ohm powerhouse for current hungry applications

Microprocessor-controlled error protection

NC2k OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		2000			W	
Output Power 4Ω		2500			W	
Output Power 8Ω		1600			W	
Distortion			0.001		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		18	20		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		50		kHz	+0/-3dB. All loads
Power Supply Voltage	35	84	98		HV+/-	
Idle Power		34			W	
Output Impedance			3		mΩ	f < 1kHz
Output Impedance			2		mΩ	f < 20kHz

COMPATIBLE SMPS

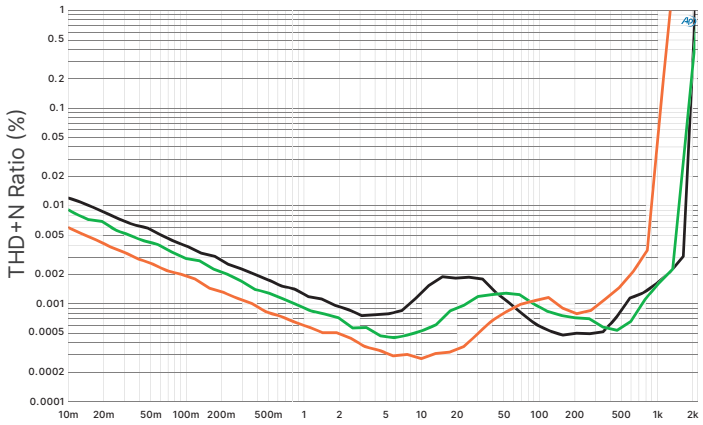
SMPS3kA400 / SMPS3kA700

SIZE AND WEIGHT

133 × 107 × 49 mm (LxWxH), 547 g

MEASUREMENTS

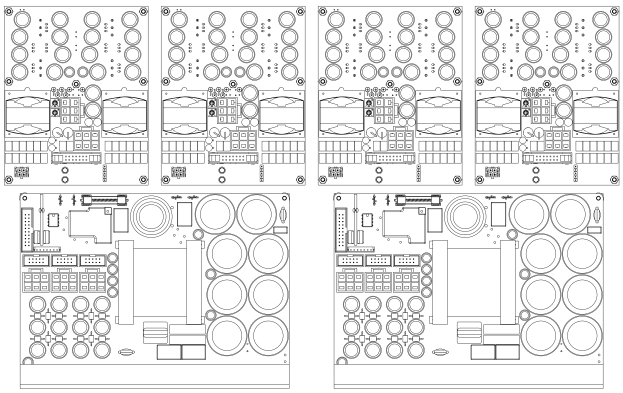
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

4 channel touring amplifier



4 x NC2k OEM + 2 x SMPS3kA700

PROTECTIONS

Overcurrent protection

Under- and overvoltage protection

Clip indicator

DC protection

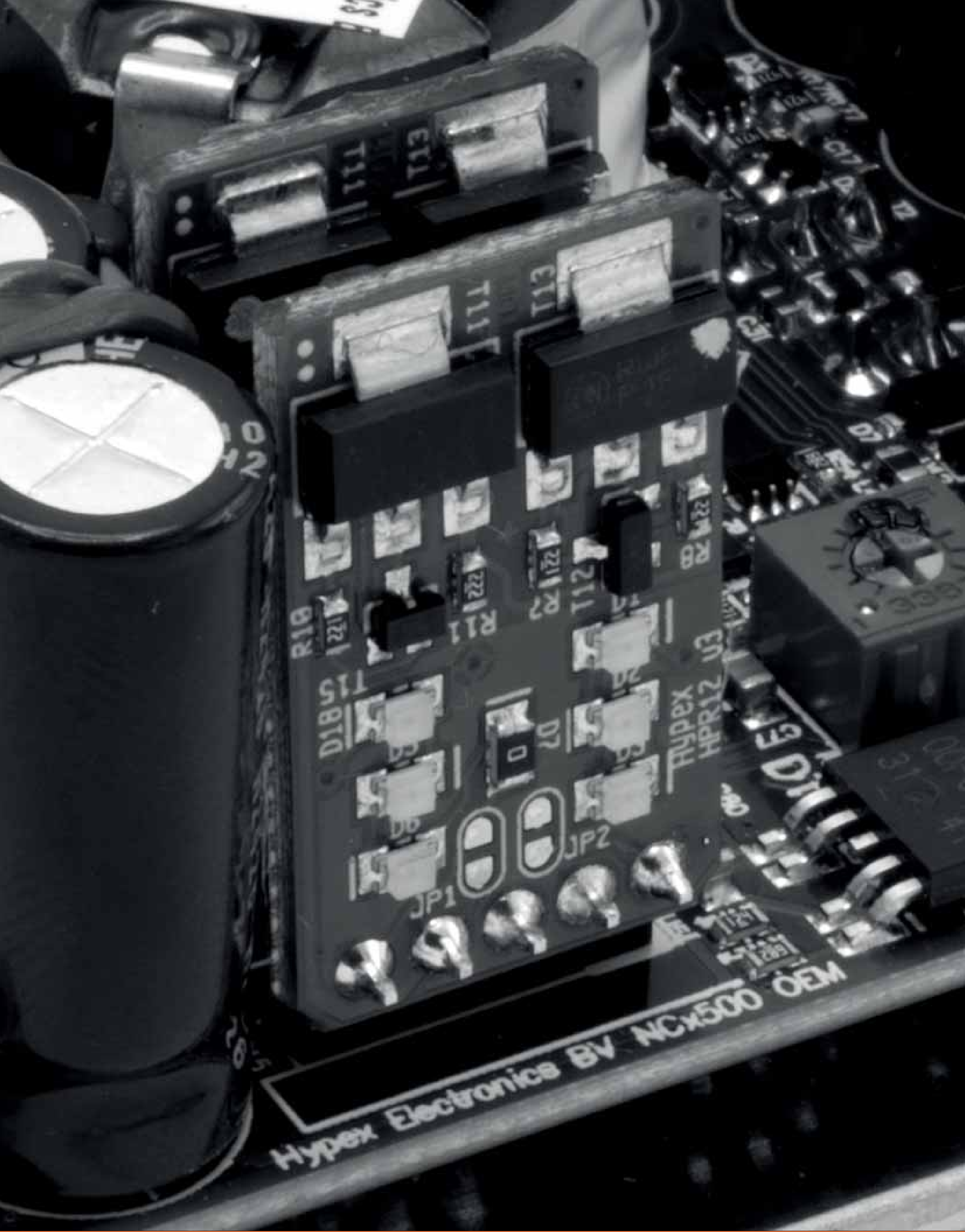
POSSIBLE APPLICATIONS

Audiophile Home Theatre systems

Audiophile Power Amplifiers; for home and professional use

Pro Audio Touring Amplifiers

Pro Audio Subwoofers


Hypex Electronics BV NCx500 OEM
Hypex
HPR12
JP1
JP2

NCORExx Family

NCORExx® is an evolution of the existing NCORE® Class D amplifier technology. The additional "x" designation indicates a further refinement of the original NCORE® architecture, with measured performance parameters improved relative to earlier implementations.

NCORExx® builds directly on the design principles of NCORE® rather than introducing a new topology. The development focused on optimising key performance characteristics while retaining the operating concepts and system compatibility of the NCORE® platform. This positions NCORExx® as a forward compatible extension of the established NCORE® technology.

EXCEPTIONAL SCALABILITY

Following the modular approach used for UcD™ and NCORE® amplifier modules, NCORExx® amplifier modules are designed to operate with a separate switch mode power supply. This modular structure supports scalable system design and allows adaptation to different power levels and application requirements.

The first NCORExx®-based module, the NCx500 OEM, was introduced in 2022. The NCORExx® family is intended to be expanded with additional modules over time, supporting a broader range of system configurations.

NCORExx® amplifier modules are intended for professional audio and high end audio applications where low distortion, stable load behaviour and predictable electrical performance are required. The platform provides a consistent basis for manufacturers developing advanced Class D amplifier systems.

AVAILABLE MODULES

Module name	Channels	Power 2Ω	Power 4Ω	Power 4Ω BTL	Power 8Ω	Power 8Ω BTL
NCx500 OEM	1	700W	700W	1000W	380W	1400W
Ncx1400 OEM	1	1000W[1]	1400W[1]	-	1400W[1]	-

[1] preliminary data

NCx500 OEM - Amplifier module

The NCx500 OEM is an amplifier module based on the NCOREx® Class D technology. Compared with the earlier NC500 OEM, the NCx500 OEM provides improved measured performance, including lower noise and reduced total harmonic distortion.

The module is designed for use in mono, stereo, multichannel and active loudspeaker applications. Its electrical and mechanical interface allows it to function as a direct replacement for the NC500 OEM in existing designs, supporting straightforward system upgrades without changes to the surrounding circuitry.

The NCx500 OEM includes functional and performance updates relative to the NC500 OEM, reflecting further optimisation of the NCORE®-based control architecture. These refinements are intended to improve overall system performance while maintaining compatibility with established NCORE®-based designs.

NCx500 OEM is fitted with a user-selectable high quality buffer stage. Depending on system requirements, customers can choose to use the module with or without this buffer stage through on-board jumper connectors.

The amplifier module is suitable for integration in professional audio equipment and high end home audio systems where low noise, low distortion and predictable behaviour are required.

HIGHLIGHTS

Low idle losses

Extremely low distortion across the frequency and power range

Exceptionally low output impedance

Extremely low noise for a pure audio experience

Remarkably neutral and transparent sound reproduction

FEATURES

On-board high quality buffer stage

Bridging is available

Incorporating our highly acclaimed HxR discrete regulators

Built with thoughtfully chosen, superior-quality components

NCx500 OEM - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω		700			W	
Output Power 4Ω		700		1000	W	
Output Power 8Ω		380		1400	W	
Distortion		0.0006	0.001		%	20Hz < f < 20kHz. Pout = 1W
Output Noise		20			µV	Buffered
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		70		kHz	+0/-3dB. All loads
Power Supply Voltage	55		95		HV+/-	
Idle Power		5.3	5.8		W	
Output Impedance		250			µΩ	

COMPATIBLE SMPS

SMPS1200A400 / SMPS1200A700 / SMPS3kA400 / SMPS3kA700 / PS1000

COMPATIBLE MODULES

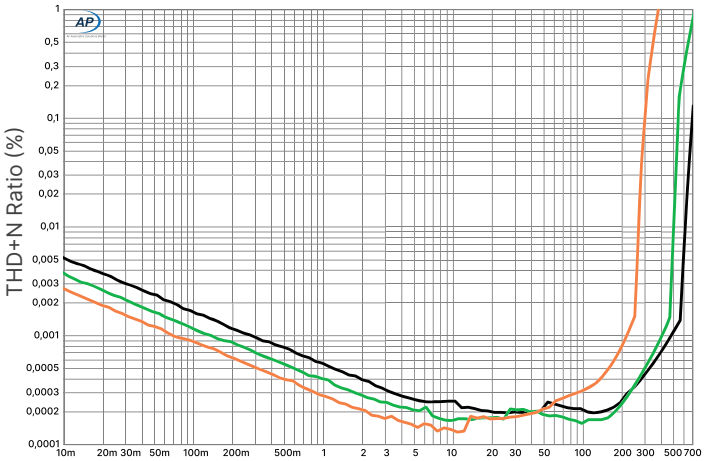
NCx Evaluation board

SIZE AND WEIGHT

82 × 63 × 38 mm (LxWxH), 116 g

MEASUREMENTS

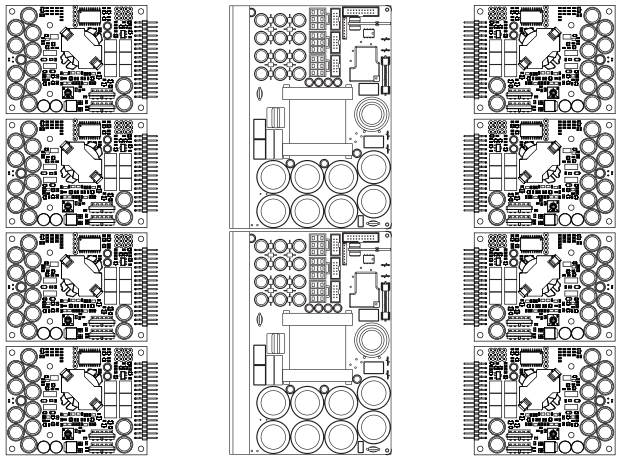
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

700 Watt 8 channel amplifier



8 x NCx500 OEM + 2 x SMPS3kA700

PROTECTIONS

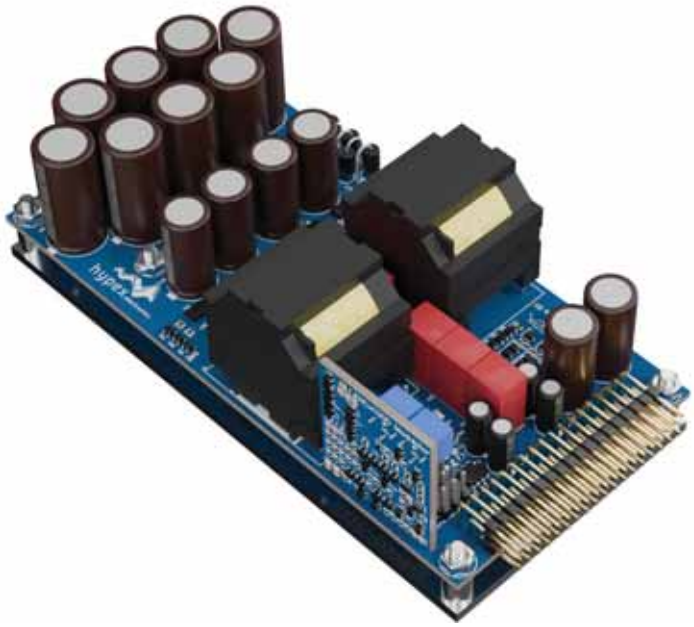
Overcurrent protection
DC error detection
Over- and undervoltage protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Audiophile Home Theatre systems
Audiophile Power Amplifiers; for home and professional use
Immersive Audio systems
Multichannel Power Amplifiers

NCx1400 OEM - Amplifier module

EXPECTED Q4 2026



The NCx1400 OEM is a full bridge Class D amplifier module based on NCOREx® technology. Positioned as a higher output power variant within the NCOREx® family, NCx1400 OEM builds on the design principles used in the NCx500 OEM.

Compared with the NCx500 OEM, the NCx1400 OEM provides increased output power, delivering at least twice the power into 4 Ohm. The full bridge configuration supports higher voltage swing and output capability while maintaining the performance characteristics associated with the NCOREx control architecture.

The NCx1400 OEM benefits from further optimisation of noise and total harmonic distortion relative to earlier NCORE based designs. These improvements are the result of refinements to the NCOREx® control loop and output stage implementation.

The module is designed to extend the NCOREx® product family and supports partial pin compatibility with other NCOREx® modules. This allows system designers to upgrade existing designs with limited changes to the surrounding hardware.

Like its sibling, the NCx500 OEM, NCx1400 OEM is also fitted with a user-selectable high quality buffer stage. Depending on system requirements, customers can choose to use the module with or without this buffer stage through on-board jumper connectors

The NCx1400 OEM is intended for use in high power audio systems, including professional audio equipment and high end home audio applications, where increased output power, low noise and predictable electrical behaviour are required.

HIGHLIGHTS

Low idle losses

Extremely low distortion across the frequency and power range

Exceptionally low output impedance

Extremely low noise for a pure audio experience

Remarkably neutral and transparent sound reproduction

FEATURES

On-board high quality buffer stage

Supply voltage dependent High-Current/High-Voltage mode

Built with thoughtfully chosen, superior-quality components

Ncx1400 OEM - Preliminary data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			1000		W	With 1200A400
Output Power 4Ω			1400		W	With 3kA700
Output Power 8Ω			1400		W	With 3kA700
Distortion		0.0005			%	20Hz < f < 20kHz. Pout = 1W
Output Noise		7			µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	DC		70		kHz	+0/-3dB. All loads
Power Supply Voltage			90		HV+/-	
Idle Power			<10		W	
Output Impedance		250			µΩ	

COMPATIBLE SMPS

SMPS1200A400 / SMPS1200A700 / SMPS3kA400 / SMPS3kA700 / PS1000

COMPATIBLE MODULES

NCx Evaluation board

SIZE AND WEIGHT

To be announced

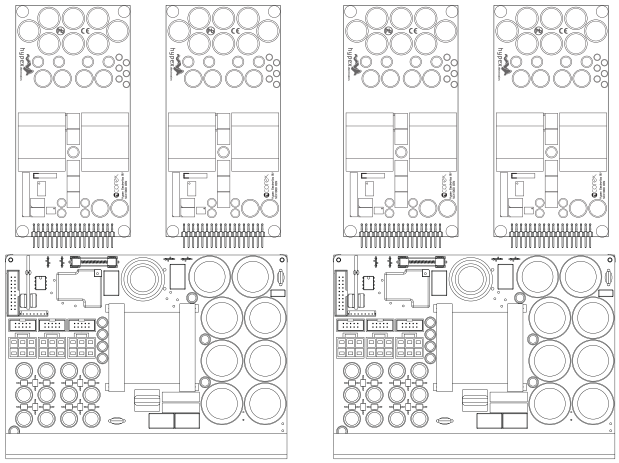
MEASUREMENTS

THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.

Measured Level (W)

APPLICATION EXAMPLE

Exceptional high-end touring amplifier



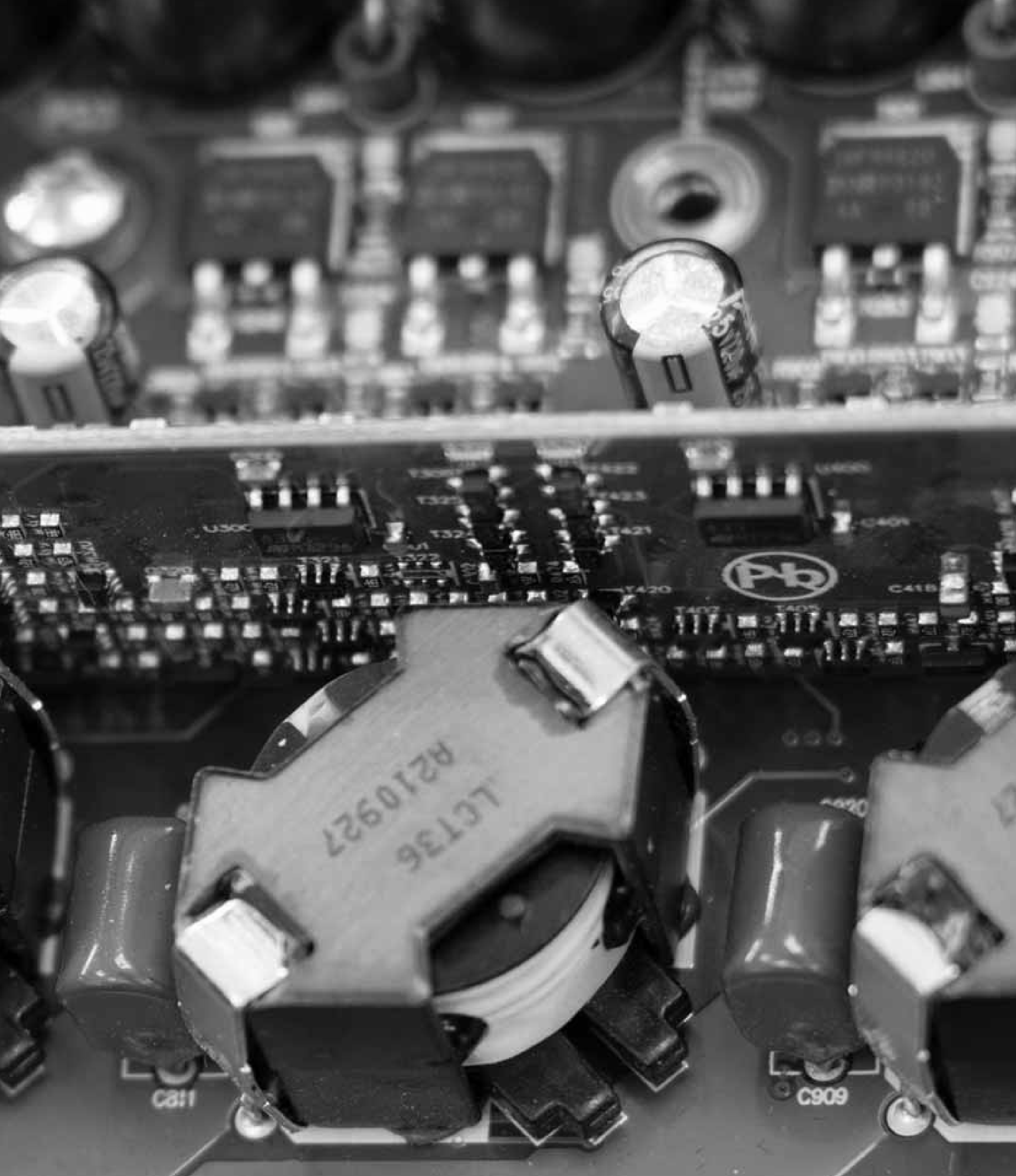
4 x Ncx1400 OEM + 2 x SMPS3kA700

PROTECTIONS

Overcurrent protection
DC error detection
Over- and undervoltage protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Audiophile Home Theatre systems
Audiophile Power Amplifiers; for home and professional use
Immersive Audio systems
Multichannel Power Amplifiers


LCT36
R210927
C909
Hypex Electronics BV I DSA254

DSA Family

The Distribution Amplifier DSA family is designed to support a wide range of audio distribution applications. The product range can be applied in low impedance loudspeaker systems, multi-channel configurations and 70 V and 100 V distribution systems, allowing a single amplifier platform to be used across different installation types.

