



BITTNER

AUDIO

Bittner Audio – Quality that Goes beyond.

Amplifiers are made to deliver voltage and current. However, to achieve convincing results it takes a lot more than a few years of experimentation. In addition it asks for the determination to use only the finest quality components.

To achieve a transparent and well-balanced sound it takes great care and a production process that pays careful attention to the highest quality workmanship. All components will be of excellent quality and over-dimensioned in all important sections.



All Bittner Audio products are manufactured using the most modern production methods, focusing on the uncompromising application of quality management principles.

Since its foundation in 1989, Bittner Audio pursues the goal to meet the demanding requirements of the European market. Whether it be VDE 0828, EN 60849 or the new EN 54-16 standard, whether EMC, CE or TQM, Bittner strives to meet or exceed these standards and guidelines.

As Europeans we understand the needs and demands of our multi-national community. We are close by and try our very best to serve and to build a relation of trust and reliability with our valued customers.

Bittner Power Amplifiers

Meet the Highest Standards.

SMT circuit design

Clear and powerful sound and impulse response

»Discretely« designed power modules

Bittner Audio rejects the use of commercial hybrid building blocks

Protection circuitry for any conceivable situation

DC, HF, Infra Sound, Shorted Outputs, Open Outputs, Thermal Overload
Stable into reactive or mismatched loads

For event or installation

Operation mode(s):

- 100 V/constant voltage units: Stereo/Parallel operating mode
- Low impedance units: Stereo/Bridge/Parallel operating mode

All connectors (mains, inputs, outputs) detachable

LED indicators for SIGNAL, CLIP, PROTECT, POWER

Low noise variable speed fans

Suitable for studio control rooms

Perfect weight/output power ratio

Load protection:

On/Off muting, DC-fault power supply shutdown

All models only 2 RU

Softstart*

Alive contacts*

Sequential remote power On/Off*

High-end, high efficiency switched power supplies with PFC*

Separate individual channels on all multi-channel amplifier models*

EQ slot*

Dante® networking (4Xi / 4Xe)

Two separate power supplies for high operational safety of multi-channel amplifiers (4X DUAL, 8X)

24 volts operation (XV DC, 4DXV)

DC power-fail signalization (XV DC)

Floating 100 volts direct outputs (4DXV)

High-end DSP (XR)

3 years warranty

*not applicable in some products

Bittner Power Amplifiers: **Greater than the Sum of their Parts.**



BASIC

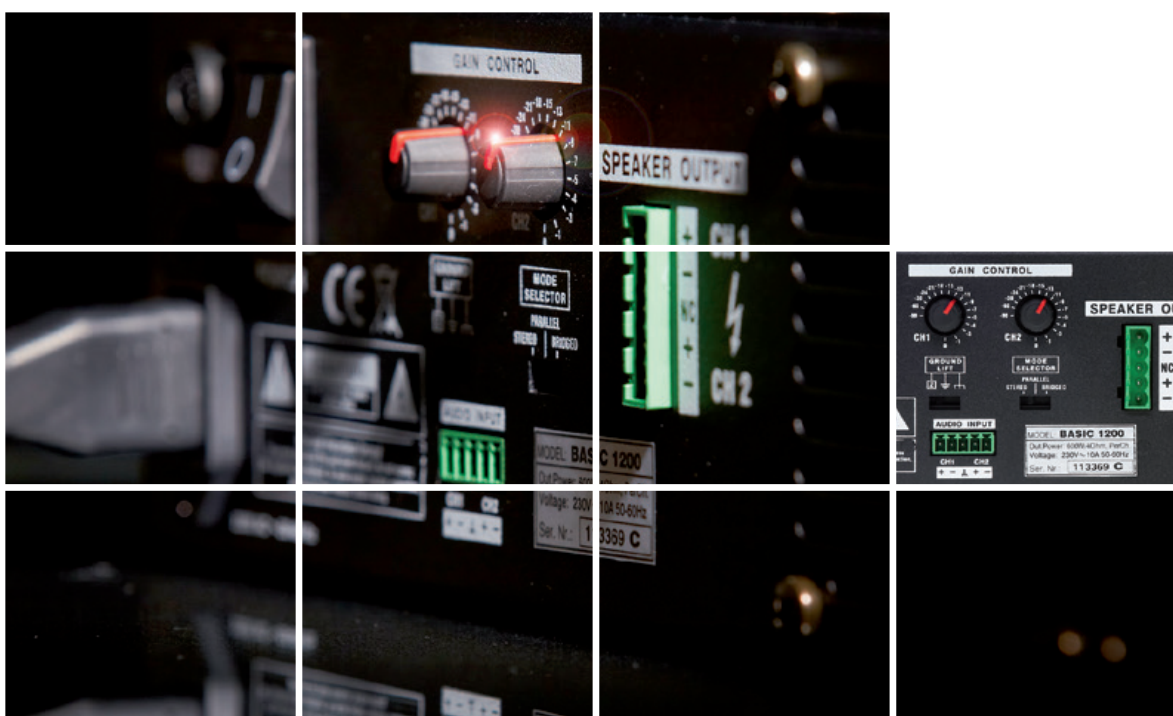
No Compromises!



Meeting the tightest budgets and professional requirements in reliability, flexibility, and sound.

Alone or in combination with other products of the Bittner portfolio.

First-rate workmanship and the use of high-class components made the BASIC Series a standard and the choice of many contractors worldwide.



BASIC 400	2 x 250 watts @ 4 Ω
BASIC 800	2 x 490 watts @ 4 Ω
BASIC 1200	2 x 840 watts @ 4 Ω

- Ground lift
- Analog volume controls
- Stable steel chassis
- BASIC 400/800 only 32 cm (12.6") deep

XB

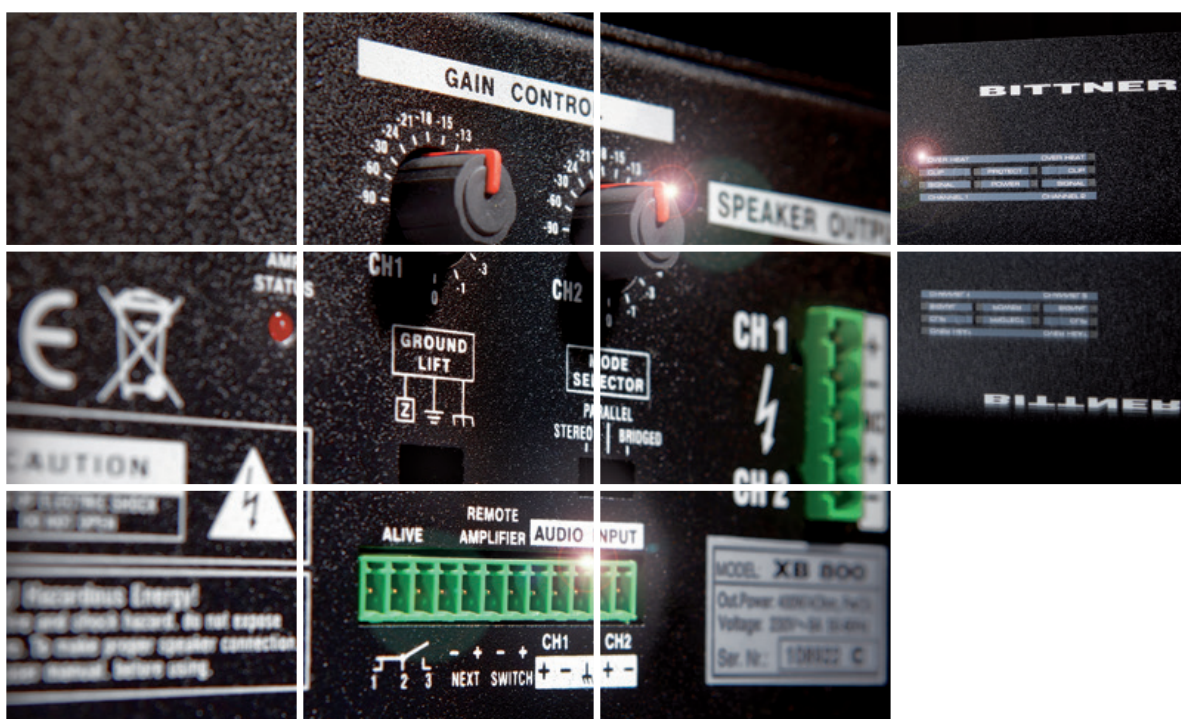
Straight. Powerful!




Versatile, dynamic, stable. For a maximum in operational safety and quality.

Sequential remote power On/Off and an alive contact to provide permanent evaluation of its operational condition. The XB solves all jobs.

One-for-All!



	
XB 800	2 x 530 watts @ 4 Ω
XB 1600	2 x 1250 watts @ 2 Ω
XB 2500	2 x 1570 watts @ 2 Ω

- XB 1600/2500: High-end, high power SMPS with PFC
- Ground lift
- Analog volume controls
- Sequential remote power On/Off
- Alive contact