The DSA family is based on NCOREx® Class D amplifier technology. This architecture supports stable operation with varying load impedances, allowing the amplifier to drive both low impedance and high impedance loudspeaker systems with consistent electrical behaviour.

For 70 V and 100 V applications, the DSA family uses high voltage semiconductor output stages to drive distribution lines directly. This design removes the need for large output transformers, reducing system weight and simplifying mechanical integration while maintaining suitable voltage and power delivery for distributed audio systems.

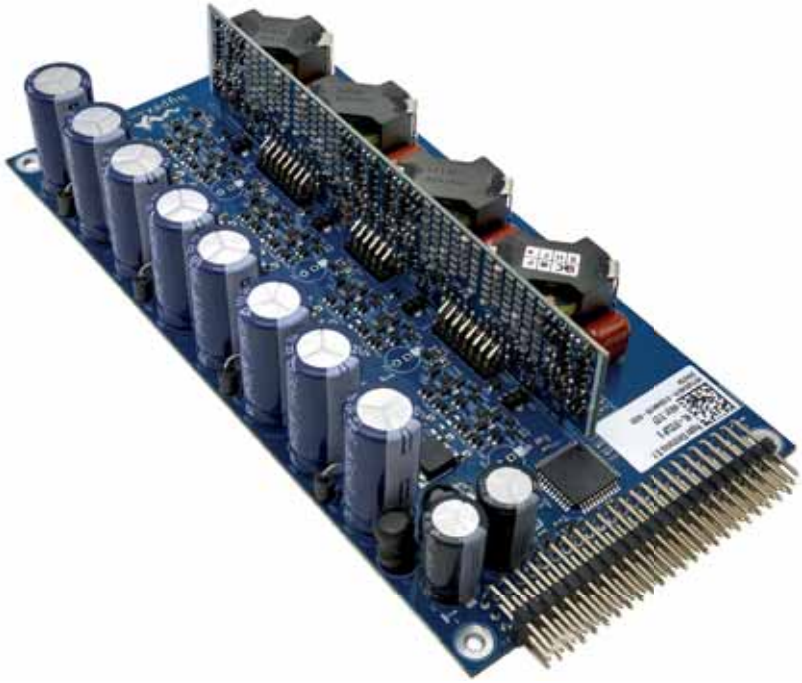
The DSA family is intended for fixed installation and professional audio applications where flexibility and long term reliability are required. Its design supports integration into current system architectures and allows adaptation to different loudspeaker configurations without changing amplifier topology.

The ability to support both conventional low impedance systems and high voltage distribution systems makes the DSA family suitable for a wide range of professional audio installations.

AVAILABLE MODULES

Module name	Channels	Bridgable?	Power 4Ω	Power 8Ω
DSA254 OEM	4	Yes	4 × 300W	4 × 400W

DSA254 OEM - 4-Channel Amplifier module



The DSA254 OEM is an audio amplifier module designed for use in both conventional low impedance loudspeaker systems and 70 Vrms and 100 Vrms distribution systems. The module supports multiple output configurations, including single ended, bridge tied load and parallel bridge tied load operation, allowing adaptation to different system requirements.

The amplifier is intended for integration in a wide range of professional audio applications where flexibility in loudspeaker topology is required. A single DSA254 OEM based design can be used for low impedance installations as well as high voltage distribution systems without changes to the amplifier topology.

The DSA254 OEM is based on NCOREx® Class D amplifier technology. This architecture supports stable operation across a wide range of load impedances, allowing the module to drive both low impedance loudspeakers and high impedance distribution lines with consistent electrical behaviour. The design also supports reliable operation in installations with long cable runs, commonly encountered in 70 V and 100 V systems.

For high voltage distribution applications, the DSA254 OEM uses high voltage semiconductor output stages to drive 70 V and 100 V lines directly. This removes the need for an external step up transformer, reducing system weight and simplifying mechanical and electrical integration.

The DSA254 OEM is intended for professional audio systems where a single amplifier platform must support multiple output configurations and loudspeaker types. Its design allows system designers to cover a broad range of applications using one amplifier module.

HIGHLIGHTS

Highly modular

Capable of both LowZ and HighZ operation

Designed to fit in a 1U rack space

FEATURES

1Ch, 2Ch, 3Ch and 4Ch configurable

70V and 100V compatible

NCOREx® technology

I²C compatible

DSA254 OEM - Data

Item	Min	Typ	Max	BTL	PBTL	Unit	Notes
Output Power 2Ω			150	150	500	W	Rated power per channel at +/-85V supply voltage
Output Power 4Ω			300	300	1000	W	
Output Power 8Ω			400	600	1450	W	
Distortion			0.005			%	20Hz < f < 20kHz. Pout = 1W
Output Noise		18				µV	
Power Bandwidth		20-35k				Hz	
Frequency Response	DC		51			kHz	+0/-3dB. All loads
Idle Power All Channels Total		9				W	Low idle mode, at +/-85V supply voltage
Idle Power All Channels Total		16.5				W	High idle mode, at +/-85V supply voltage
Output Impedance	0.6		7			mΩ	
Power Supply Voltage	35	63	98			V	
70V and 100V capable							

COMPATIBLE SMPS

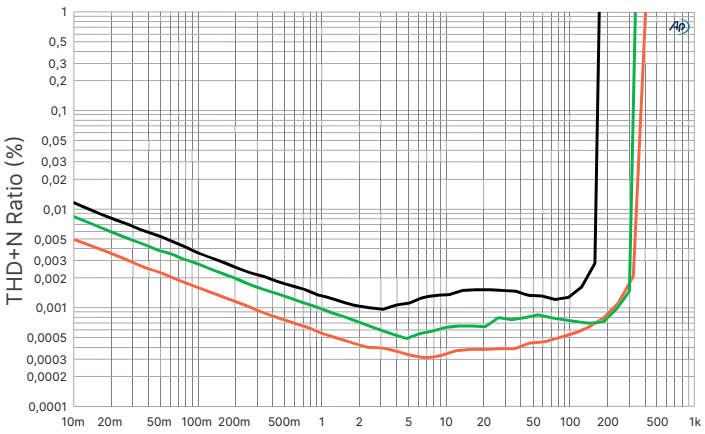
SMPS1200A400 / SMPS1200A700 / SMPS3kA400 / SMPS3kA700 / PS1000

SIZE AND WEIGHT

150 × 75 × 34 mm (LxWxH), 150 g

MEASUREMENTS

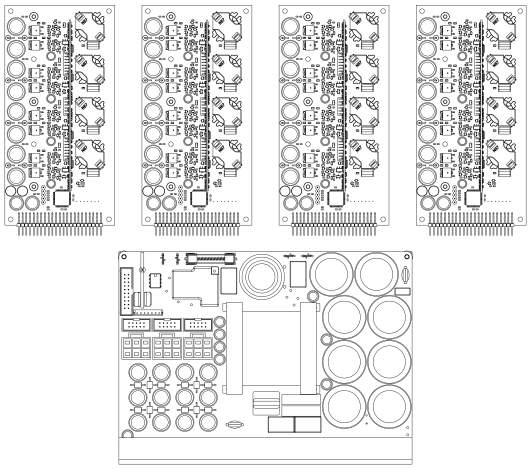
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

500W 70/100V 8 Channel amplifier



4 x DSA254 OEM + 1 x SMPS3kA700

PROTECTIONS

Overcurrent protection
DC error detection
Over- and undervoltage protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

70V/100V Distribution Systems
Multichannel Amplifier Systems
Line Array and Immersive Systems
Active Loudspeakers; for home and professional use
Power Amplifiers; for home and professional use

Switch Mode Power Supply Family

The SMPS family consists of switch mode power supplies developed for use with UcD™ , NCORE® and NCOREx® amplifier modules. The power supplies are designed as high efficiency Safety Class 1 or Class 2 devices and are intended for integration in a wide range of audio systems.

The SMPS units follow a modular design approach and are suitable for use in professional audio equipment, studio installations and home audio systems. Their electrical and mechanical characteristics support integration in different system environments without application specific modifications.

The SMPS family is designed to operate efficiently across varying load conditions. The compact and lightweight construction supports space constrained designs and portable audio applications while maintaining stable power delivery to the connected amplifier modules.

PRISTINE AUDIO QUALITY

To support signal integrity, the SMPS units are designed with low levels of radiated and conducted electromagnetic interference. The power supply topology and layout are optimised to meet EMI requirements typically associated with professional audio applications.

The SMPS family includes protection functions appropriate for switch mode power supplies and uses large electrolytic buffer capacitors to support short term peak power delivery. This supports dynamic load behaviour of connected amplifier modules under normal operating conditions.

Switch Mode Power Supply Family

A GLOBAL APPROACH

Designed with adaptability in mind, our SMPS series supplies offer a selectable input voltage range, accommodating various power input specifications. The PS series are fitted with a high-efficiency power factor corrector with full global mains input voltage range (90V-264Vac / 50-60Hz), and have a regulated output voltage. This makes them easily adaptable to different regions and power grid configurations, and an excellent choice for international applications.

Standardised to comply with relevant industry standards and certifications, the SMPS family upholds the highest benchmarks for quality, safety and performance. This commitment to standards reinforces their reliability in professional audio applications.

AVAILABLE MODULES

Module name	Version	Output Power	Output Voltage
SMPS400	A100	400W	2 × 37V
	A180	400W	2 × 46V
	A400	400W	2 × 62V
SMPS1200	A100	1200W	2 × 40V
	A180	1200W	2 × 46V
	A400	1200W	2 × 63V
	A700	1200W	2 × 85V
SMPS3k	A400	3000W	2 × 63V
	A700	3000W	2 × 85V
PS1000	R45	1000W	2 × 45V
	R54	1000W	2 × 54V
	R75	1000W	2 × 75V
	R85	1000W	2 × 85V

SMPS400 - 400W Switch Mode Power Supply

The SMPS400 is a high efficiency Safety Class 2 switch mode power supply designed for use with UcD™ amplifier modules. The unit is intended for audio applications that require compact dimensions, low weight and stable power delivery over a wide load range.

The power supply includes an overcurrent protection mechanism that reduces the output voltage during temporary overload conditions. If the overload condition persists, the supply enters hiccup mode and remains in this state until the overload is removed. This behaviour, combined with the use of large electrolytic buffer capacitors, supports short term peak power delivery to the connected amplifier module.

The SMPS400 includes an auxiliary isolated supply and a control interface intended to operate with UcD amplifier modules. Built in actuators allow the power supply to be enabled during normal operation or disconnected in the event of a fault condition.

The design of the SMPS400 focuses on low levels of radiated and conducted electromagnetic interference. The topology and layout are optimised to meet EMI requirements commonly associated with professional audio applications.

The SMPS400 supports a selectable input voltage range, allowing operation with different mains supply specifications. This makes the unit suitable for use in international applications with varying power grid standards.

Being a 2-quadrant full bridge rectifier, SMPS400 is able to supply single ended class d amplifiers.

The SMPS400 complies with applicable safety and performance standards and is certified for use in professional audio equipment.

HIGHLIGHTS

High efficiency

Small form factor

Low EMI

Can be fitted in 1HE

FEATURES

2-quadrant full bridge rectifier

Selectable input voltage range

External controlled operation

3 variants available: A100 / A180 / A400

SMPS400 - Data

Item	Min	Typ	Max	Unit	Notes
Output Power		400		W	20Hz into amplifier load
Output Voltage Main A100	2 × 29	2 × 37	2 × 43	Vdc	Proportional to AC Mains
Output Voltage Main A180	2 × 35	2 × 46	2 × 53	Vdc	Proportional to AC Mains
Output Voltage main A400	2 × 48	2 × 62	2 × 72	Vdc	Proportional to AC Mains
Output Voltage Vaux A100, A180	2 × 16	2 × 21	2 × 24	Vdc	Proportional to AC Mains
Output Voltage Vaux A400	2 × 15	2 × 20	2 × 23	Vdc	Proportional to AC Mains
Output Current Vaux			500	mA	

COMPATIBLE MODULES

SMPS400A100: UcD102 OEM

SMPS400A180: UcD180LP OEM, UcD180 OEM

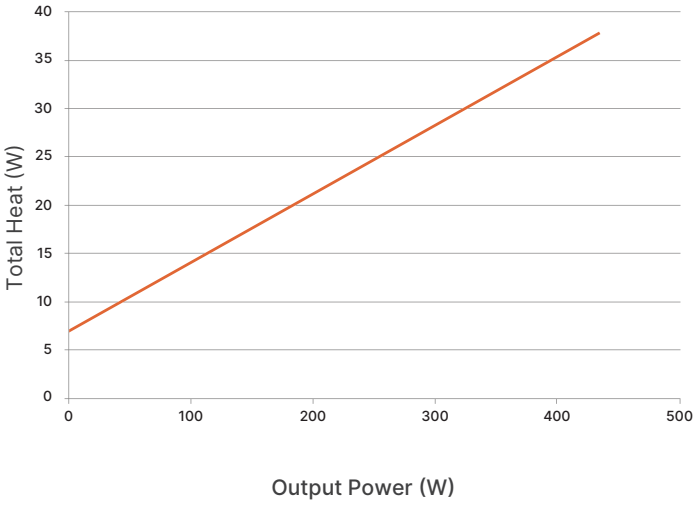
SMPS400A400: UcD250LP OEM, UcD400 OEM

SIZE AND WEIGHT

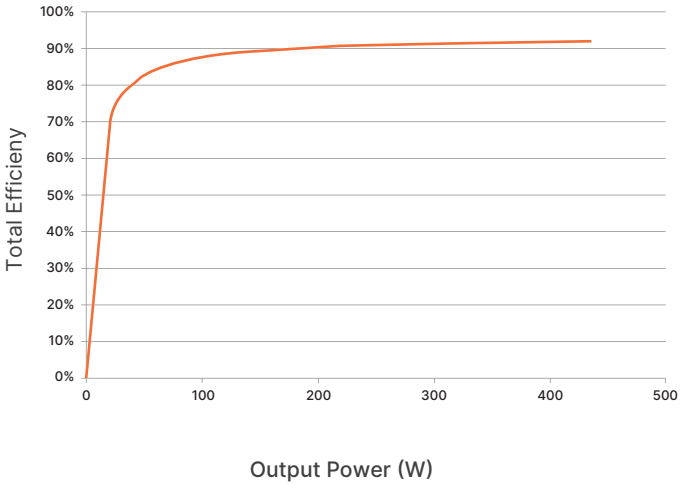
105 × 95 × 40 mm (LxWxH), 300 g

MEASUREMENTS

Heat indication vs Output Power



Efficiency vs Output Power



PROTECTIONS

Advanced Overcurent protection

Over temperature protection

DC detection input

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use

Power Amplifiers, for home and professional use

Line Array and Immersive Systems

Home Theatre Systems

Multichannel Power Amplifiers

SMPS1200 - 1200W Switch Mode Power Supply

The SMPS1200 is a high efficiency Safety Class 2 switch mode power supply designed for use with UcD™ , NCORE® and NCOREx® amplifier modules. The unit is intended for audio systems that require stable power delivery across a wide load range in a compact and lightweight format.

The power supply includes an overcurrent protection mechanism that limits output current during temporary overload conditions. It also provides symmetrical auxiliary outputs and a control interface for operation with UcD™ , NCORE® and NCOREx® amplifier modules.

The SMPS1200 is designed to achieve low levels of radiated and conducted electromagnetic interference. The topology and layout are optimised to meet EMI requirements commonly associated with professional and high end audio applications.

The power supply supports a selectable input voltage range, allowing operation with different mains supply specifications. This supports use in international applications with varying power grid standards.

SMPS1200 is a 2-quadrant full bridge rectifier, making it possible to supply single ended class d amplifiers.

The SMPS1200 complies with applicable safety and performance standards and is certified for use in professional audio equipment.

HIGHLIGHTS

High efficiency

Small form factor

Low EMI

FEATURES

2-quadrant full bridge rectifier

Selectable input voltage range

External controlled operation

4 variants available: A100 / A180 / A400 / A700

SMPS1200 - Data

Item	Min	Typ	Max	Unit	Notes
Output Power		1200		W	20Hz into amplifier load
Output Voltage Main Unregulated A100	2 × 31	2 × 40	2 × 46	Vdc	Proportional to AC Mains
Output Voltage Main Unregulated A180	2 × 36	2 × 46	2 × 53	Vdc	Proportional to AC Mains
Output Voltage main Unregulated A400	2 × 49	2 × 63	2 × 72	Vdc	Proportional to AC Mains
Output Voltage main Unregulated A700	2 × 66	2 × 85	2 × 98	Vdc	Proportional to AC Mains
Output Voltage Vaux Unregulated A100	2 × 15	2 × 20	2 × 22	Vdc	Proportional to AC Mains
Output Voltage Vaux Unregulated A180, A400	2 × 17	2 × 22	2 × 25	Vdc	Proportional to AC Mains
Output Voltage Vaux Unregulated A700	2 × 16	2 × 21	2 × 24	Vdc	Proportional to AC Mains
Output Current Vaux Unregulated			500	mA	
Output Voltage Regulated		2 × 12		Vdc	All versions
Output Current Regulated		60	100	mA	All versions, per rail

COMPATIBLE MODULES

SMPS1200A100: UcD102 OEM

SMPS1200A180: UcD180LP OEM, UcD180 OEM

SMPS1200A400: UcD250LP OEM, UcD400LP OEM, UcD400 OEM, NC500 OEM, NCx500 OEM, Ncx1400 OEM, DSA254 OEM

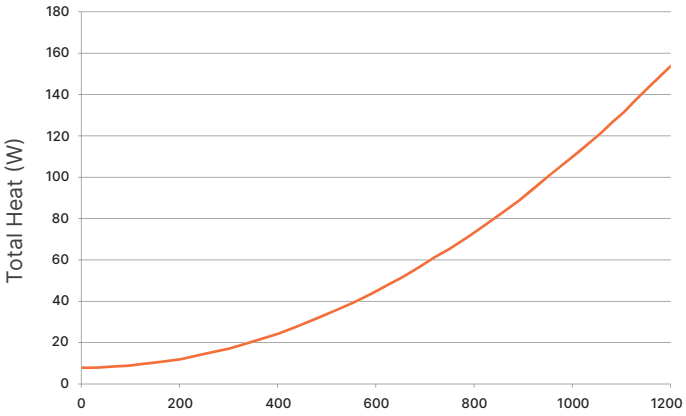
SMPS1200A700: UcD700LZ OEM, NC500 OEM, NC1200 OEM, NCx500 OEM, Ncx1400 OEM, DSA254 OEM

SIZE AND WEIGHT

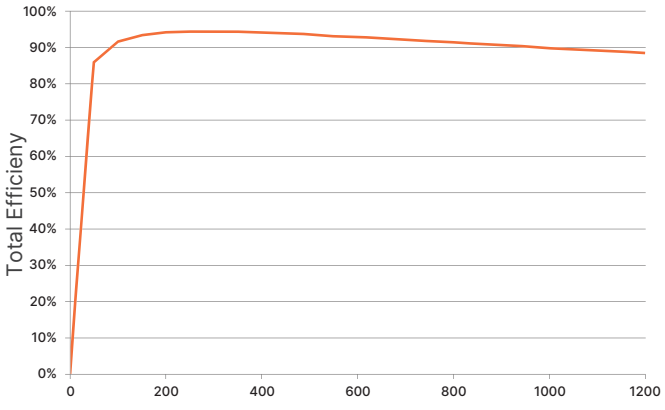
165 × 105 × 52 mm (LxWxH), 850 g

MEASUREMENTS

Heat indication vs Output Power



Efficiency vs Output Power



PROTECTIONS

Advanced Overcurent protection

Over temperature protection

DC detection input

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use

Power Amplifiers, for home and professional use

Line Array and Immersive Systems

Home Theatre Systems

Multichannel Power Amplifiers

SMPS

SMPS3k - 3000W Switch Mode Power Supply

The SMPS3k is a high power, high efficiency Safety Class 1 switch mode power supply designed for integration with UcD™ , NCORE® and NCOREx® amplifier modules.