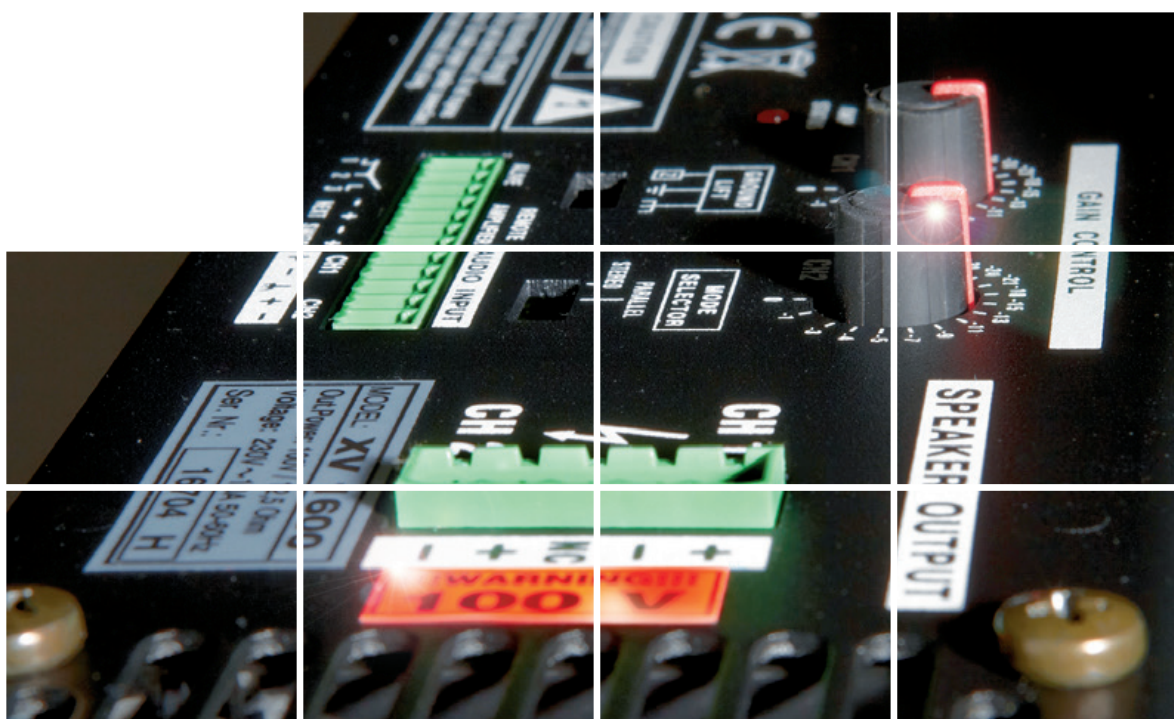
XV

Power for Professionals.



**Made for PA/VA applications, BGM, music and acoustic alarm signals.
Stable, constantly monitored, versatile, and dynamic.**

Needless to say that the XV high-end toroidal output transformers are some of the very best. The XV effortlessly deals with all situations and jobs.



XV 200	2 x 100 watts / 100 V
XV 400	2 x 200 watts / 100 V
XV 600	2 x 300 watts / 100 V
XV 1000	2 x 500 watts / 100 V
XV 1600	2 x 800 watts / 100 V

- Ground lift
- Analog volume controls
- Sequential remote power On/Off
- Alive contact
- High-end toroidal output transformers

XV DC

When the Going Gets Tough.

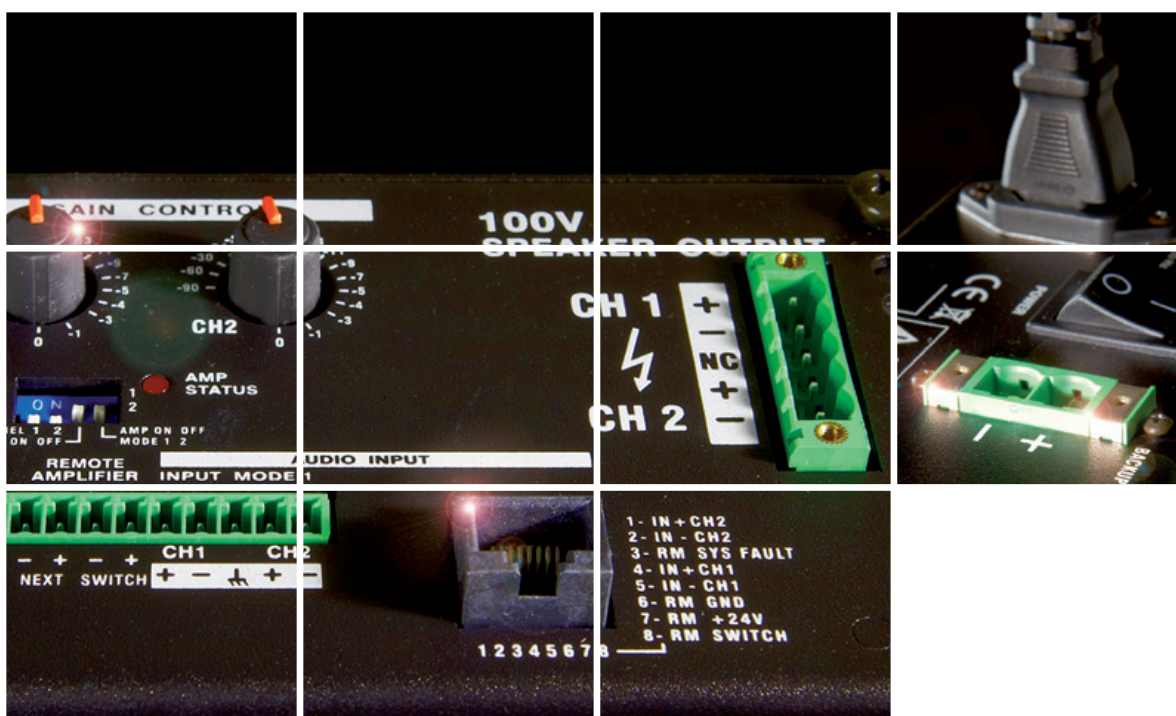


Sovereign dependability and seamless switching over to 24 VDC in case of a loss of mains power. Without diminishing its performance or a reduction of output power.