The power supply includes an overcurrent protection mechanism that limits the output current during temporary overload conditions. If an overload persists, the unit enters hiccup mode and remains in this state until the overload condition is removed. Large primary electrolytic buffer capacitors support short term peak power delivery to the connected amplifier modules.

The SMPS3k follows the same design principles for safety, quality and electrical performance as other power supplies in the SMPS family, including the SMPS400 and SMPS1200.
Relevant standards:

HIGHLIGHTS

High efficiency

Small form factor

Low EMI

FEATURES

Selectable input voltage range

Remote controlled operation

2 variants available: A400 / A700

SMPS3k - Data

Item	Min	Typ	Max	Unit	Notes
Output Power		3000		W	20Hz into amplifier load
Output Voltage Main Unregulated A400	2 × 49	2 × 63	2 × 72	Vdc	Proportional to AC Mains
Output Voltage Main Unregulated A700	2 × 66	2 × 85	2 × 97	Vdc	Proportional to AC Mains
Output Voltage Vaux Unregulated A400	2 × 15	2 × 20	2 × 23	Vdc	Proportional to AC Mains
Output Voltage Vaux Unregulated A700	2 × 18	2 × 23	2 × 26	Vdc	Proportional to AC Mains
Output Current Vaux Unregulated			500	mA	
Output Voltage Regulated		2 × 12		Vdc	All versions
Output Current Regulated			100	mA	All versions, per rail

COMPATIBLE MODULES

SMPS3kA400: UcD250LP OEM, UcD400LP OEM, UcD400 OEM, NC500 OEM, NCx500 OEM [1], Ncx1400 OEM, DSA254 OEM

SMPS3kA700: UcD700LZ OEM, UcD2k OEM, NC500 OEM, NC1200 OEM, NC2k, NCx500 OEM [1], Ncx1400 OEM, DSA254 OEM

1: for half-bridge amplifier compatibility refer to datasheet

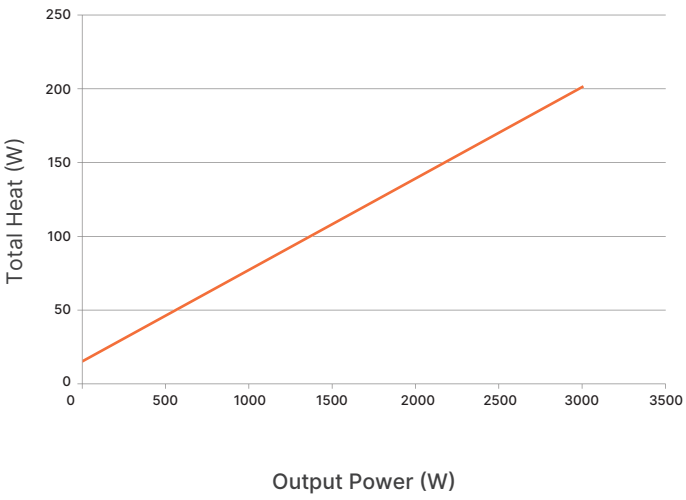
SIZE AND WEIGHT

200 × 145 × 55 mm (LxWxH), 1475 g

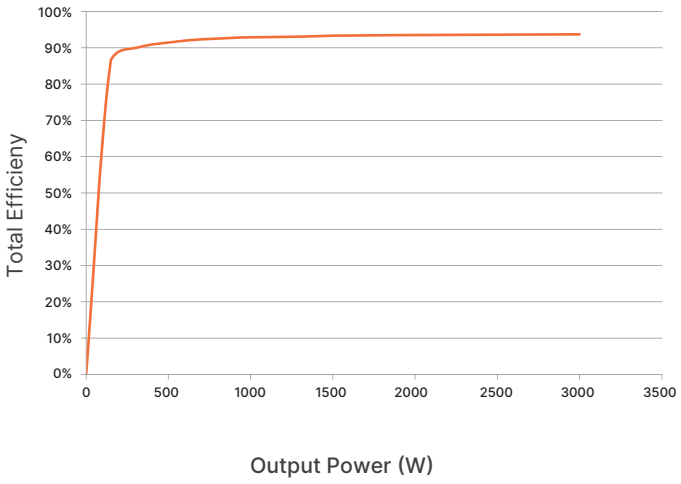
SMPS

MEASUREMENTS

Heat indication vs Output Power



Efficiency vs Output Power



PROTECTIONS

Advanced Overcurent protection

Over temperature protection

DC detection input

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use

Power Amplifiers, for home and professional use

Line Array and Immersive Systems

Home Theatre Systems

Multichannel Power Amplifiers

PS1000 - 1000W Switch Mode Power Supply

EXPECTED Q2 2026

The first model in our new PS series, PS1000, stands out as a high power, high-efficiency Safety Class 2 switch mode power supply, meticulously crafted for seamless integration with our DSA, NCORE® and NCOREx® amplifier modules.

PS1000 is the first model in our new PS range of power supplies. PS1000 inherits the high efficiency, compact form factor, light-weight design, advanced overcurrent protection and minimized EMI signature of our older SMPS models but further enhances these with a host of new features.

PS1000 is fitted with a high efficiency power factor correction circuit with a full global mains input voltage range (90-264Vac / 50-60Hz) and full IEC61000-3-2 compliance up to its maximum rated output power. Furthermore, PS1000 includes a 5V standby output with 2013 ERP Lot 9 0.5W compliance. These features reduce integration complexity.

The control circuitry of PS1000 has been enhanced with an OTP pre-warning signal which can be used by an external system controller to either reduce system power output or increase active cooling to avoid overtemperature shutdown during high stress situations.

The main output voltage rails of PS1000 are input voltage invariant and are tightly regulated across the output power range, ensuring stable power delivery across all operating conditions. The control circuit seamlessly interfaces with DSA, NCORE® and NCOREx® amplifier modules.

PS1000 is designed to comply with the latest global EMI and safety compliance standards.

HIGHLIGHTS

Power Factor Correction (PFC)
Fits in 1U enclosure
High efficiency
Small form factor
Low EMI

FEATURES

regulated output
Universal Mains with PFC
Remote controlled operation
4 variants available: R45 / R54 / R75 / R85

PS1000 - Preliminary data

Item	Min	Typ	Max	Unit	Notes
Output Power		1000		W	20Hz into amplifier load
Output Voltage Main R45		2 × 45		Vdc	
Output Voltage Main R54		2 × 54		Vdc	
Output Voltage Main R75		2 × 75		Vdc	
Output Voltage Main R85		2 × 85		Vdc	
Output Voltage Vaux		2 × 15		Vdc	
Output Voltage VDR		15		Vdc	
Output Power Vaux/VDR		30		W	Arbitrary power sharing
Standby Output Voltage		5.2		VDC	
Standby Output Current		1		A	

COMPATIBLE MODULES

NCx500 OEM [1], Ncx1400 OEM, DSA254 OEM

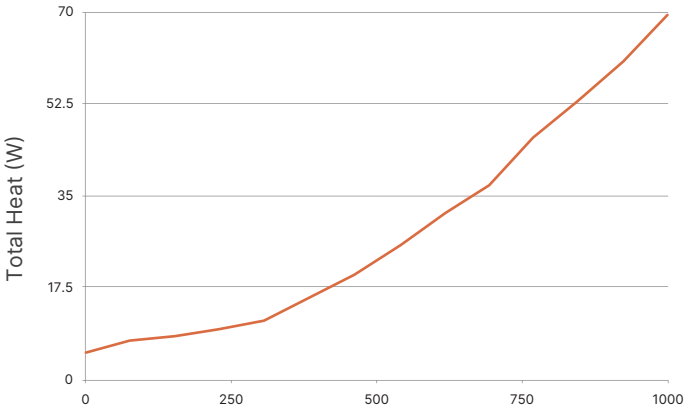
SIZE AND WEIGHT

205 × 130 × 38 mm (LxWxH), 1100 g

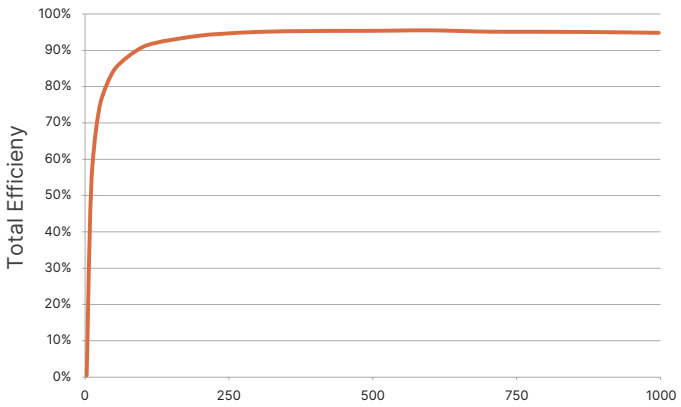
1: For half-bridge amplifier modules please beware of power supply pumping phenomenon.
This can happen with high power, and low frequencies. Contact support@hypex.nl for these applications

MEASUREMENTS

Heat indication vs Output Power



Efficiency vs Output Power

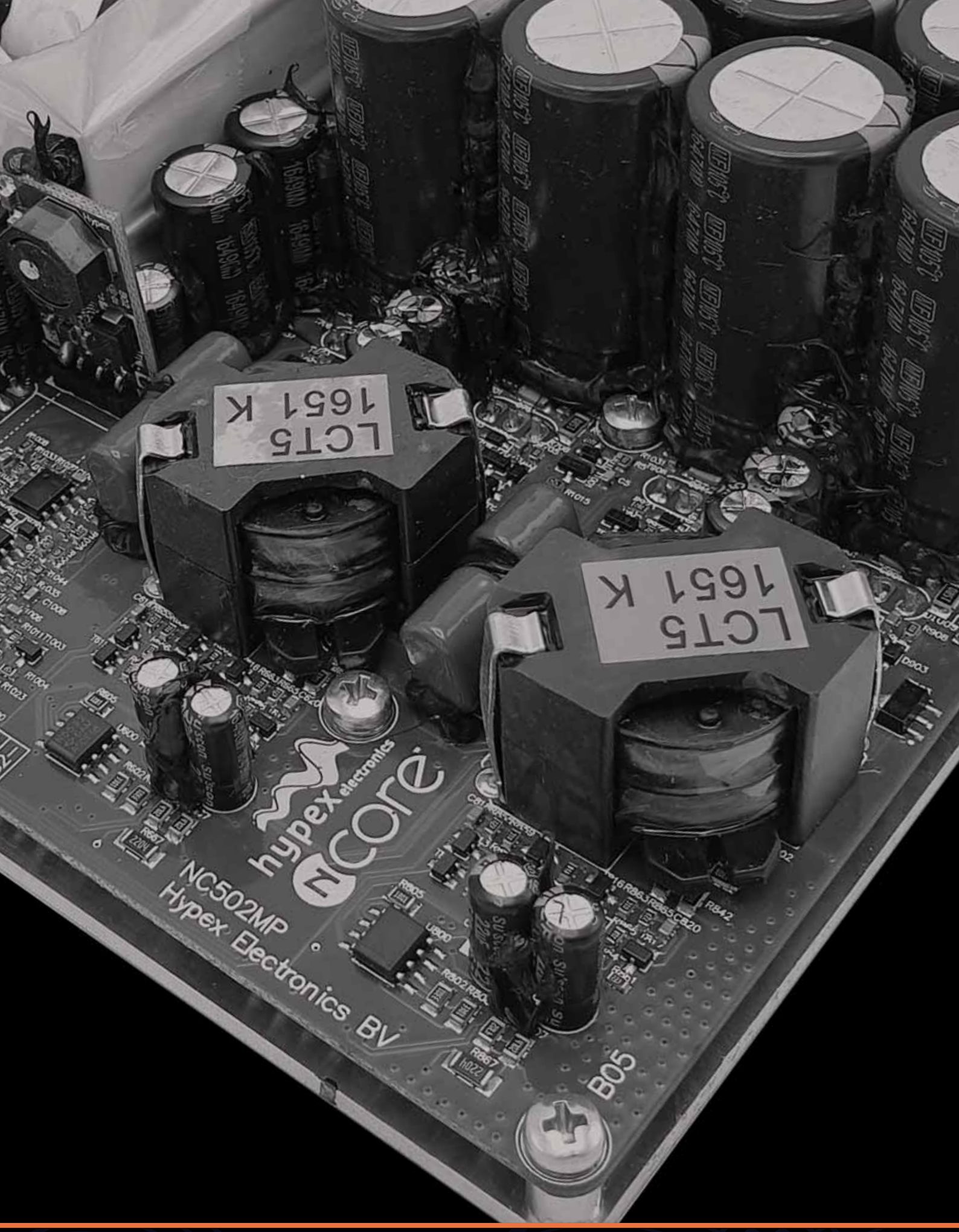


PROTECTIONS

Advanced Overcurrent protection
Over temperature protection
DC detection input

POSSIBLE APPLICATIONS

Active Loudspeakers, for home and professional use
Power Amplifiers, for home and professional use
Line Array and Immersive Systems
Home Theatre Systems
Multichannel Power Amplifiers


LCT5
1651 K
LCT5
1651 K
hypex electronics
ncore
NC502MP
Hypex Electronics BV
B05

Mains Powered NCORE Family

The Mains Powered NCORE® modules combine a low power standby supply, a switch mode power supply and a Class D amplifier into a single compact unit. The design is intended to simplify system integration by providing amplification and power conversion within one module.

Each module incorporates a self contained Class D amplifier designed for use in a wide range of audio applications, including public address systems, studio equipment and home audio systems. The amplifier architecture supports stable operation across varying load impedances.

The amplifier provides a flat frequency response independent of load impedance and maintains consistent distortion behaviour over the operating range. Radiated and conducted electromagnetic interference is controlled through circuit topology and layout. Operation is based on a phase shift controlled self oscillating loop with feedback taken at the loudspeaker output.

Power is supplied by an integrated switch mode power supply designed specifically for Class D amplifier operation. The supply supports efficient power conversion and stable performance under typical audio load conditions.

In addition, the modules include a dedicated low power standby switch mode power supply for applications that require standby functionality. The standby supply supports universal mains input operation and is designed to meet low standby power consumption requirements.

The Mains Powered NCORE® modules comply with 2013 ERP Lot 6 requirements for maximum 0.5 W standby power consumption. The combined design supports use in professional and residential audio systems where compact integration, regulatory compliance and predictable electrical performance are required.

The Mains Powered NCORE® amplifier modules are intended for system designs that require an integrated amplification and power solution with defined behaviour and reduced integration complexity.

AVAILABLE MODULES

Module name	Channels	Bridgable?	Power 4Ω	Power 4Ω BTL	Power 8Ω	Power 8Ω BTL
NC52MP	2	Yes	2 × 50W	1 × 125W	2 × 25W	1 × 100W
NC122MP	2	Yes	2 × 125W	1 × 200W	2 × 75W	1 × 250W
NC250MP	1	No	1 × 250W		1 × 130W	
NC252MP	2	Yes	2 × 250W	1 × 400W	2 × 150W	1 × 500W
NC500MP	1	No	1 × 500W		1 × 270W	
NC502MP	2	Yes	2 × 500W	1 × 1000W	2 × 350W	1 × 1200W
NC100HF	1	No	1 × 100W		1 × 100W	
NCx102EXT	2	No	2 × 100W		2 × 100W	

NC52MP - Mains powered amplifier module

The NC52MP is an extremely compact power dual-amplifier brick. A cutting-edge amplifier solution that combines advanced technology with an integration-friendly design.

It is an ideal choice for a wide range of audio applications, from high-quality power amplifiers to high-quality active loudspeakers. The NC52MP stands out with its innovative power supply architecture. Incorporating a low-power standby supply that complies with 2013 ERP Lot 6 0.5W requirements, a highly-efficient switch mode power supply and dual high-performance 50W NCORE® Class D amplifiers. The result is a compact yet powerful brick that is compatible with various audio applications.

Driving the amplifiers is a main SMPS, a compact, high-power, highly efficient, regulated flyback. These exceptional properties make it the perfect technology to power this Class D audio power amplifier brick, ensuring optimal performance and reliability. This SMPS is designed for universal mains input compatibility, offering flexibility and efficiency in various applications.

For situations requiring a standby mode, the NC52MP incorporates a low-power standby SMPS. Now, redefine your expectations with the NC52MP's remarkably low heat dissipation.

This module has been engineered to deliver superior performance while efficiently managing heat generation, enhancing both longevity and reliability.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

5W standby SMPS
Advanced protections
Clip indicator
Universal mains (100/240Vac)
Light weight and compact size

NC52MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			2 × 40		W	
Output Power 4Ω			2 × 50	125	W	
Output Power 8Ω			2 × 25	100	W	
Distortion		0.002	0.004		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			35		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Idle Power		6			W	SMPS + amplifiers
Output Impedance			2		mΩ	f < 1kHz
Output Impedance			4		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 17	2 × 18	2 × 19		Vdc	
Output Current Vaux			0.1		A	

COMPATIBLE MODULES

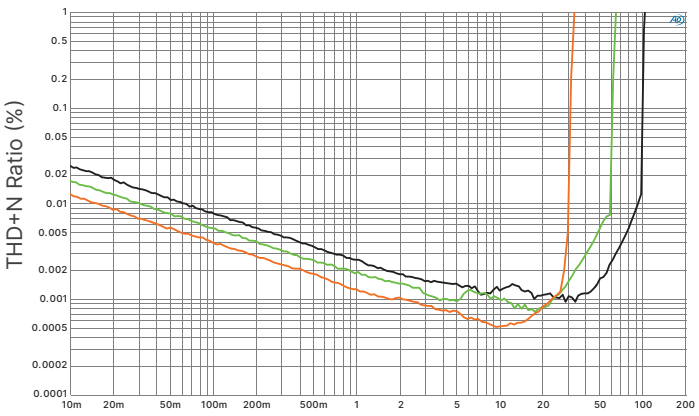
NCxxxMP Evaluation board / DSP3-213 / DSP3-224 / DSP 2-114

SIZE AND WEIGHT

125 × 80 × 38 mm (LxWxH), 176 g

MEASUREMENTS

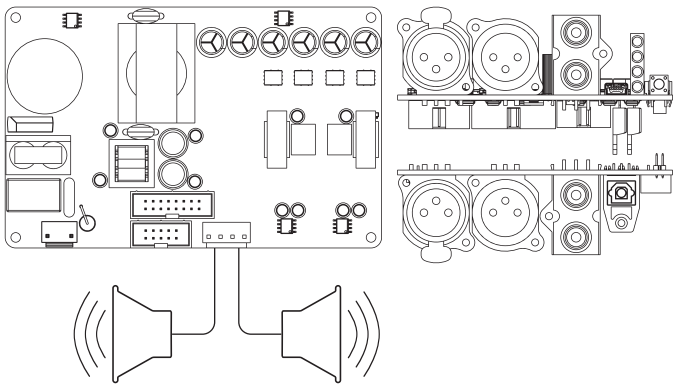
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

2 × 50W active loudspeaker



1 x NC52MP + 1 x DSP3-213 + 1x DIGin3-322

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC122MP - Mains powered amplifier module

The NC122MP is a compact dual channel amplifier module designed for use in power amplifiers and active loudspeaker systems. The module integrates power supply and amplification functions on a single PCB assembly.

The NC122MP includes an integrated power supply architecture consisting of a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a regulated switch mode power supply and two 125 W NCORE® Class D amplifier channels.

The amplifier section consists of two self contained NCORE® Class D amplifiers. The design provides a flat frequency response independent of load impedance and maintains consistent distortion behaviour across the operating range. Radiated and conducted electromagnetic interference is controlled through circuit topology and PCB layout. The amplifier operates using a phase shift controlled self oscillating loop with feedback taken at the loudspeaker output.

The main power supply is a compact, regulated half bridge switch mode converter with synchronous rectification on the main output rails. The supply is designed specifically for Class D audio amplifier operation and supports efficient power delivery under typical audio load conditions.

An automatic input voltage doubler is included to support universal mains input operation. For applications requiring standby functionality, the NC122MP integrates a dedicated low power standby switch mode power supply designed to minimise energy consumption during idle periods.

The NC122MP includes the Hypex Extension connector, which allows the addition of an auxiliary low power amplifier channel. This supports system designs such as three way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation

Flat, fully load-independent frequency response

Low output impedance

Very low, frequency independent THD

Very low noise

FEATURES

Extension connector for additional channel(s)

5W standby SMPS

Advanced protections

Clip indicator

Auto-switching (115/230V)

Light weight and compact size

NC122MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			2 × 115		W	
Output Power 4Ω			2 × 125	230	W	
Output Power 8Ω			2 × 75	250	W	
Distortion			0.0015		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		48k		Hz	+0/-3dB. All loads
Idle Power		14.5			W	SMPS + amplifiers
Output Impedance			2		mΩ	f < 1kHz
Output Impedance			4		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 19	2 × 20	2 × 21		Vdc	
Output Current Vaux			1		A	

COMPATIBLE MODULES

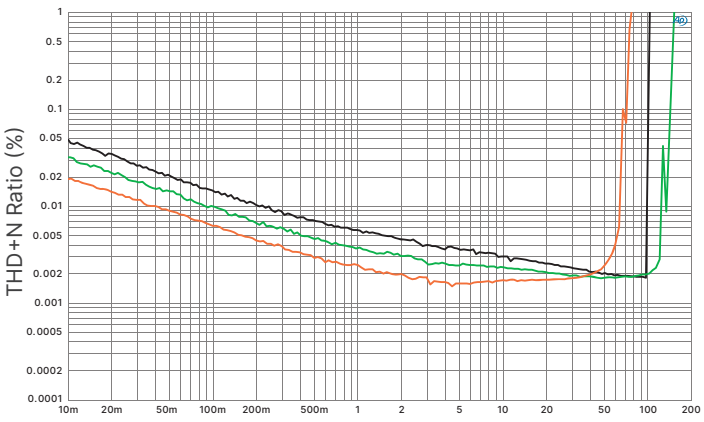
NCxxxMP Evaluation board / NC100HF / NCx102EXT / DSP3-213 / DSP3-224 / DSP 2-114

SIZE AND WEIGHT

170 × 85 × 40 mm (LxWxH), 415 g

MEASUREMENTS

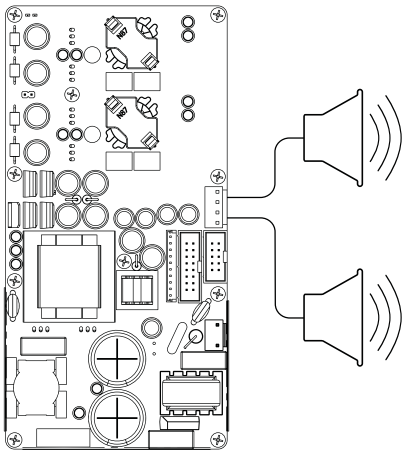
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

Integrated dual channel amplifier



1 x NC122MP

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers and subwoofers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC250MP - Mains powered amplifier module

NC-MP

The NC250MP is a compact single channel amplifier module designed for integration in a wide range of audio applications. Typical use cases include musical instrument amplifiers, power amplifiers, active loudspeakers and subwoofer systems.

The module integrates a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and a single 250 W NCORE® Class D amplifier channel on a single PCB assembly.

The amplifier section is based on NCORE® Class D technology and is designed to provide stable operation across varying load impedances. The integrated power supply supports efficient power delivery while maintaining a compact mechanical footprint.

The NC250MP includes the Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel. This supports system designs such as two way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)
Light weight and compact size

NC250MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			180		W	
Output Power 4Ω			250		W	
Output Power 8Ω			130		W	
Distortion			0.003		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	0		50k		Hz	+0/-3dB. All loads
Idle Power		11			W	SMPS + amplifier
Output Impedance			2		mΩ	f < 1kHz
Output Impedance			3.5		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 19	2 × 20	2 × 21		Vdc	
Output Current Vaux			1		A	

COMPATIBLE MODULES

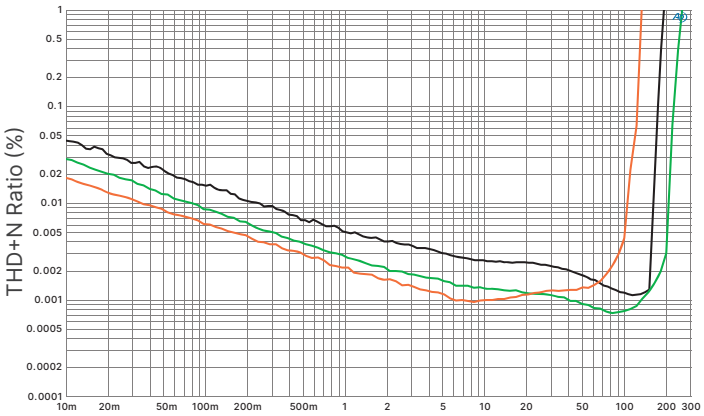
NCxxxMP Evaluation board / NC100HF / NCx102EXT / DSP3-213 / DSP3-224

SIZE AND WEIGHT

140 × 85 × 40 mm (LxWxH), 360 g

MEASUREMENTS

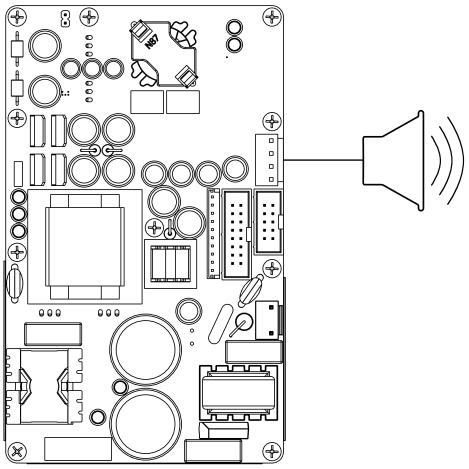
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

Mono block



1 x NC250MP

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers and subwoofers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC252MP - Mains powered amplifier module

The NC252MP is a compact dual channel amplifier module designed for integration in power amplifiers and active loudspeaker systems. The module combines power supply and amplification functions on a single PCB assembly to support efficient system integration.

The NC252MP integrates a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and two 250 W NCORE® Class D amplifier channels.

The amplifier section is based on NCORE® Class D technology and is designed to provide stable operation across varying load impedances. The integrated power supply supports efficient power delivery while maintaining a compact mechanical footprint.

For applications requiring standby functionality, the NC252MP includes a dedicated low power standby switch mode power supply to minimise energy consumption during idle periods.

The NC252MP features the Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel. This supports system designs such as three way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)
Light weight and compact size

NC252MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			2 × 180		W	
Output Power 4Ω			2 × 250	400	W	
Output Power 8Ω			2 × 150	500	W	
Distortion			0.002		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Idle Power		15.5			W	SMPS + amplifiers
Output Impedance			2.5		mΩ	f < 1kHz
Output Impedance			5		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 19	2 × 20	2 × 21		Vdc	
Output Current Vaux			1		A	

COMPATIBLE MODULES

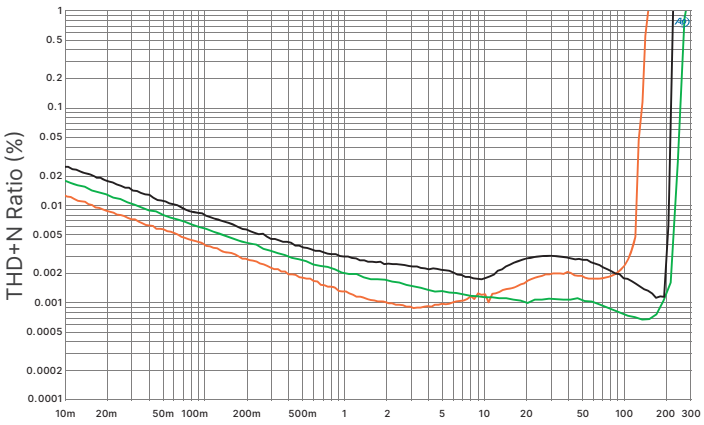
NCxxxMP Evaluation board / NC100HF / NCx102EXT / DSP3-213 / DSP3-224

SIZE AND WEIGHT

170 × 105 × 42 mm (LxWxH), 575 g

MEASUREMENTS

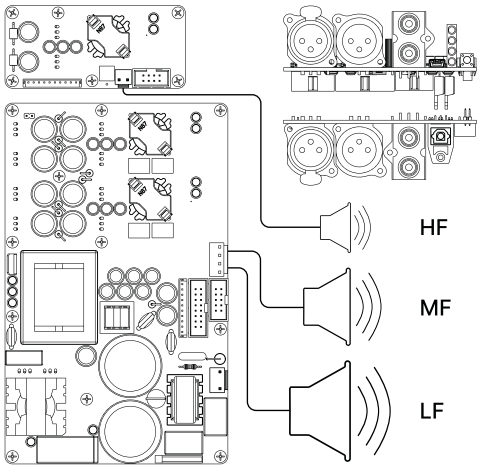
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

3-way active loudspeaker



1 x NC252MP + 1 x NC100HF + 1 x DSP3-213 + 1 x DIGin3-322

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers and subwoofers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC500MP - Mains powered amplifier module

The NC500MP is a compact single channel amplifier module designed for integration in a wide range of audio applications. Typical use cases include musical instrument amplifiers, power amplifiers, active loud-speakers and subwoofer systems.

The module integrates a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and a single NCORE® Class D amplifier channel. All functions are combined on a single PCB assembly to support compact and straightforward system integration.

The NC500MP is intended for applications that require higher output power within an integrated amplifier and power supply solution. The design supports stable operation across varying load impedances and predictable electrical behaviour.

The module includes a Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel. This supports system designs such as two way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)
Light weight and compact size

NC500MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			400		W	
Output Power 4Ω			500		W	
Output Power 8Ω			270		W	
Distortion			0.003		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Idle Power		15			W	SMPS + amplifier
Output Impedance			2.6		mΩ	f < 1kHz
Output Impedance			3.5		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 19	2 × 20	2 × 21		Vdc	
Output Current Vaux			1		A	

COMPATIBLE MODULES

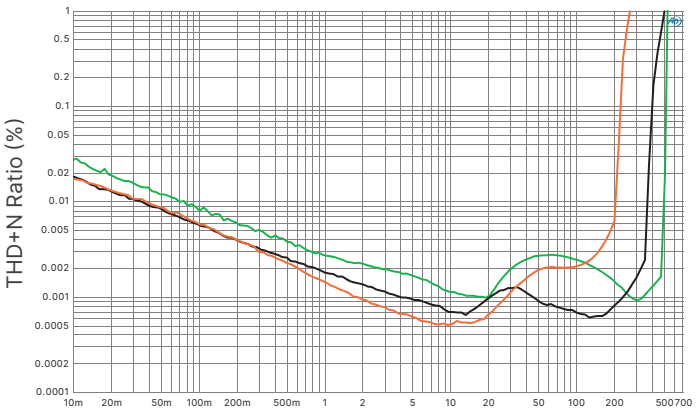
NCxxxMP Evaluation board / NC100HF / NCx102EXT / DSP3-213 / DSP3-224

SIZE AND WEIGHT

146 × 105 × 42 mm (LxWxH), 500 g

MEASUREMENTS

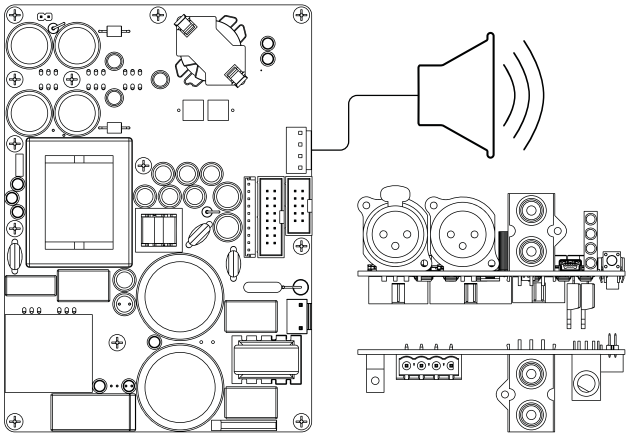
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

500 Watt subwoofer



1 x NC500MP + 1 x DSP3-213 + 1 x SUBin3-110

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers and subwoofers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC502MP - Mains powered amplifier module

The NC502MP is a compact dual channel amplifier module designed for integration in power amplifiers and active loudspeaker systems.

The module integrates a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and two 500 W NCORE® Class D amplifier channels on a single PCB assembly.

The NC502MP is intended for applications that require higher output power within an integrated amplifier and power supply solution. The design supports stable operation across varying load impedances and predictable electrical behaviour.

For applications requiring standby functionality, the NC502MP includes a dedicated low power standby switch mode power supply to minimise energy consumption during idle periods.

The module includes a Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel. This supports system designs such as three way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)

NC502MP - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 2Ω			2 × 450		W	
Output Power 4Ω			2 × 500	1000	W	
Output Power 8Ω			2 × 350	1200	W	
Distortion			0.0024		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			47		µV	
Power Bandwidth		20-35k			Hz	
Frequency Response	10		48k		Hz	+0/-3dB. All loads
Idle Power		26.6			W	SMPS + amplifiers
Output Impedance			1.5		mΩ	f < 1kHz
Output Impedance			3		mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1		Vdc	
Standby Output Current			1		A	
Output Voltage Vaux	2 × 17	2 × 18	2 × 19		Vdc	
Output Current Vaux			1		A	

COMPATIBLE MODULES

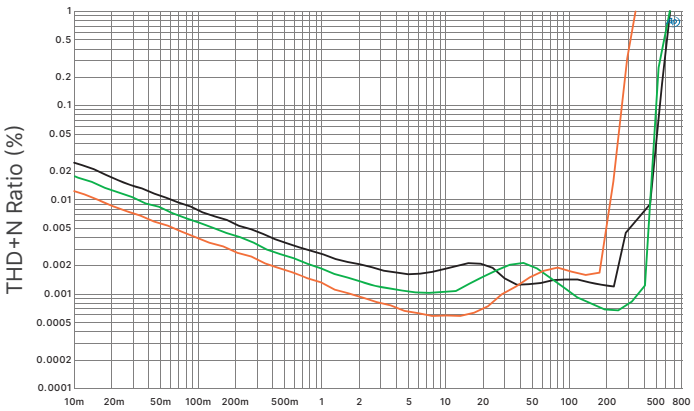
NCxxxMP Evaluation board / NC100HF / NCx102EXT / DSP3-213 / DSP3-224

SIZE AND WEIGHT

230 × 115 × 47 mm (LxWxH), 1055 g

MEASUREMENTS

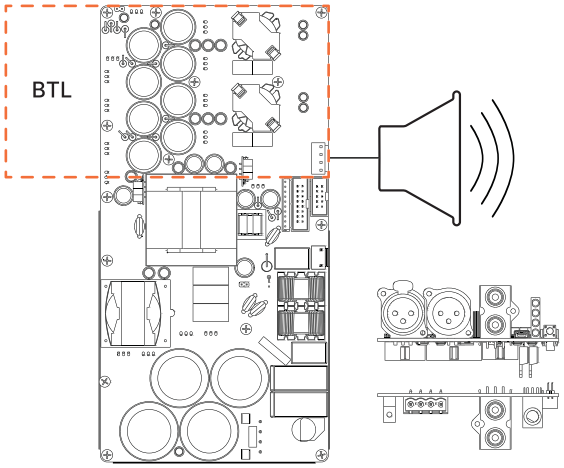
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

1000 Watt active subwoofer



1 x NC502MP + 1 x DSP3-213 + 1 x SUBin3-110

PROTECTIONS

Overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers and subwoofers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use

NC100HF - Amplifier hanger module

The NC100HF is a dedicated high frequency amplifier module designed for use with the Mains Powered NCORE® module family. It is intended to add an additional amplifier channel for high and mid frequency reproduction in active loudspeaker systems.

The module is optimised for operation in the mid and high frequency range, starting at approximately 500 Hz. Its design supports controlled amplification of tweeter and midrange drivers in multi way active loudspeaker configurations.

The NC100HF interfaces directly with the on board switch mode power supply of the Mains Powered NCORE® modules. This allows the module to be powered and controlled as part of an integrated NCORE®-based system without the need for an additional external power supply.

The NC100HF is suitable for use in two way and three way active loudspeaker designs where an additional high frequency amplifier channel is required. Its integration approach supports straight-forward system expansion within the Mains Powered NCORE® platform.