In accordance with the most stringent safety regulations (EN 54-16).

Designed for voice evacuation, public announcements and background music (BGM) with uncompromised audio performance.

Reliability has a new face.



XV 500 DC	2 x 250 watts / 100 V
XV 1000 DC	2 x 500 watts / 100 V

- 24 volts backup power
- High power, high efficiency SMPS with PFC
- Analog volume controls
- Sequential remote power On/Off
- Alive contact
- DC power-fail signalization
- High-end toroidal output transformers

4DXV

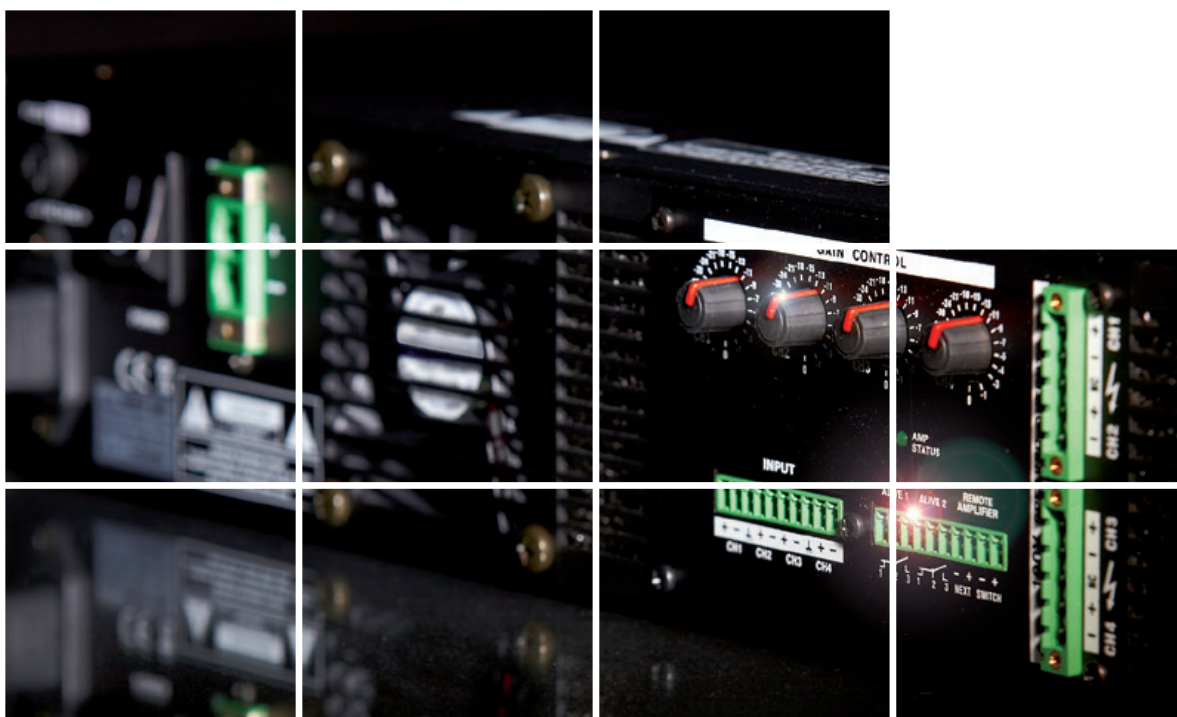
Exceeding Expectations.



A class of its own. Class D amplifier modules made of discrete components and circuits! No pre-fabricated building blocks. Powerful without any losses even under the most demanding conditions.

Its reduced weight due to floating 100 volts direct outputs (transformerless) will allow for a cost effective installation. In addition, Bittner's High Efficiency Technology reduces the energy consumption to a minimum.

Ask for more.