HIGHLIGHTS

High efficiency

Flat, fully load-independent frequency response

Low output impedance

Very low, frequency independent THD

Very low noise

FEATURES

Advanced protections

External controlled operation

Light weight and compact size

NC100HF - Data

Item	Min	Typ	Max	BTL	Unit	Notes
Output Power 4Ω			100		W	
Output Power 8Ω			100		W	
Distortion			0.0018		%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40		µV	
Power Bandwidth		500	35k		Hz	
Frequency Response	10		50k		Hz	+0/-3dB. All loads
Idle Power		3.5			W	
Output Impedance			2		mΩ	f < 1kHz
Output Impedance			10		mΩ	f < 20kHz

COMPATIBLE MODULES

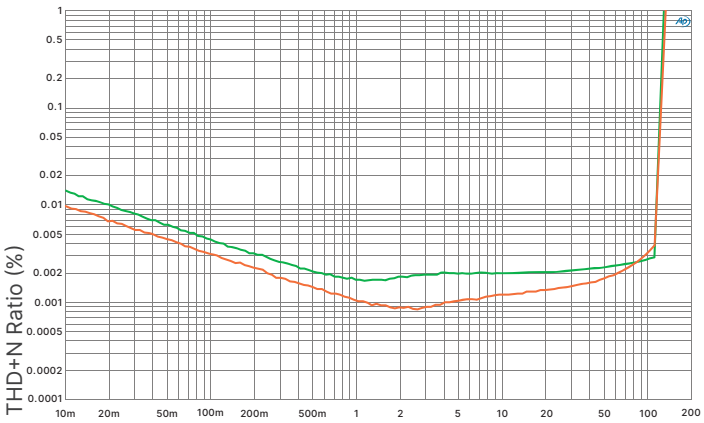
Mains Powered NCORE® amplifier family, with the exception of NC52MP / DSP3-213 / DSP3-224

SIZE AND WEIGHT

85 × 39 × 27 mm (LxWxH), 75 g

MEASUREMENTS

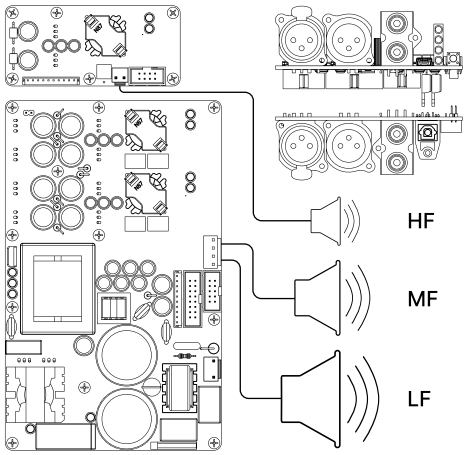
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

3-way active loudspeaker



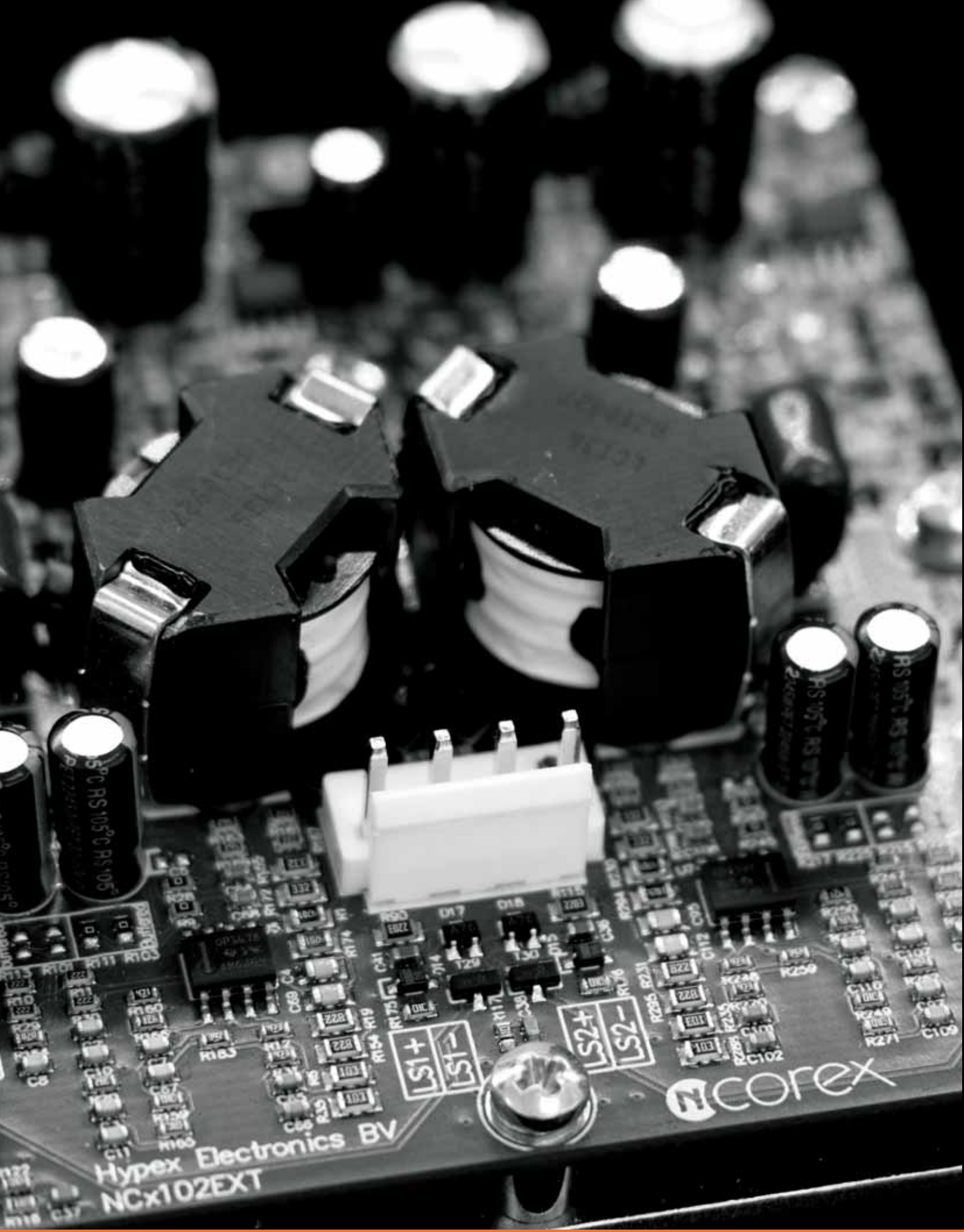
1 x NC100HF + 1 x NC252MP + 1 x DSP3-213 + 1 x DIGin3-322

PROTECTIONS

Avanced overcurrent protection
DC protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active loudspeakers
Public Address systems
Home Theatre systems
Power Amplifiers; for home and professional use


LS1+
LS1-
LS2+
LS2-
corex
Hypex Electronics BV
NCx102EXT

Mains Powered NCOREx Family

The NCx Mains Powered Family is a range of amplifier modules based on NCOREx® Class D technology. The modules integrate amplification and power conversion on a single open frame PCB and are intended for applications requiring compact integration and defined electrical performance.

NCOREx technology is an evolution of the earlier NCORE® architecture and was developed to further improve measured performance parameters. The design includes an updated loop filter that increases loop gain in the upper part of the audio band. This allows additional optimisation of distortion behaviour while maintaining stable operation across the full audio range.

The resulting control architecture provides high error correction across the audio band, reducing distortion contributions from the power stage and output filter. Loop gain remains high over the operating range, supporting low harmonic distortion, low intermodulation distortion and low output impedance.

HIGH PERFORMANCE CLASS D AMPLIFIER

Each NCx Mains Powered module includes a self contained NCOREx® Class D amplifier. Control is based on a phase shift controlled self oscillating loop with feedback taken directly at the loud-speaker output. This approach supports a flat frequency response independent of load impedance and controlled electromagnetic interference.

The power supply architecture consists of an integrated high efficiency switch mode power supply with synchronous rectification. An automatic input voltage doubler is included to support operation over a wide mains input voltage range, allowing use in different regional power grid environments. In addition, the modules include a dedicated low power standby switch mode power supply. The standby supply is designed to comply with 2013 ERP Lot 6 requirements with a maximum standby power consumption of 0.5 W.

The NCx Mains Powered Family is intended for use in professional audio equipment and high end home audio systems where compact integration, regulatory compliance and predictable Class D performance are required.

AVAILABLE MODULES

Module name	Single channel, 4Ω	Dual channel, 4Ω
NCx122MP	-	2 × 125W
NCx252MP	-	2 × 250W
NCx102EXT	Hypex Two Channel Extension, 2 × 100W	

NCx122MP - Mains powered amplifier module

EXPECTED Q2 2026

The NCx122MP is a compact dual channel amplifier module based on NCOREx® Class D technology. It is designed for integration in power amplifiers and active loudspeaker systems where compact implementation and predictable electrical performance are required.

The module integrates a high efficiency switch mode power supply, a low power standby supply compliant with 2013 ERP Lot 6 requirements and two NCOREx® Class D amplifier channels on a single PCB assembly.

Control is based on a phase shift controlled self oscillating loop with feedback taken directly at the loudspeaker output. This architecture supports stable operation across varying load impedances.

The NCx122MP includes the Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel for multi way active loudspeaker designs.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)
Light weight and compact size

NCx122MP - Preliminary data

Item	Min	Typ	Max	Unit	Notes
Output Power 2Ω			2 × 115	W	
Output Power 4Ω			2 × 125	W	
Output Power 8Ω			2 × 75	W	
Distortion			0.0015	%	20Hz < f < 20kHz. Pout = 1W
Output Noise			40	µV	
Power Bandwidth		20-35k		Hz	
Frequency Response	10		48k	Hz	+1/-3dB. All loads
Idle Power		13.5		W	SMPS + amplifiers
Output Impedance			0.3	mΩ	f<1kHz
Output Impedance			5	mΩ	f<20kHz
Standby Output Voltage	4.9	5	5.1	Vdc	
Standby Output Current			1	A	

COMPATIBLE MODULES

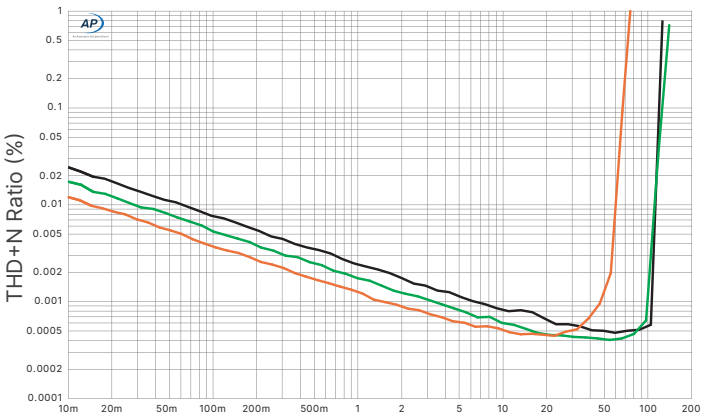
NCx102EXT, NCxxxMP Evaluation board / DSP3-213 / DSP3-224

SIZE AND WEIGHT

170 × 78 × 40 mm (LxWxH), 415 g

MEASUREMENTS

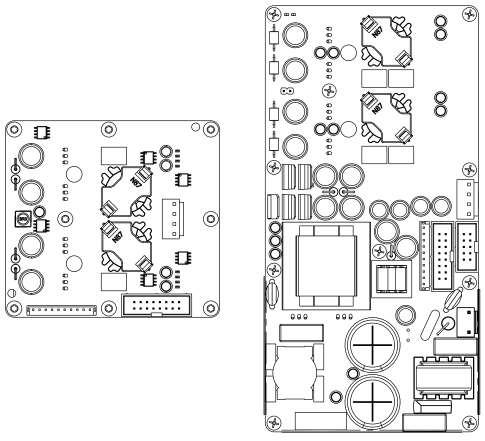
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

4 channel amplifier



1 x NCx122MP + 1 x NCx102EXT

PROTECTIONS

Advanced overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active PA loudspeakers
Active HiFi loudspeakers

NCx252MP - Mains powered amplifier module

The NCx252MP is a compact dual channel amplifier module based on NCOREx® Class D technology. The module is designed for integration in power amplifiers and active loudspeaker systems where compact implementation and predictable electrical performance are required.

The NCx252MP integrates a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and two NCOREx Class D amplifier channels. The integrated architecture supports compact power delivery within a single PCB assembly.

The amplifier section is based on the NCOREx® control architecture and is designed to provide stable operation across varying load impedances. The integrated power supply supports efficient operation under typical audio load conditions.

The NCx252MP includes the Hypex Extension connector, allowing the addition of an auxiliary low power amplifier channel. This supports system designs such as multi way active loudspeakers where an additional tweeter amplifier channel is required.

HIGHLIGHTS

High efficiency & Universal mains operation
Flat, fully load-independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

Extension connector for additional channel(s)
5W standby SMPS
Advanced protections
Clip indicator
Auto-switching (115/230V)
Light weight and compact size

NCx252MP - Data

Item	Min	Typ	Max	Unit	Notes
Output Power 2Ω			2 × 180	W	1 kHz, THD<1%, All channels driven. BW 20Hz-20kHz.
Output Power 4Ω			2 × 250	W	1 kHz, THD<1%, All channels driven. BW 20Hz-20kHz.
Output Power 8Ω			2 × 150	W	1 kHz, THD<1%, All channels driven. BW 20Hz-20kHz.
Distortion		0.0007	0.002	%	10Hz - 20kHz AES17 Pout = 1W
Power Bandwidth		20 - 35k		Hz	
Frequency Response	10		50k	Hz	+0/-3dB. All loads
Output Impedance			0.6	mΩ	f < 1kHz
Output Impedance			5.0	mΩ	f < 20kHz
Idle power		15.5		W	SMPS + amplifiers
Standby Output Voltage	4.9	5	5.1	Vdc	
Standby Output Current			1	A	Continous
Output Voltage Vaux	±19	±20	±21	Vdc	Symmetric power supply
Output Current Vaux			1	Adc	Per rail

COMPATIBLE MODULES

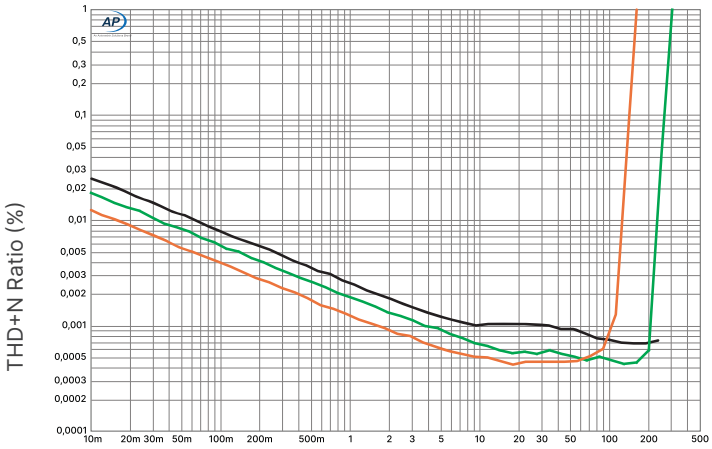
NCx102EXT, NCxxxMP Evaluation board / DSP3-213 / DSP3-224

SIZE AND WEIGHT

170 × 105 × 42 mm (LxWxH), 575 g

MEASUREMENTS

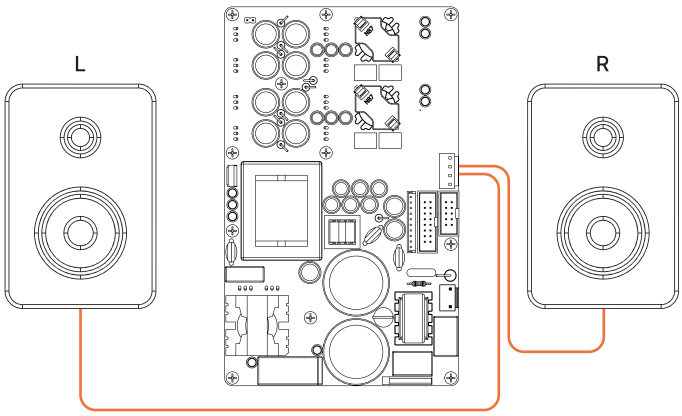
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

Stereo power amplifier



1 x NCx252MP

PROTECTIONS

Advanced overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active PA loudspeakers
Active HiFi loudspeakers

NCx102EXT - Amplifier hanger module

The NCx102EXT is an NCOREx®-based Class D amplifier add on module for the NC-MP / NCx-MP series. It is intended for use in active loudspeaker systems as an additional amplifier channel, optimised for mid and high frequency reproduction while supporting full audio bandwidth operation.

The module is powered directly from the host NC-MP or NCx-MP module via the Hypex Channel Extension interface. It supports a wide input voltage range compatible with the complete NC-MP / NCx-MP product range and does not require an external power supply.

The NCx102EXT incorporates a self contained NCOREx® Class D amplifier. The design provides a flat frequency response independent of load impedance and maintains consistent distortion behaviour across the operating range. Radiated and conducted electromagnetic interference is controlled through circuit topology and PCB layout.

Control is based on a phase shift controlled self oscillating loop with feedback taken directly at the loudspeaker output. This architecture supports stable operation and predictable electrical behaviour when integrated into multi channel active loudspeaker systems.

The NCx102EXT is designed to expand NC-MP and NCx-MP based designs with additional amplifier channels, supporting two-way, three-way or four-way active loudspeaker configurations where an additional midrange or high-frequency channel is required.

HIGHLIGHTS

High efficiency

Flat, fully load-independent frequency response

Low output impedance

Very low, frequency independent THD

Very low noise

FEATURES

NCOREx® Technology

NCx-MP Add-on

External controlled operation

Specifically designed as channel extension for our Mains Powered NCORE® and NCOREx® modules

NCx102EXT - Preliminary Data

Item	Min	Typ	Max	Unit	Notes
Output Power 4Ω			100	W	
Output Power 8Ω			100	W	
Distortion THD+N			0.002	%	< 10Hz-20kHz AES17 Pout = 1W
Output Noise		16	40	µV	Unwtd, <10Hz-20kHz AES17, 0Ω termination
Power Bandwidth		20-35k		Hz	
Frequency Response	10		50k	Hz	+0/-3dB. All loads
Output Impedance			500	µΩ	f < 1kHz
Output Impedance			5	mΩ	f < 20kHz

COMPATIBLE MODULES

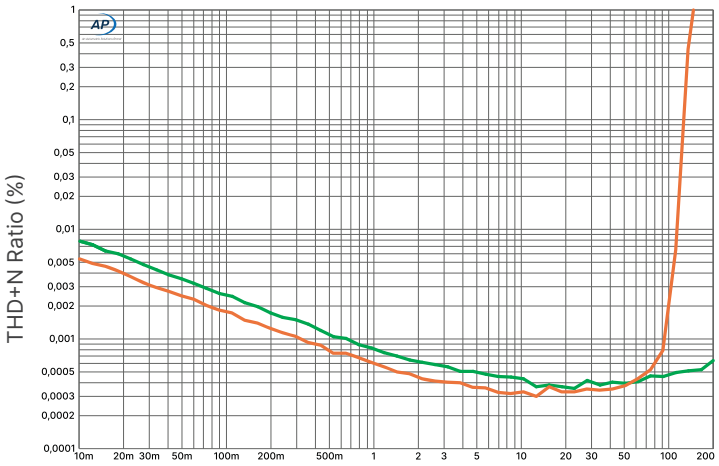
Mains Powered NCORE® and NCORE® amplifier families/ DSP3-213 / DSP3-224

SIZE AND WEIGHT

85 × 75 × 27 mm (L x W x H), 140 g

MEASUREMENTS

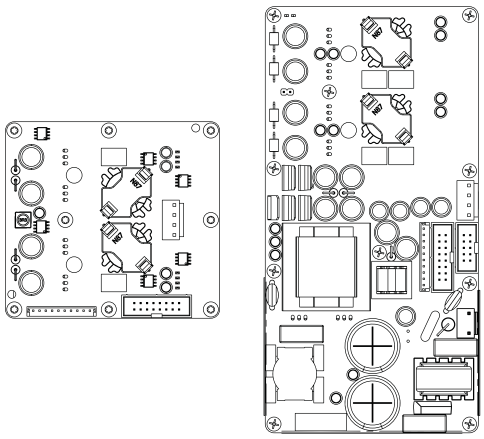
THD+N vs. power @ 1kHz into 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

4 channel amplifier



1 x NCx102EXT + 1 x NCx122MP

PROTECTIONS

Overcurrent protection
Excessive DC protection
Short circuit protection
Over temperature protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for recording and mastering studios
Public address systems
Active loudspeakers

NCORE Active Speaker Family

The NCORE® Active Speaker modules are designed for use in active loudspeaker systems. Each module integrates two NCORE® Class D amplifier channels, consisting of one higher power full bridge channel and one medium power half bridge channel, intended for multi way active speaker designs.

The modules integrate a low power standby supply compliant with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W, a high efficiency switch mode power supply and the Class D amplifier stages on a single PCB assembly. This supports compact system integration in active loudspeaker applications.

FLAT FREQUENCY RESPONSE

The amplifier architecture provides a flat frequency response independent of load impedance. Distortion behaviour remains largely consistent across the audio band, and radiated and conducted electromagnetic interference is controlled through circuit topology and PCB layout. Control is based on a phase shift controlled self oscillating loop with feedback taken directly at the loudspeaker output.

For applications requiring standby functionality, the modules include a dedicated low power stand-by switch mode power supply. The main power supply incorporates an automatic input voltage doubler to support operation across a wide range of mains input voltages.

The NCORE® Active Speaker modules are intended for use in professional studio monitors and home audio loudspeaker systems where compact integration, energy efficiency and predictable electrical behaviour are required. The design focuses on defined performance characteristics suitable for active speaker platforms.

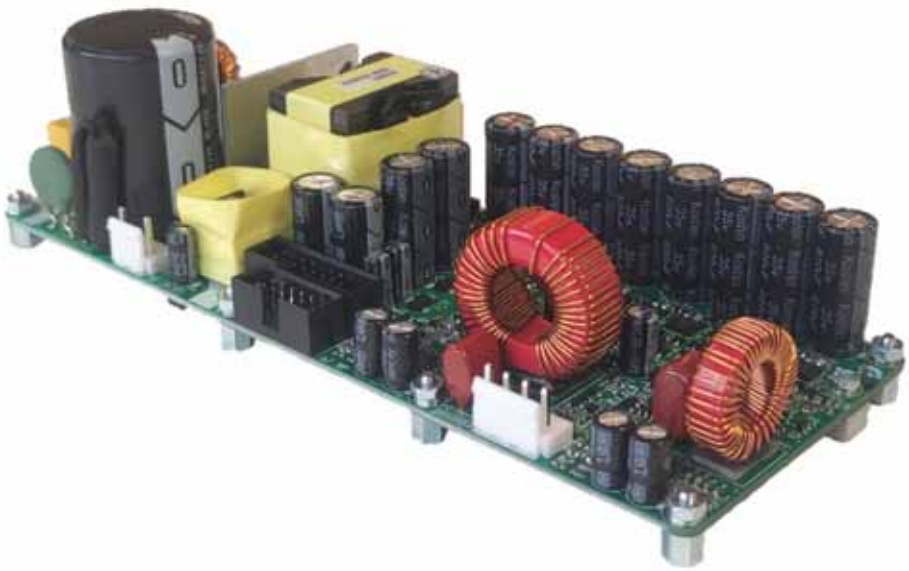
AVAILABLE MODULES

Module name	Channels	Bridgable?	Power 4Ω	Power 8Ω
NCAS250MP	2	No	1 × 200W + 1 × 50W[1]	1 × 200W + 1 × 50W[1]
NCAS500MP	2	No	1 × 440W + 1 × 120W	1 × 400W + 1 × 100W

[1] preliminary data

NCAS250MP - Mains powered amplifier module

EXPECTED 2026



The NCAS250MP is an active speaker amplifier module integrating two NCORE® Class D amplifier channels on a single PCB. The module combines one full bridge high power channel and one half bridge medium power channel, intended for two way active loudspeaker designs.

The full bridge channel delivers up to 200 W and is suitable for low frequency drivers. The half bridge channel delivers up to 50 W and is intended for midrange or high frequency drivers. This channel configuration supports efficient power allocation within compact active speaker systems.

The module integrates a regulated switch mode power supply designed for Class D amplification and supporting universal mains input operation. A dedicated low power standby supply is included and complies with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W.

The NCAS250MP is intended for use in active loudspeakers such as studio monitors and compact PA systems where integrated amplification, defined channel allocation and predictable electrical behaviour are required.

HIGHLIGHTS

High efficiency
Universal mains operation
Flat, fully load independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

5W standby SMPS
Advanced protections

NCAS250MP - Preliminary data

Item	Min	Typ	Max	Unit	Notes
Output Power 2Ω				W	Not supported
Output Power 4Ω			200 + 50	W	
Output Power 8Ω			200 + 50	W	
Distortion			TBD	%	20Hz < f < 20kHz. Pout = 1W
Output Noise LF			40	µV	
Output Noise HF			20	µV	
Power Bandwidth		TBD		Hz	
Frequency Response	10		50k	Hz	+1/-3dB. All loads
Idle Power		TBD		W	
Output Impedance		TBD		mΩ	
Standby Output Voltage	4.9	5	5.1	Vdc	
Standby Output Current			1	A	
Output Voltage Vaux	2 × 14	2 × 15	2 × 16	Vdc	
Output Current Vaux			0.2	A	

COMPATIBLE MODULES

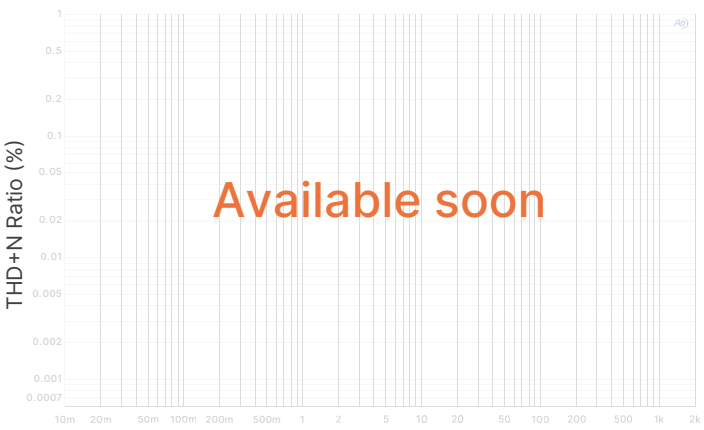
NCxxxMP Evaluation board / DSP3-213 / DSP3-224

SIZE AND WEIGHT

185 × 70 × 52 mm (LxWxH) TBD

MEASUREMENTS

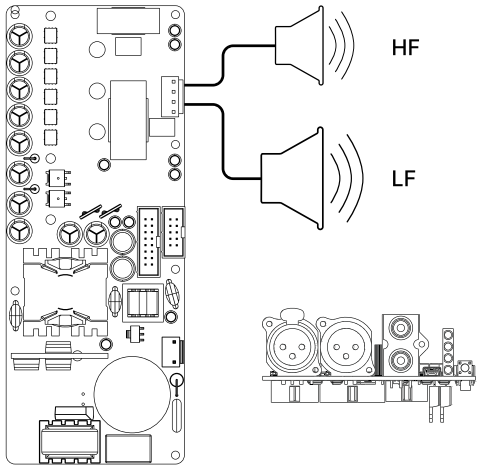
THD+N vs. power @ 1kHz into 2Ω, 4Ω and 8Ω. BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

200 Watt + 50 Watt active loudspeaker



1 x NCAS250MP + DSP3-213

PROTECTIONS

Advanced overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active PA loudspeakers
Active HiFi loudspeakers

NCAS500MP - Mains powered amplifier module

The NCAS500MP integrates two NCORE® Class D amplifier channels intended for two way active loudspeaker designs. The module combines one full bridge high power channel and one half bridge medium power channel on a single PCB assembly.

The full bridge channel delivers up to 400 W and is intended for low frequency drivers. The half bridge channel delivers up to 100 W and is suitable for midrange or high frequency drivers. This channel allocation supports efficient distribution of output power within compact active speaker systems.

The module includes an integrated switch mode power supply based on a regulated half bridge topology with synchronous rectification on the main output rails. An automatic input voltage doubler supports operation across a wide range of mains input voltages.

A dedicated low power standby switch mode power supply is included and complies with 2013 ERP Lot 6 requirements for a maximum standby consumption of 0.5 W.

The NCAS500MP is intended for use in active loudspeakers such as studio monitors and compact PA systems where integrated amplification and defined channel allocation are required.

HIGHLIGHTS

High efficiency
Universal mains operation
Flat, fully load independent frequency response
Low output impedance
Very low, frequency independent THD
Very low noise

FEATURES

5W standby SMPS
Advanced protections

NCAS500MP - Data

Item	Min	Typ	Max	Unit	Notes
Output Power 2Ω				W	Not supported
Output Power 4Ω			440 + 120	W	
Output Power 8Ω			400 + 100	W	
Distortion			0.005	%	20Hz < f < 20kHz. Pout = 1W
Output Noise LF			60	µV	
Output Noise HF			60	µV	
Power Bandwidth		20-35k		Hz	
Frequency Response	10		50k	Hz	+0/-3dB. All loads
Idle Power		15.7		W	SMPS + amplifier
Output Impedance			2.6	mΩ	f < 1kHz
Output Impedance			10	mΩ	f < 20kHz
Standby Output Voltage	4.9	5	5.1	Vdc	
Standby Output Current			1	A	
Output Voltage Vaux	2 × 19	2 × 20	2 × 21	Vdc	
Output Current Vaux			0.5	A	

COMPATIBLE MODULES

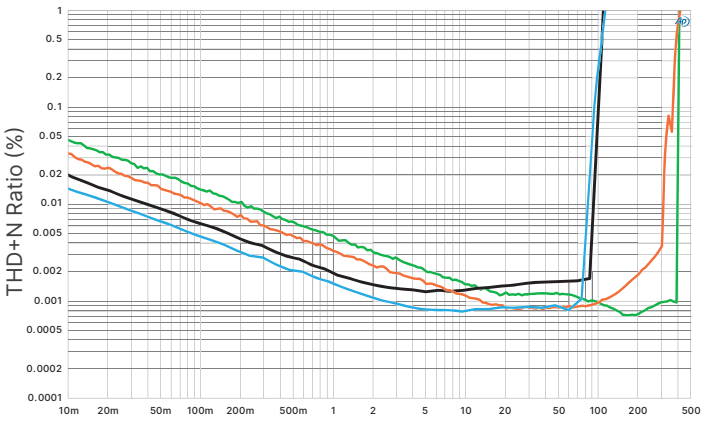
NCxxxMP Evaluation board / DSP3-213 / DSP3-224

SIZE AND WEIGHT

195 × 85 × 40 mm (LxWxH), 415 g

MEASUREMENTS

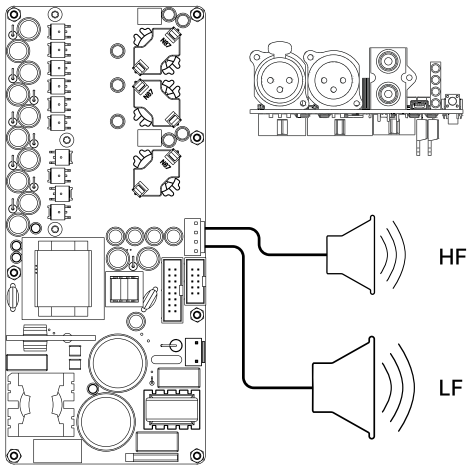
THD+N vs. power @ 1kHz into 4Ω (LF), 4Ω (HF), 8Ω (LF) and 8Ω (HF).
BW 20Hz-20kHz.



Measured Level (W)

APPLICATION EXAMPLE

400 Watt + 100 Watt active loudspeaker



1 x NCAS500MP + DSP3-213

PROTECTIONS

Advanced overcurrent protection
DC protection
Over temperature protection
Short circuit protection

POSSIBLE APPLICATIONS

Monitor loudspeakers for studios
Active PA loudspeakers
Active HiFi loudspeakers

DSP Family

Hypex Electronics develops DSP solutions for audio system integration, covering both hardware and configuration software. The Hypex Filter Design software is used to configure Series 3 DSP modules and Fusion Amplifier products. The software supports system setup, filter design and parameter control for supported hardware platforms.

DSP3-213: MONO AND 3-WAY DSP MODULE

The DSP3 213 is a Series 3 mono DSP module based on the Analog Devices ADAU1452. It is designed for use with the Mains Powered NCORE® amplifier module family and supports mono or three way active loudspeaker configurations.

The module can be expanded with optional input boards such as DIGin3 322 for digital audio inputs or SUBin3 110 for subwoofer applications. Configuration is performed using Hypex Filter Design software, supporting both IIR and FIR filtering.

Multiple DSP3 213 modules can be combined in a master-slave configuration for stereo or 2.1 systems. The module supports multiple presets for different filter sets, input selections and level offsets. Additional functions include auto signal detect and configurable standby behaviour. The same DSP platform is also used in the Fusion Amplifier family.

DSP3-224: STEREO AND 4-WAY DSP MODULE

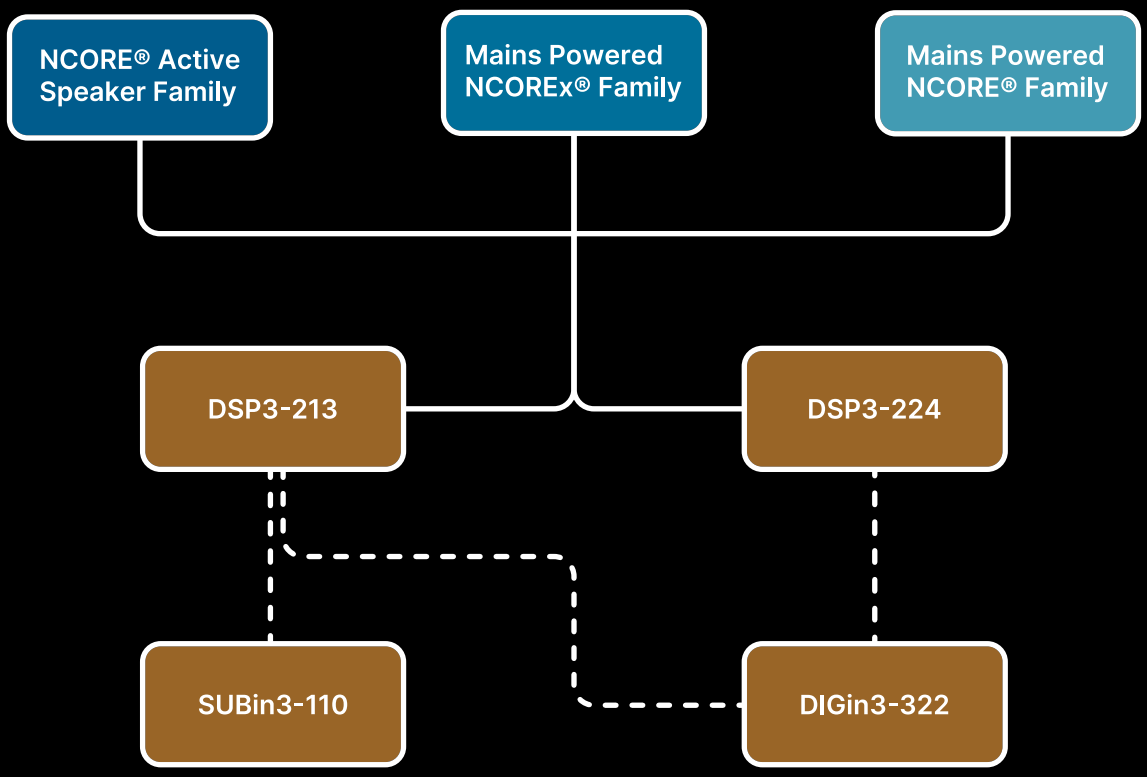
The DSP3 224 is a Series 3 stereo DSP module based on the ADAU1452 and is optimised for use with the Mains Powered NCORE® amplifier module family. It supports stereo DSP processing or four way active loudspeaker configurations.

Like the DSP3 213, the DSP3 224 is configured using Hypex Filter Design software and supports optional expansion with the DIGin3 322 digital input board. The outputs can be configured for bridge tied load operation when used with suitable two channel amplifier modules.

The DSP3 224 includes functions such as auto signal detect, configurable standby settings and equalisation. It is intended for applications requiring integrated DSP processing in active loudspeaker and amplifier system designs.

DSP Family

DSP COMPATIBILITY



AVAILABLE MODULES

Module name	Channels	Compatibla add-ons
DSP3-213	1 in / 3 out	SUBin3-110 / DIGin3-322 / Fusion OLED Display / Hypex Remote Control
DSP3-224	2 in / 4 out	DIGin3-322 / Fusion OLED Display / Hypex Remote Control

Hypex Filter Design

Hypex Filter Design software is a configuration tool for Hypex DSP products. It is used to configure and control Fusion Amplifier products and the DSP3-213 and DSP3-224 DSP modules.

The software allows configuration of signal routing, filter structures and system parameters supported by the connected DSP hardware. Both IIR and FIR filter options can be configured where supported by the target platform.

Hypex Filter Design provides access to available DSP functions through a graphical user interface intended to support efficient system setup and adjustment. The software is designed to support both initial configuration and subsequent parameter updates during system development and integration.

Hypex Filter Design is intended for use in active loudspeaker systems and DSP based audio designs where direct control over filtering and system behaviour is required.

ESSENTIAL FUNCTIONS

Volume Control: Adjust volume levels with precision.

Channel Assignment: Customize channel configurations effortlessly.

Microphone Correction: Apply correction data for accurate sound reproduction.

Filter Sum View: Visualize the combined effect of applied filters.

Filter Inversion: Invert filter functions for creative control.

Delay Control: Fine-tune audio synchronization with delay options.

Graph Smoothing: Enhance visual representation with smoothing capabilities.

Biquad Filter Setups: Explore a wide range of filter setups for diverse audio scenarios.

Phase Response Viewer: Gain insights into phase response for meticulous system tuning.

Compatibility: HFD is designed to seamlessly integrate with DSP3-213 and DSP3-224, ensuring a broad spectrum of compatibility with Hypex DSP products.

Use of Hypex Filter Design software assumes basic knowledge of active loudspeaker design and the application of digital filters. This ensures that system parameters are configured correctly and that the available DSP functions are used as intended.

The software allows adjustment of system parameters such as volume levels, filter settings and signal routing within the supported DSP products. It is intended as a configuration and tuning tool for DSP based audio systems rather than an automated design environment.

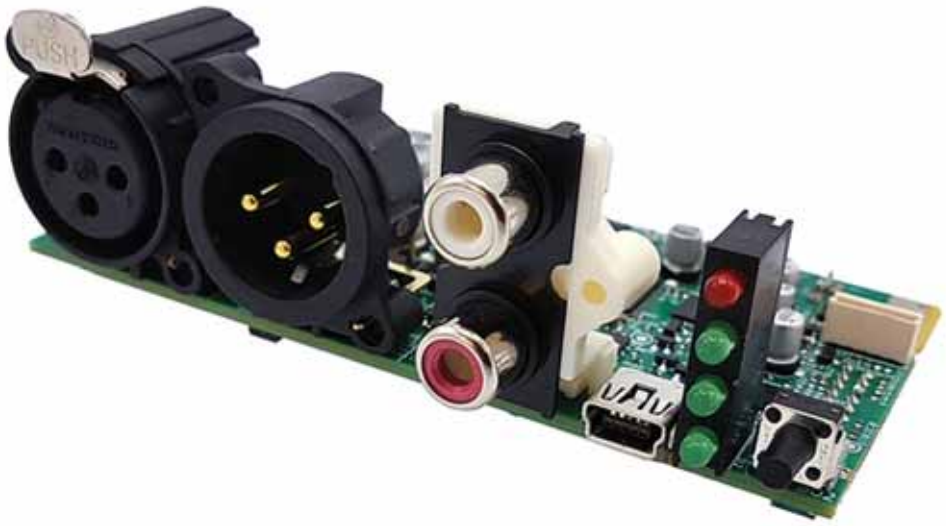
Hypex Filter Design is used to support precise control over DSP settings during system development, commissioning and optimisation.

Hypex Filter Design

STARTUP SCREEN

DEVICE SETTINGS SCREEN

DSP3-213 - Mono and 3-way DSP module



HFD Hypex Filter Design

The DSP3-213 is a mono DSP module based on the Analog Devices ADAU1452. It is intended for use with mains powered NCORE® amplifier power modules and Fusion amplifier platforms. The module supports mono and 3-way active loudspeaker configurations.

Signal processing is configured using Hypex Filter Design software and supports both IIR and FIR filters. Multiple presets can be stored for different filter sets, input selections and gain settings. The DSP3-213 supports features such as auto signal detect and configurable standby behaviour.

The module can be expanded with optional input boards, such as digital input or subwoofer input modules. Multiple DSP3-213 units can be configured in a master-slave setup for stereo or 2.1 systems.

Typical applications include active loudspeakers, studio monitors and integrated amplifier systems where a compact mono DSP solution is required.