4DXV 250	4 x 250 watts / 100 V
4DXV 500	4 x 500 watts / 100 V

- Class D
- 100 volts floating direct outputs
- 24 volts backup power
- High power, high efficiency SMPS with PFC
- Clip limiter
- Analog volume controls
- Sequential remote power On/Off
- 2 alive contacts

8X

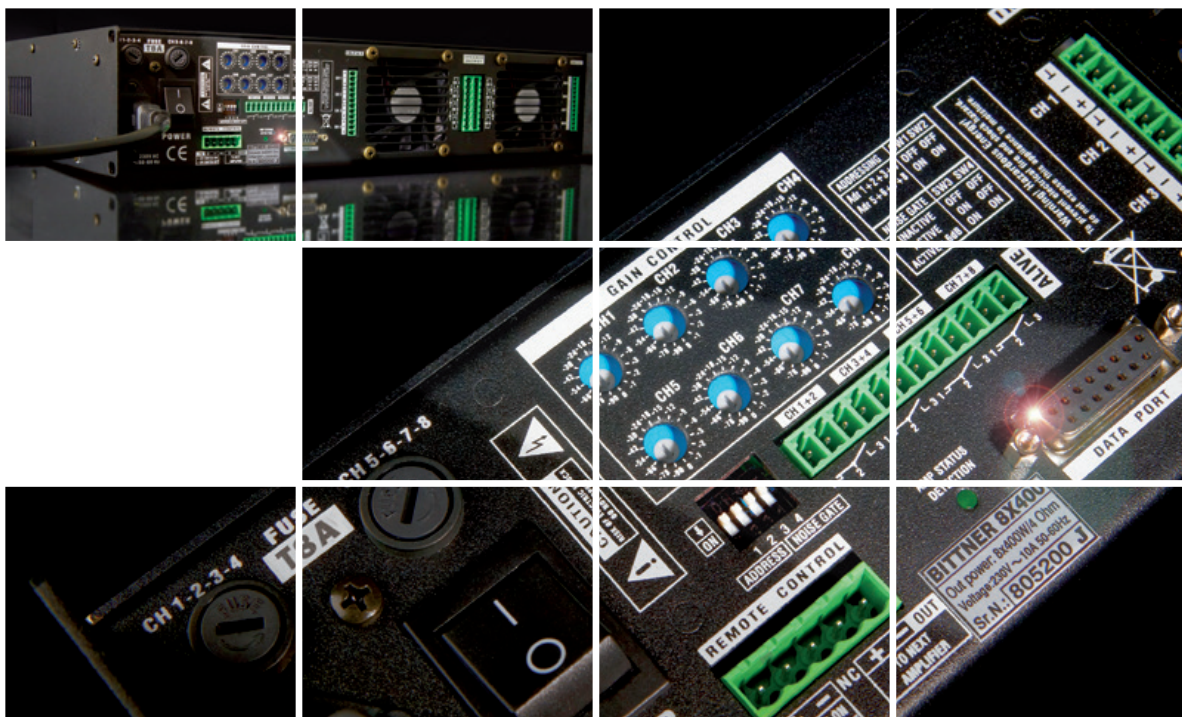
Setting Standards.



Multiple reliability. Meeting the highest demands in sound and flexibility.

With two separate power supplies, an integrated noise gate per channel, sequential remote power On/Off, alive contacts for every channel pair, and computer control.

To master a complete installation with only one power pack – that's what we call a standard.



8X 200	8 x 250 watts @ 4 Ω
8X 400	8 x 490 watts @ 4 Ω

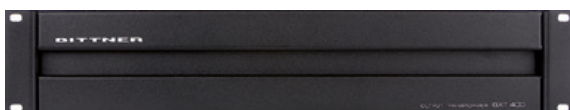
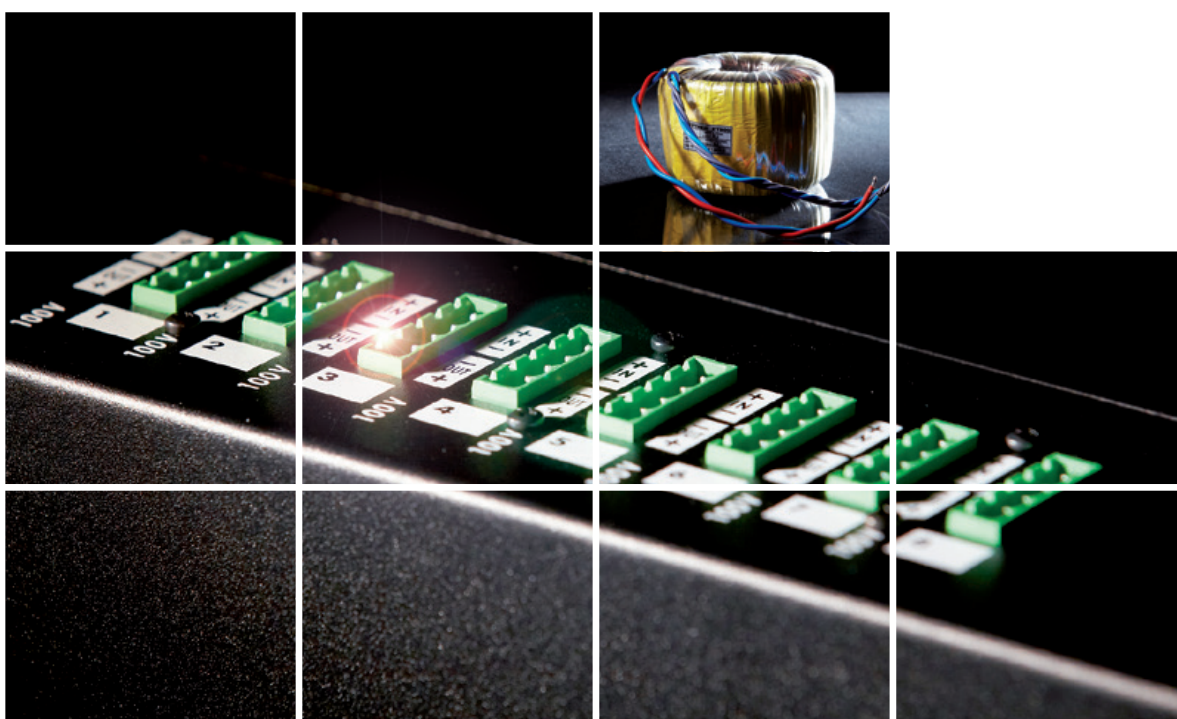
- 2 separate power supplies
- 4 alive contacts
- Wear-free digital volume controls
- Sequential remote power On/Off
- Data port (I²C)
- Noise gate (switchable)