HIGHLIGHTS

Three channel active filtering
One FIR (4500 taps) or three (1500 taps per channel) per preset
Compatible with NCMP and NCAS series
Three programmable presets
Compatible with OLED Display

FEATURES

Configurable Soft clip limiter
IIR & FIR capable
Programmable with Hypex Filter Design (HFD)
Automatic source selection
Automatic signal detection
Optional IR remote control

DSP3-213 - Data

Item	Min	Typ	Max	Unit	Notes
Input Level XLR		18 (6.15)		dBu (Vrms)	Default gain setting, both jumpers not set
		9 (2.18)		dBu (Vrms)	Both jumpers set
Input Level RCA		9 (2.18)		dBu (Vrms)	Default gain setting, both jumpers not set
		2 (0.98)		dBu (Vrms)	Both jumpers set
Signal / Noise Ratio		-109		dB	Analog in
Distortion		-100		dB	Analog in
Analog Latency		350		µs	
Digital Latency		1.8		ms	96kHz input sample rate
DSP & ADC Sampling Rate		93.75		kHz	
Delay Per Channel	0		32	ms	
Input Channels		2			
Output Channels		3			
DSP		ADAU1452			
ADC		AK5554			
ADC Bit Depth		24			
DAC		AK4454			
Filter Options		IIR / FIR		HFD	

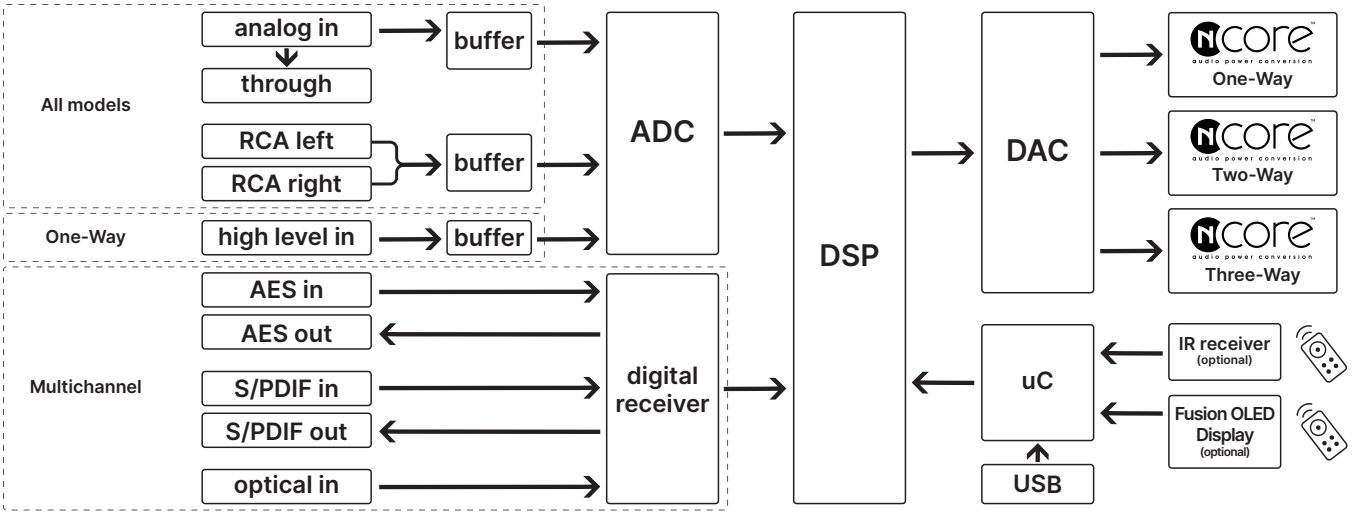
COMPATIBLE MODULES

SUBin3-110 / DIGin3-322 / NCORE® Active Speaker Family / Mains Powered NCOREx® Family / Mains Powered NCORE® Family

SIZE AND WEIGHT

91.3 × 47 × 32.7 mm (LxWxH), 55 g

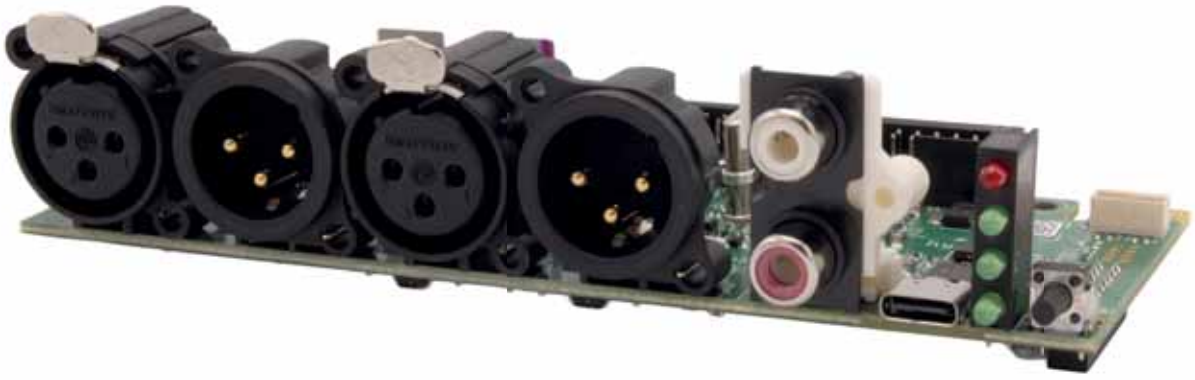
BLOCK DIAGRAM



POSSIBLE APPLICATIONS

High-end consumer audio
Active loudspeakers
Subwoofers
PA systems
Studio monitors

DSP3-224 - Stereo and 4-way DSP module



HFD Hypex Filter Design

The DSP3-224 is a stereo DSP module based on the Analog Devices ADAU1452. It is designed for use with mains powered NCORE® amplifier power modules and supports stereo processing or 4-way active loudspeaker configurations.

Filter design and system configuration are handled via Hypex Filter Design software, with support for IIR and FIR filters. Output routing allows flexible assignment, including BTL operation when connected to compatible two channel amplifiers.

The DSP3-224 supports optional digital input expansion and includes auto signal detect and adjustable standby functionality. Multiple presets can be stored for different system configurations.

The module is suitable for stereo active loudspeakers, multi way active systems and compact DSP controlled power amplifier designs.

HIGHLIGHTS

Four channel active filtering
Stereo input XLR & RCA
Stereo input FIR (2048 taps) or four mono output FIR (1024 taps per channel)
Compatible with NCMP and NCAS series
Three programmable presets

FEATURES

Configurable Soft clip limiter
IIR & FIR capable
Programmable with Hypex Filter Design (HFD)
Automatic source selection
Automatic signal detection
Optional IR remote control

DSP3-224 - Preliminary data

Item	Min	Typ	Max	Unit	Notes
Input Level XLR		18 (6.15)		dBu (Vrms)	Default gain setting, both jumpers not set
		9 (2.18)		dBu (Vrms)	Both jumpers set
Input Level RCA		9 (2.18)		dBu (Vrms)	Default gain setting, both jumpers not set
		2 (0.98)		dBu (Vrms)	Both jumpers set
Signal / Noise Ratio		-109		dB	Analog in
Distortion		-100		dB	Analog in
Analog Latency		350		µs	
Digital Latency		1.8		ms	96kHz input sample rate
DSP & ADC Sampling Rate		93.75		kHz	
Delay Per Channel	0		10	ms	75ms for all channels
Input Channels		2			
Output Channels		4			
DSP		ADAU1452			
ADC		AK5554			
ADC Bit Depth		24bit			
DAC		AK4454			
SRC		SRC4382			
Filter Options		IIR / FIR		HFD	

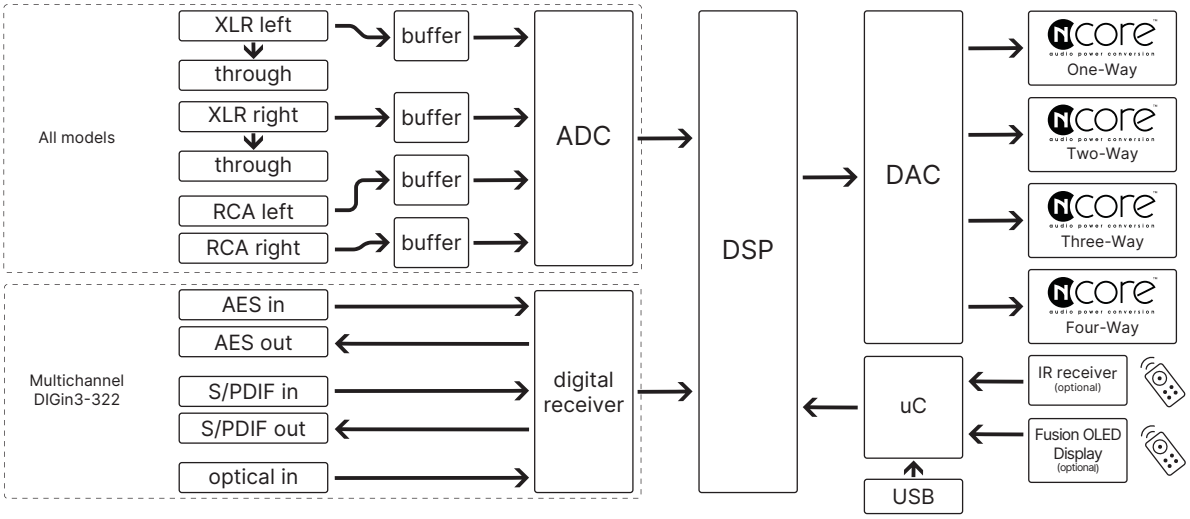
COMPATIBLE MODULES

DIGin3-322 / NCORE® Active Speaker Family / Mains Powered NCOREx® Family / Mains Powered NCORE® Family

SIZE AND WEIGHT

138 × 53 × 32.7 mm (LxWxH), 80 g

BLOCK DIAGRAM



POSSIBLE APPLICATIONS

High-end consumer audio

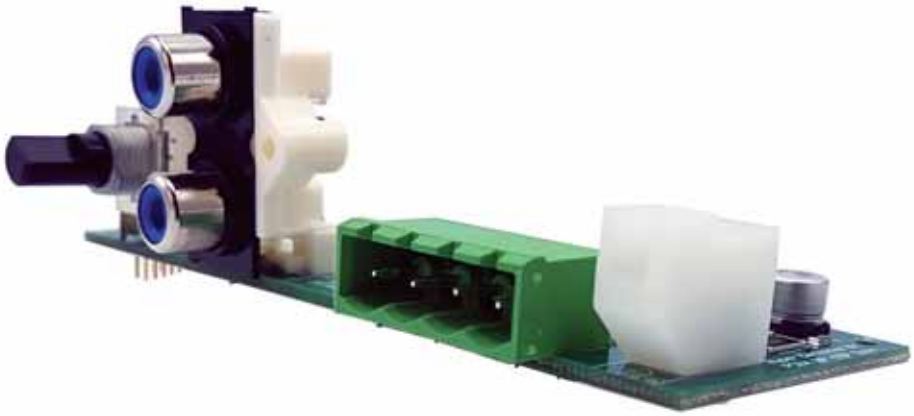
Stereo power and integrated amplifiers

Active loudspeakers

PA systems

Studio monitors

SUBin3-110 - High-level input for DSP3-213



The SUBin3-110 is an analogue input expansion module designed for use with the DSP3 series. It provides high level and low level subwoofer input functionality.

The module allows integration of external subwoofer signals into DSP controlled systems without additional analogue processing stages. Configuration is handled within the DSP environment using Hypex Filter Design software.

The SUBin3-110 is intended for use in active loudspeaker systems and subwoofer integrated designs.

HIGHLIGHTS

High-level inputs

FEATURES

Volume control

SUBin3-110 - Data

Item	Min	Typ	Max	Unit	Notes
Input Level High Level		34		dB	Default attenuation setting
Knob Gain Adjust	- 12		+ 12	dB	Relative to master volume

COMPATIBLE MODULES

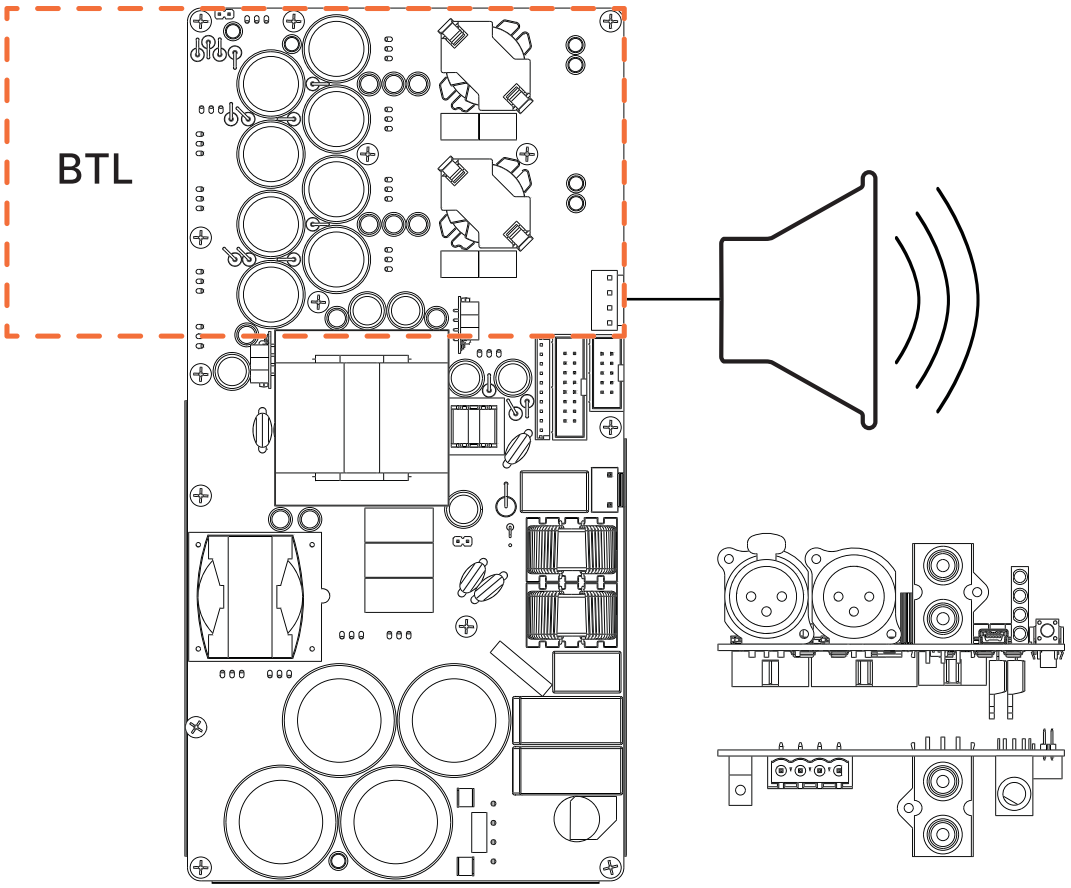
DSP3-213

SIZE AND WEIGHT

91.3 × 35 × 29.6 mm (LxWxH), 27 g

APPLICATION EXAMPLE

1000 Watt active subwoofer



1 x NC502MP + 1 x DSP3-213 + 1 x SUBin3-110

POSSIBLE APPLICATIONS

High-end consumer audio
Active loudspeakers
Subwoofers
PA systems
Studio monitors

DIGin3-322 - Digital input board for DSP3-series

The DIGin3-322 is a digital input expansion module for the DSP3 series. It provides digital audio input functionality for systems requiring direct digital signal routing into the DSP.

The module supports integration with DSP3-213 and DSP3-224 units and is configured through Hypex Filter Design software. It is intended for systems where digital sources are used directly, reducing the need for external digital to analogue conversion.

Typical applications include active speakers, integrated amplifiers and DSP based audio systems with digital sources.

HIGHLIGHTS

AES input and output

SPDIF input and output

Optical input

Low jitter

FEATURES

Maximum optical sample rate: 96kHz

Maximum SPDIF & AES sample rate: 192kHz (S/PDIF preferable max. 96kHz)

DIGin3-322 - Data

Item	Typ	Unit	Notes
Signal/Noise ratio	-111	dB	Digital in
Distortion	-100	dB	Digital in
Supported sample rates	32 /44.1 / 48 / 88.2 / 96 / 192	kHz	
Digital latency	1.8	ms	96kHz
SRC	SRC4382		

COMPATIBLE MODULES

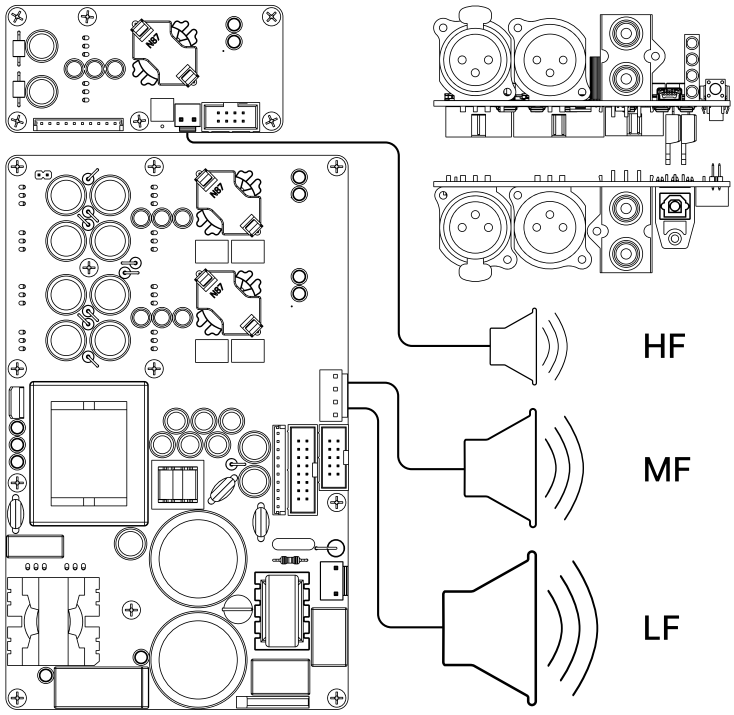
DSP3-213 / DSP3-224

SIZE AND WEIGHT

91.3 × 35 × 29.6 mm (LxWxH), 37 g

APPLICATION EXAMPLE

3-way active speaker



1 x NC100HF + 1 x NC252MP + 1 x DSP3-213 + 1 x DIGin3-322

POSSIBLE APPLICATIONS

High-end consumer audio
Active loudspeakers
Subwoofers
PA systems
Studio monitors


OEM PreAmplifier

Hypex PreAmplifier Family

The Hypex Preamplifier Family is a modular preamplifier platform designed for OEM audio applications where signal control and system integration are required. The platform is intended to complement the Hypex amplifier and DSP ranges and provides central management of analogue and digital audio signals.

The preamplifier modules are designed for integration in active loudspeakers, integrated amplifiers and standalone preamplifier products. The architecture supports a range of system configurations, from purely analogue signal paths to designs incorporating digital control and expansion.

A modular construction allows manufacturers to select and combine functionality according to application requirements. This approach supports scalable designs and allows future extensions without changes to the core platform.

The Hypex Preamplifier Family focuses on predictable electrical behaviour, defined functionality and long term reliability. It is intended as a front end signal management solution for OEM audio products requiring controlled integration and consistent performance.

AVAILABLE MODULES

Module name	Desription
OEM PreAmplifer Module	High-end analog and digital PreAmplifier core for integrated audio systems.
FusionConnect Add-on	Seamless integration with FusionAmp master-slave configurations

OEM PreAmplifier

The Hypex OEM PreAmplifier Module provides a fully analog preamplification stage intended for integration in a wide range of audio products. The design focuses on signal integrity and functional flexibility for use in OEM applications.

The module includes a 2.7 inch monochrome display with adjustable brightness and an on time standby mode to reduce power consumption when inactive. User control is provided by two rotary encoders and infrared remote control support.

Multiple analog and digital inputs are supported. Each input includes an individually adjustable gain offset to allow level matching between sources. Internal digital control manages input selection volume control and standby operation, while the audio signal path remains fully analog.

The OEM PreAmplifier Module is supplied as a bare modular electronics set without enclosure. It consists of multiple PCB assemblies and interconnect cables, allowing direct integration into custom OEM designs. This approach supports flexible mechanical integration in products such as integrated amplifiers and standalone preamplifiers.

HIGHLIGHTS

Fully analog signal path
2.7” monochrome adjustable display
Individually adjustable gain offsets per input
Infrared remote control compatibility
Energy-efficient on-time standby mode
Integrated digital management of analog switching and volume
Power status LED indicator

OEM PreAmplifier - Data

Item	Typical Value	Unit	Notes
Input/Output level	4	Vrms	
Bandwidth	>70k	Hz	
THD+N @ 1kHz	<0.005%	%	4Vrms input/output
Signal-to-Noise Ratio (SNR)	>125	dB	Unweighted
Input Gain Adjustment Range	-15 to +15	dB	Adjustable per input
Volume Control Range	-70 to +13	dB	Step size 0.5dB
Input Impedance	100k	Ω	Standard line input
Output Impedance	<100	Ω	Line level
Headphone Output Impedance	<0.5	Ω	XLR/4 / TRS
Noise Floor	3µV (line) / 7.5µV (headphones)	V	Unweighted
Standby Power All Channels Total	<0.5	W	Standby
Supply Voltage Range	100 - 240	VAC	47-63Hz

OEM PreAmplifier - DAC Data

Item	Min	Typ	Max	Unit	Notes
Signal-to-Noise Ratio (SNR)			128.5	dB	
THD+N			-117.5	dB	-1dBFS
Dynamic range			127	dB	
Crosstalk			-147	dB	

Input	PCM support	DSD support	Notes
S/PDIF, Optical, AES/EBU	Up to 192kHz/24bits	No	
USB & Network[1)]	Up to 384kHz/32bits	DoP: Up to DSD 256 Native: Upto DSD 256	
Bluetooth	48kHz/16bits	No	

Note 1: Supported formats depend on the chosen streaming board and software.

COMPATIBLE MODULES

FusionConnect Add-on

SIZE AND WEIGHT

All modules of the OEM PreAmplifier, including the OEM FusionConnect Add-on, are designed to fit in a 435 mm wide Hi-Fi enclosure and is also compatible with a 19” rack space.

POSSIBLE APPLICATIONS

High-end stereo PreAmplifiers

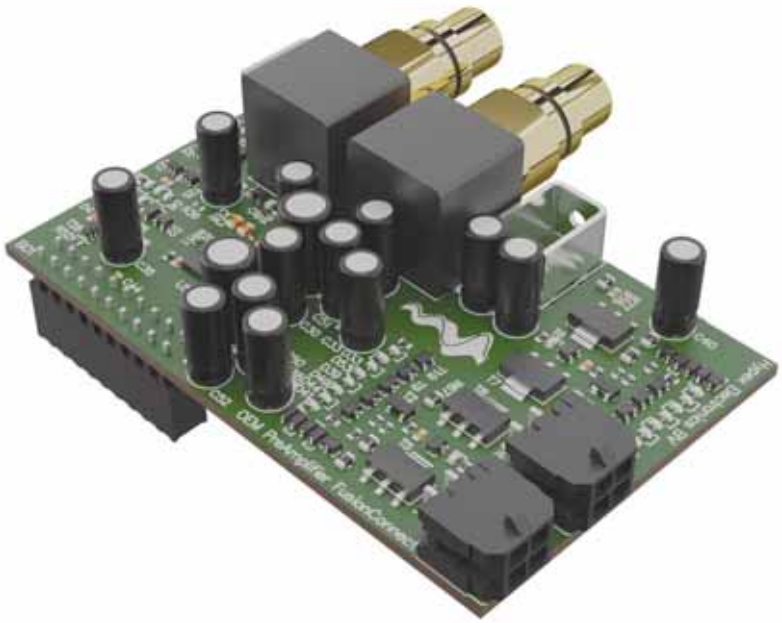
Integrated amplifier designs

Professional monitoring controllers

Home theatre PreAmplifier

OEM FusionConnect Add-on

EXPECTED Q1 2026



The FusionConnect add on enables digital integration between the Hypex OEM PreAmplifier Module and FusionAmp products. It provides a digital connection that forwards both digital and analogue input signals from the preamplifier to the connected amplifiers.

Analogue input signals are converted internally using an integrated analogue to digital converter before transmission. This conversion stage is intended to provide consistent signal quality when distributing analogue sources to FusionAmp based systems.

FusionConnect interfaces directly with the OEM PreAmplifier Module via a dedicated expansion connector. The add on is supplied as a modular PCB for direct integration and does not require additional external control or configuration.

The FusionConnect add on is intended for system designs that require centralised input handling and digital signal distribution between a preamplifier and multiple amplifier modules.

PreAmplifier

HIGHLIGHTS

Seamless integration with OEM PreAmplifier Module

High-resolution audio support

Compact, shielded design for EMI minimization

OEM FusionConnect Add-on - Data

Item	Symbol	Min	Typ	Max	Unit	Notes
Input level	Vin			14	dBu	(4 Vrms)
Distortion	THD+N			-112	dB	@-1dBFS
Signal-to-Noise-Ratio	SNR			119	dB	
Dynamic Range	DR			119	dB	
Channel crosstalk				-139	dB	
Bandwidth	Fc			40	kHz	
Note: All audio measuremetns are done with AES17 20kHz filter and no weighting						

Function	PCM support	DSD support	Notes
S/PDIF (Output)	93.75kHz/24bits	No	All formats, PCM and DSD are converted to PCM 93.75kHz

COMPATIBLE MODULES

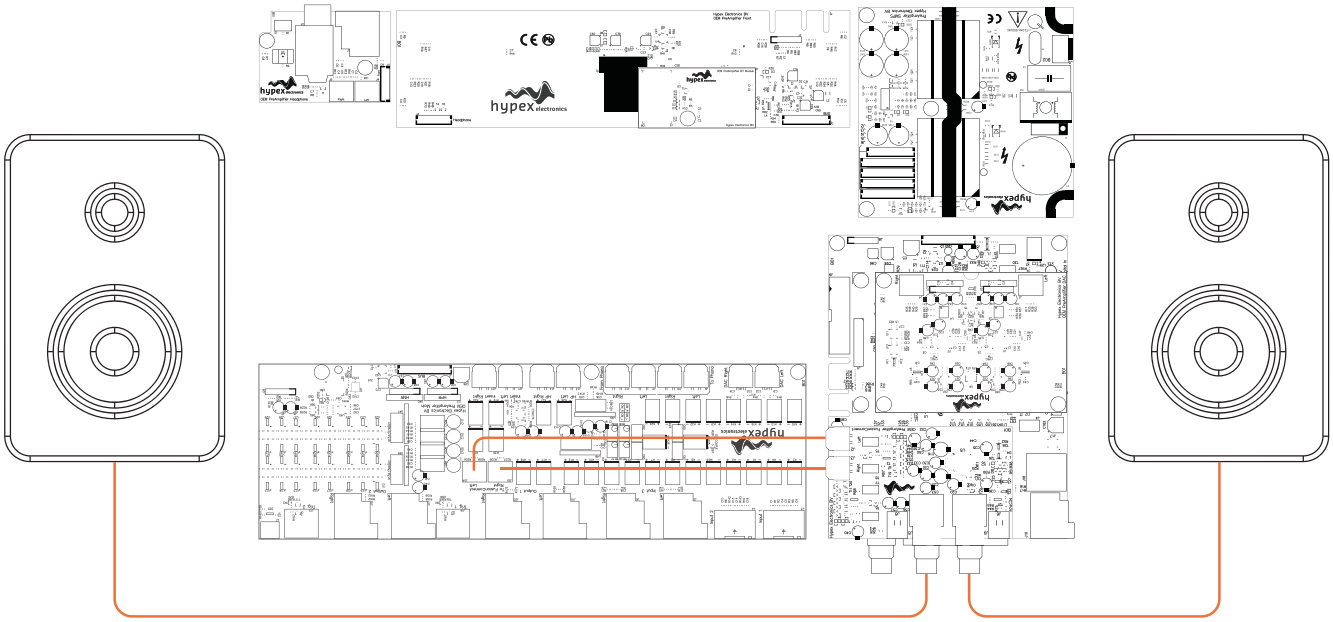
Hypex OEM PreAmplifier, FA122, FA123, FA251, FA252, FA253, FA501, FA502, FA503

SIZE AND WEIGHT

78.1 × 63 × 28.4 mm (LxWxH), TBD

APPLICATION EXAMPLE

High-end analog and digital PreAmplifier with headphone output and FusionConnect



1 x FusionConnect + 1 x Hypex OEM PreAmplifier + 2 x FusionAmp Active loudspeakers

FEATURES

Master-Slave setup with Hypex FusionAmps

POSSIBLE APPLICATIONS

Active speaker controller modules

Hybrid analog/digital audio systems

“It’s not just about amplification;
it’s about amplifying your brand.”

The ultimate turnkey integration

Hypex Fusion amplifiers are integrated amplifier modules intended to reduce development time for active loudspeaker and audio system designs. They combine amplification, power supply and DSP functionality in a single module to simplify system integration.

The Fusion amplifier platform is designed as a turnkey solution for active loudspeakers. The integrated architecture reduces external wiring and configuration complexity compared to discrete amplifier and DSP implementations. This supports faster product development and more predictable system behaviour.

Fusion amplifiers use Class D amplification combined with integrated DSP functionality. Power consumption is optimised through efficient amplifier topology and configurable DSP power management features, supporting low idle consumption while maintaining defined output capability.

The Fusion amplifier range is intended for manufacturers seeking a compact and integrated solution for active loudspeakers where electrical efficiency, functional integration and reduced time to market are key design requirements.

Fusion Amplifier Family

The Fusion Amplifier Family consists of integrated amplifier modules designed for active loudspeaker applications. Each module combines a switch mode power supply, digital signal processing and NCORE®-based Class D amplification in a single platform to simplify system integration.

The Fusion architecture integrates SMPS, DSP and amplification on one module. The DSP section provides configurable signal processing for active loudspeaker systems, while the NCORE®-based amplifier stages are designed to provide stable performance across varying load conditions with controlled distortion behaviour.

Fusion amplifiers are intended as a turnkey solution for active loudspeaker designs. The integrated approach reduces external wiring and system complexity compared to discrete implementations, supporting faster development and predictable system behaviour.

POWER CONFIGURATION

Dual channel Fusion amplifier variants can be configured in bridge tied load operation. This allows higher output power from a single amplifier module when required by the application. Distortion behaviour remains controlled across the operating range, including at low output levels.

CONFIGURATION AND CONTROL

The Fusion Amplifier Family supports multiple analogue and digital input options. Configuration of signal routing, filters and system parameters is performed using Hypex Filter Design software. Optional accessories such as the Fusion Remote Kit and Fusion OLED Display can be used for user control and status indication. Thermal management is handled internally to support stable operation under typical installation conditions.

The Fusion Amplifier Family is intended for manufacturers developing active loudspeakers where integrated amplification, DSP control and reduced system complexity are key design requirements.

CONFIGURATION OPTIONS

Multiple Fusion Amplifiers can be used in a master-slave configuration to create a stereo or a 2.1 system. Three presets are available to store different filter settings, inputs and volume offsets. In each preset either one 4500 tap FIR filter right after the input, or three 1500 tap FIR filters on the output (one for each channel), can be implemented.

KEY FEATURES

15 biquads per output channel

Three selectable presets for filters

Source selection

Signal detection

Automatic shutdown

Bridge-Tied Load (BTL) capable

Clip protection

Thermal protection

IIR and FIR filter options

OEM OPTIONS AVAILABLE:

Custom Faceplate Color:

Tailor the faceplate color to align with your brand or aesthetic preferences.

Custom Logo:

Personalize your product with your logo, reinforcing brand identity and recognition.

Contact us for additional customization options.

AVAILABLE MODULES

Module name	Configuration	Power 4Ω	Power 8Ω	Inputs
FA251	1 channel / 1-way	1 × 250W	1 × 130W	XLR, RCA, High level
FA501	1 channel / 1-way	1 × 500W	1 × 270W	XLR, RCA, High level
FA122	1 channel / 2-way	2 × 125W	2 × 75W	XLR, RCA, AES/EBU, SPDIF, Optical
FA252	1 channel / 2-way	2 × 250W	2 × 150W	XLR, RCA, AES/EBU, SPDIF, Optical
FA502	1 channel / 2-way	2 × 500W	2 × 350W	XLR, RCA, AES/EBU, SPDIF, Optical
FA123	1 channel / 3-way	2 × 125W + 1 × 100W	3 × 75W	XLR, RCA, AES/EBU, SPDIF, Optical
FA253	1 channel / 3-way	2 × 250W + 1 × 100W	2 × 150W + 1 × 100W	XLR, RCA, AES/EBU, SPDIF, Optical
FA503	1 channel / 3-way	2 × 500W + 1 × 100W	2 × 350W + 1 × 100W	XLR, RCA, AES/EBU, SPDIF, Optical

FA251 - 1 Channel / 1-way plate amplifier

The Fusion Amp FA251 is a mono amplifier module designed for one way active loudspeaker applications. It is intended for use in active subwoofers or single channel active monitors requiring integrated amplification and DSP control.

The module incorporates a single 250 W NCORE® Class D amplifier channel and an onboard DSP. Signal processing is configured using Hypex Filter Design software, allowing adjustment of filters, levels and system parameters for the intended application.

The FA251 supports multiple input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input and high level input. This allows connection to a range of source devices and amplifier outputs.

A front panel gain control is provided for level adjustment. Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and status indication.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA251 is intended for applications where a compact integrated amplifier and DSP solution is required for single channel active designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

280 × 120 × 55 mm (LxWxH), 725 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 1-way Loudspeakers

FA501 - 1 Channel / 1-way plate amplifier

The Fusion Amp FA501 is a mono amplifier module designed for one way active loudspeaker applications. It is suitable for use in active subwoofers or single channel active monitors requiring higher output power.

The module incorporates a single 500 W NCORE® Class D amplifier channel. The amplifier is intended to provide stable output for low frequency applications as well as full range one way loudspeaker designs.

The FA501 supports multiple input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input and high level input. This allows integration with a wide range of source equipment and system configurations.

A front panel gain control is provided for level adjustment. Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be combined in a master-slave configuration to form multi channel active loudspeaker systems. The FA501 is intended for applications where a compact integrated amplifier solution with higher power capability is required.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

280 × 135 × 55 mm (LxWxH), 925 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 1-way Loudspeakers

FA122 - 1 Channel / 2-way plate amplifier

The Fusion Amp FA122 is a mono two way amplifier module designed for active loudspeaker applications. It is intended as an integrated solution for systems requiring separate amplification channels for low and high frequency drivers.

The module incorporates two 125 W NCORE® Class D amplifier channels and an onboard DSP. Signal processing is configured using Hypex Filter Design software, allowing adjustment of filters, levels and system parameters for two way active loudspeaker designs.

The FA122 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of analogue and digital audio sources.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA122 is intended for applications where compact integration of amplification and DSP is required for two way active loudspeaker designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

315 × 120 × 55 mm (LxWxH), 815 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 2-way Loudspeakers

FA252 - 1 Channel / 2-way plate amplifier

The Fusion Amp FA252 is a mono two way amplifier module designed for active loudspeaker applications. It is intended for systems requiring higher output power with separate amplification channels for low and high frequency drivers.

The module incorporates two 250 W NCORE® Class D amplifier channels and an onboard DSP. Signal processing is configured using Hypex Filter Design software, allowing adjustment of cross-over filters, levels and system parameters for two way active loudspeaker designs.

The FA252 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of source equipment.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA252 is intended for applications where compact integration of higher power amplification and DSP is required for two way active designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

315 × 135 × 55 mm (LxWxH), 1000 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 2-way Loudspeakers

FA502 - 1 Channel / 2-way plate amplifier

The Fusion Amp FA502 is a mono two way amplifier module designed for active loudspeaker applications requiring high output power. It is intended for systems with separate amplification channels for low and high frequency drivers.

The module incorporates two 500 W NCORE® Class D amplifier channels and an onboard DSP. Signal processing is configured using Hypex Filter Design software, allowing adjustment of cross-over filters, levels and system parameters for two way active loudspeaker designs.

The FA502 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of analogue and digital audio sources.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA502 is intended for applications where compact integration of high power amplification and DSP is required for two way active designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

380 × 150 × 90 mm (LxWxH), 2105 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 2-way Loudspeakers

FA123 - 1 Channel / 3-way plate amplifier

The Fusion Amp FA123 is a mono three way amplifier module designed for active loudspeaker applications. It is intended for systems requiring separate amplification channels for low, mid and high frequency drivers.

The module incorporates three NCORE® Class D amplifier channels, consisting of two 125 W channels and one 100 W channel. An onboard DSP provides signal processing for three way active loudspeaker configurations. Configuration is performed using Hypex Filter Design software, allowing adjustment of crossover filters, levels and system parameters.

The FA123 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of analogue and digital audio sources.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA123 is intended for applications where compact integration of multi channel amplification and DSP is required for three way active loudspeaker designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

360 × 120 × 55 mm (LxWxH), 955 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 3-way Loudspeakers

FA253 - 1 Channel / 3-way plate amplifier

The Fusion Amp FA253 is a mono three way amplifier module designed for active loudspeaker applications requiring higher output power. It is intended for systems with separate amplification channels for low, mid and high frequency drivers.

The module incorporates three NCORE® Class D amplifier channels, consisting of two 250 W channels and one 100 W channel. An onboard DSP provides signal processing for three way active loudspeaker configurations. Configuration is performed using Hypex Filter Design software, allowing adjustment of crossover filters, levels and system parameters.

The FA253 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of analogue and digital audio sources.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA253 is intended for applications where compact integration of higher power multi channel amplification and DSP is required for three way active loudspeaker designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

360 × 135 × 55 mm (LxWxH), 1145 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 3-way Loudspeakers

FA503 - 1 Channel / 3-way plate amplifier

The Fusion Amp FA503 is a mono three way amplifier module designed for active loudspeaker applications requiring very high output power. It is intended for systems with separate amplification channels for low, mid and high frequency drivers.

The module incorporates three NCORE® Class D amplifier channels, consisting of two 500 W channels and one 100 W channel. An onboard DSP provides signal processing for three way active loudspeaker configurations. Configuration is performed using Hypex Filter Design software, allowing adjustment of crossover filters, levels and system parameters.

The FA503 supports a range of analogue and digital input options, including balanced analogue XLR input and loop through, unbalanced analogue RCA input, digital AES input and loop through, digital S/PDIF input and loop through, and optical Toslink input. This allows integration with a wide range of analogue and digital audio sources.

Optional accessories such as the Fusion Remote Kit or Fusion OLED Display can be used for remote control and system feedback.

Multiple Fusion Amp modules can be configured in a master-slave arrangement to form multi channel active loudspeaker systems. The FA503 is intended for applications where compact integration of very high power multi channel amplification and DSP is required for three way active loudspeaker designs.

COMPATIBLE MODULES

Fusion remote kit + Hypex remote

Fusion OLED display + Hypex remote

SIZE AND WEIGHT

420 × 150 × 90 mm (LxWxH), 2275 g

FEATURES

IIR and FIR filter options

15 biquads per amplifier

Three selectable presets for filters

Source selection

Signal detect

Auto shutdown

Master-Slave option

PROTECTIONS

Clip protection

Thermal protection

POSSIBLE APPLICATIONS

Active Subwoofers

Active Guitar Cabinets

Active Monitor Loudspeakers

Active 3-way Loudspeakers


S/N
CAUTION - RISK OF ELECTRIC SHOCK - DO NOT OPEN
PRECAUTION - RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR
ANALOG INPUTS & LINK
PRESETS & SERVICE
MASTER SLAVE
PROTECT
/ L
+ EXT / R
+ EXT*
XLR
LINK
RCA
AES
LINK
S/PDIF
OPTICAL
IN
OUT
DIGITAL INPUTS & LINK
XLR
EXT OUTPUT
ncore
audio power conversion
100 - 120V~ / 220 - 240V~
1500W Max. / 50Hz - 60Hz

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