XT / 8XT

Simply the Best.

Perfect frequency response and sound. Individually tested.

For the use in XV und XV-DC series and as the ideal complementary product for the 8X multi-channel amplifiers.



XT 100 – XT 800	1 x 100 – 1 x 800 Watt / 100 V
8XT 200	8 x 200 watts / 100 V
8XT 400	8 x 400 watts / 100 V

- XT: High quality torodial output transformers for XV and XV-DC or as stand-alone products
- 8XT: 2 RU – multi-channel chassis matching the power rating of the 8X Series
- Ultra linear frequency response
- Flux free quality
- 4 ohms input impedance

4Xi / 4Xe

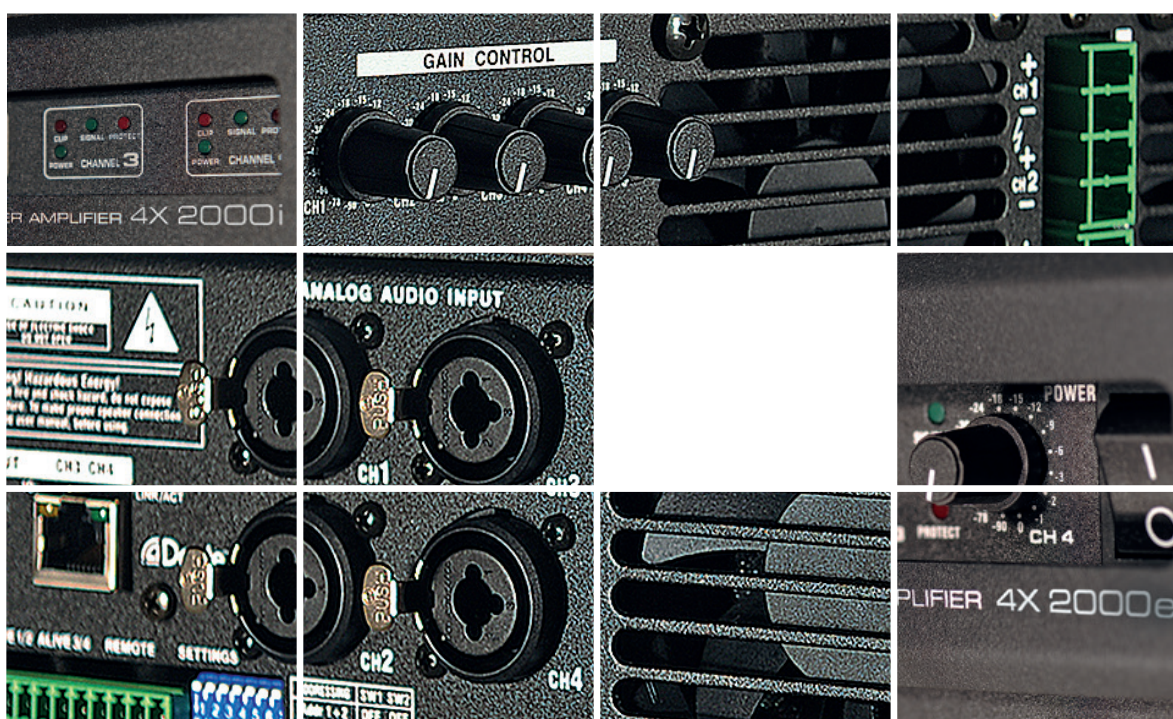
Groundbreaking. For Event and Installation.



More than just power. 4x top sound. Solid.

Audio networking with Dante®. Control, diagnostics, configuration: Internet.

Sometimes answers come easy.



4X 1200 i/e

4 x 1400 Watt @ 2 Ω

4X 2000 i/e

4 x 2000 Watt @ 2 Ω

- 2 versions: event (e) and installation (i)
- 4-channel Dante® inputs (optional)
- Selectable Clip limiter (hard/soft)
- Impedance monitoring
- 2 alive contacts
- Data port (RS485)
- Sequential remote power On/Off

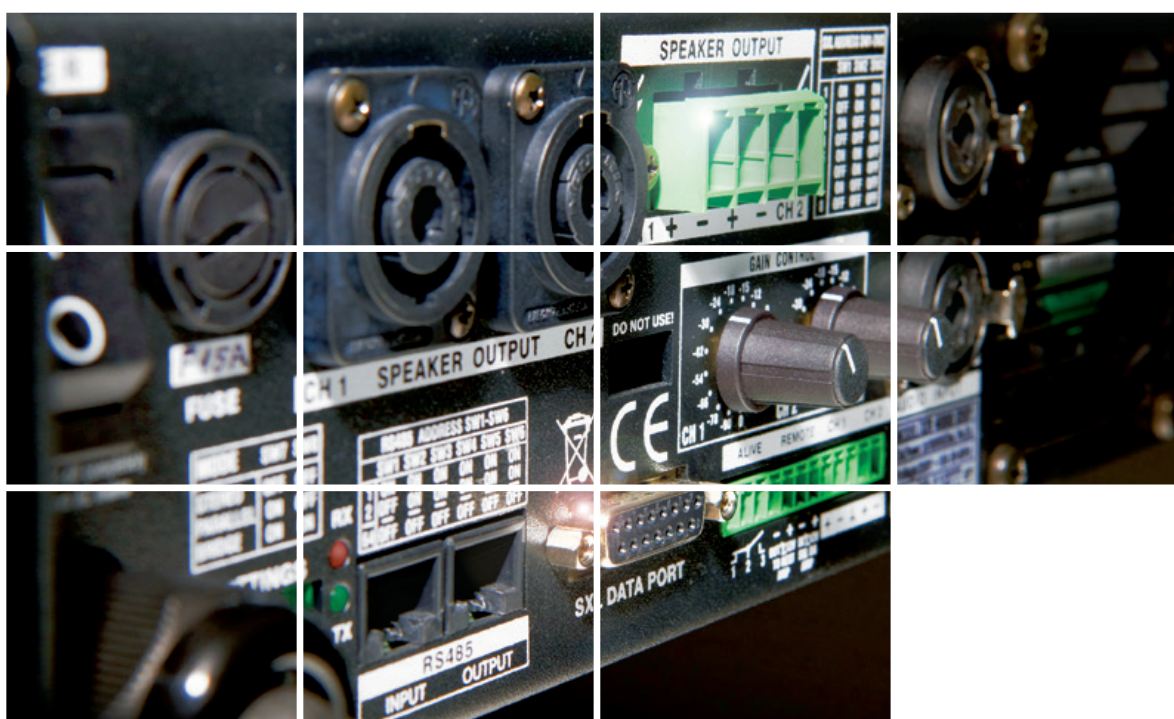
XR

New Horizons.



A lightweight power horse. Combined with sophisticated digital signal processing. For all types of loudspeakers and venues. Line monitoring and extensive control included.

A new definition of powerful intelligence.



XR 1500	2 x 1220 watts @ 2 Ω
XR 2500	2 x 1570 watts @ 2 Ω
XR 4000	2 x 1950 watts @ 2 Ω

- Premium DSP with extensive functions
- Impedance monitoring
- Alive contact
- Paging Input
- Monitor output
- Data ports (I²C, RS485)
- Sequential remote power On/Off

Essentials

Load-to-Power Relation in 100 V Systems

10 Ω = 1000 W	20 Ω = 500 W	25 Ω = 400 W
40 Ω = 250 W	50 Ω = 200 W	100 Ω = 100 W

Crest Factor

The Crest Factor of an amp represents the relation between the peak voltage and the RMS value. It can be taken as a measurement of the quality of the response of an amp.

$$\text{Crest Factor} = \frac{\text{Peak}}{\text{RMS}} = \frac{1}{\sqrt{2}} \times \text{Peak}$$

Resistance - Power

Ohm's Law: $U = I \times R$ $I = \frac{U}{R}$ $R = \frac{U}{I}$

Power: $P = I^2 \times R$ $P = \frac{U^2}{R}$ $P = U \times I$

Resistors in series: $R_{\text{ges}} = R_1 + R_2 + \dots + R_n$

Resistors parallel: $R_{\text{ges}} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \dots + \frac{1}{R_n}}$

Voltages in dBu and dBV

10 V	=	20 dBV	=	22.2 dBu
1.55 V	=	4.2 dBV	=	6 dBu
1 V	=	0 dBV	=	2.2 dBu
775 mV	=	-2.2 dBV	=	0 dBu
316 mV	=	-10 dBV	=	-7.8 dBu

»dB«-Relations

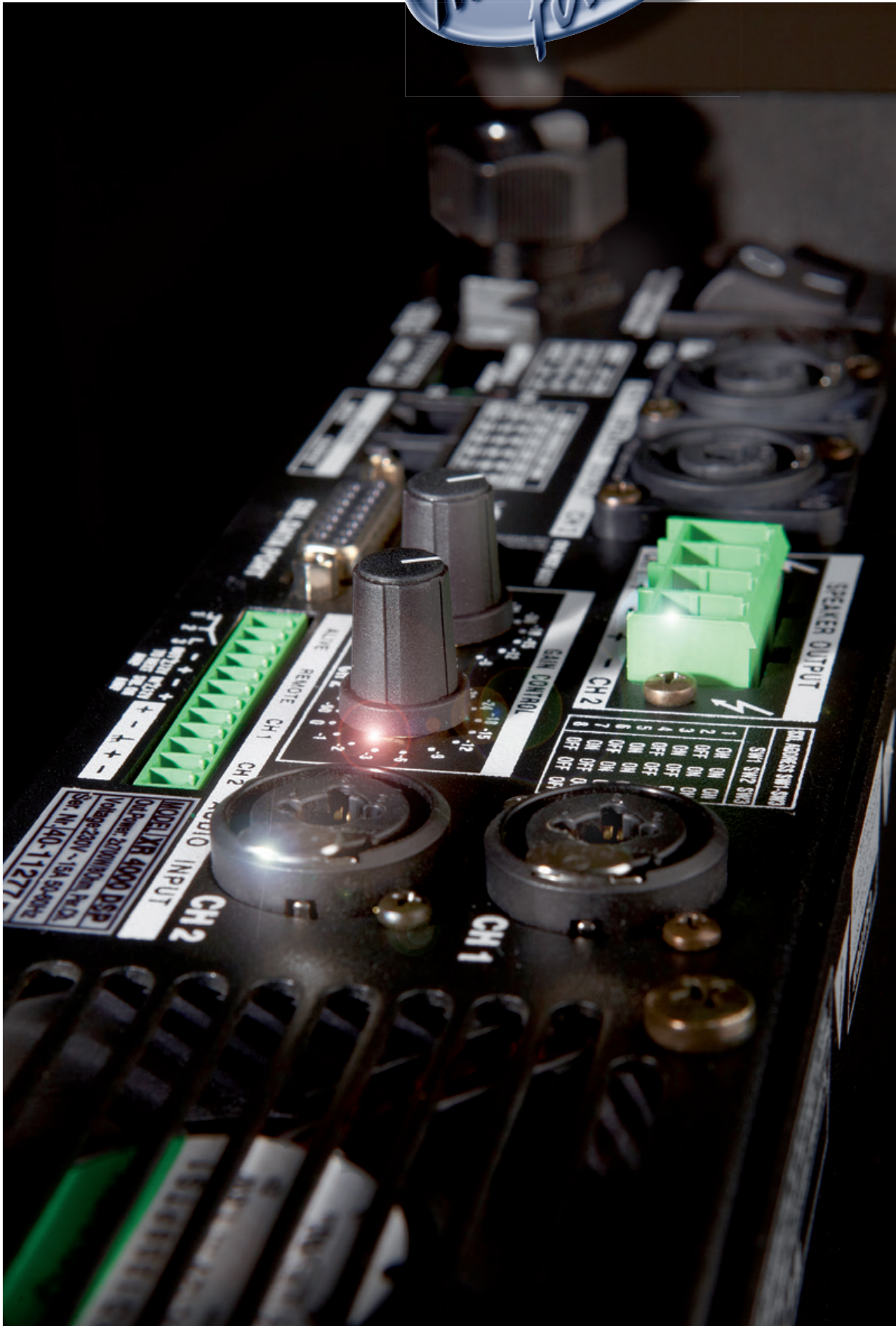
Voltage: $\text{dB} = 20 \log_{10} \frac{E_1}{E_2}$ Power: $\text{dB} = 10 \log_{10} \frac{P_1}{P_2}$

Conversion of THD to »dB below signal level«

THD %	dB below signal	THD %	dB below signal	THD %	dB below signal
100	0	0.5	-46	0.01	-80
10	-20	0.25	-52	0.005	-86
5	-26	0.1	-60	0.002	-92
1	-40	0.05	-66	0.001	-100

Voltage to Power

Volt	Watt 4 Ω	Watt 8 Ω	Volt	Watt 4 Ω	Watt 8 Ω
63.2	1000	500	20	100	50
44.8	500	250	14.1	50	25
31.6	250	125	10	25	12.5
28.2	200	100	6.3	10	5
22.4	125	62.5	2	1	0.5





Bittner Audio International GmbH

Forststraße 21a

D-95488 Eckersdorf

Fon: +49 (0)921 507036-80

Fax: +49 (0)921 507036-89

info@bittner-audio.com

www.bittner-audio.com