

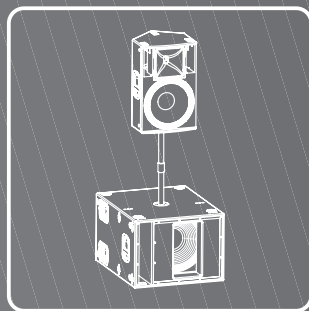
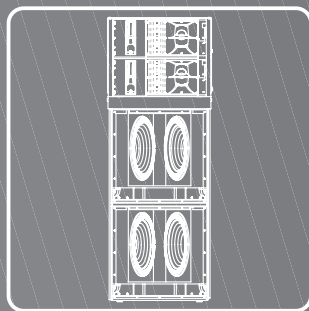
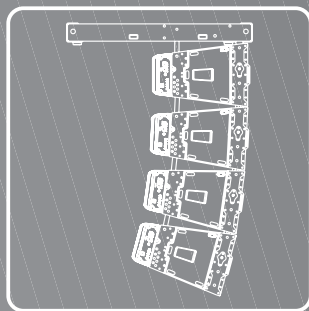


TT+ HIGH DEFINITION
TOURING AND THEATRE

the rules of sound

RCF





Solutions and tools

The TT+ line consists of ten different true active models, conceived and designed for specific applications.

- Extremely compact dimensions
- Maximum output efficiency in sound pressure levels
- Minimum mechanical weight ratio
- High power RCF Precision neodymium transducers
- High technology switching power supplies with class D amplifiers
- High quality analogue audio inputs, state of the art floating point DSP technology
- Baltic Birch plywood cabinets



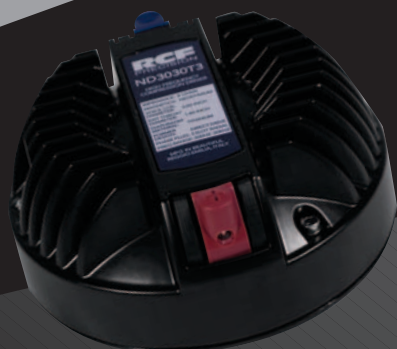
TT+ HIGH DEFINITION TOURING AND THEATRE

RCF TT+ represents another prominent chapter in the long history of RCF sound systems. Whether a speaker system is designed for live sound, large concert situations or permanent installed theatre, the paying customer now expects a level of audio fidelity and intelligibility of such a standard unsurpassed by previous generations.

This requirement has fostered the need for audio professionals to be able to offer a range of speaker systems combined with dedicated processing and amplification technologies that are superior in acoustic performance and control technology.

RCF TT+ offers ready to use solutions and tools in true active high definition speaker systems.





Innovation, Integration, Intensity

INNOVATION - Our research and engineering faculty can today offer innovative projects with finite control of each detail, from the loudspeaker voice coil wire to the highly efficient extended dynamic amplifier topology. There are many different ingredients that go into creating quality products and systems. These include computer aided simulation software to assist the understanding of transducer behaviour and amplifier operation and the relationship of dynamics and transient response. RCF utilises over thirty state of the art software packages to identify magnetic circuits, voice coil dynamics, suspension linearity, horn dispersion simulation, crossover filters, amplifier thermal behaviour etc.

INTEGRATION - RCF is one of only a few loudspeaker manufacturers worldwide who have the ability to completely design and manufactures transducers, speaker systems and amplification and control electronics. Our 50 plus years heritage in audio combined with our state of the art research and development and manufacturing processes allows us to seamlessly integrate all the ingredients to design and build TT+.

Waves

New horn designs for the entire line. Precision waveguides for the line array midrange and compression drivers. Solid aluminium structures for compact two way systems.

Structures

Baltic Birch plywood cabinets. High quality steel mechanical fittings. Aluminium die cast handles. Powder coated grilles. Heavy duty epoxy paint finishes on cabinet structures.

RCF Precision Transducers

For over five decades RCF professional woofers have represented the ultimate performance, the highest power handling and the most advanced technology. Thanks to high energy magnetic designs, complex cooling systems and specifically developed new technologies, our neodymium transducers put themselves at the same, unsurpassed level.

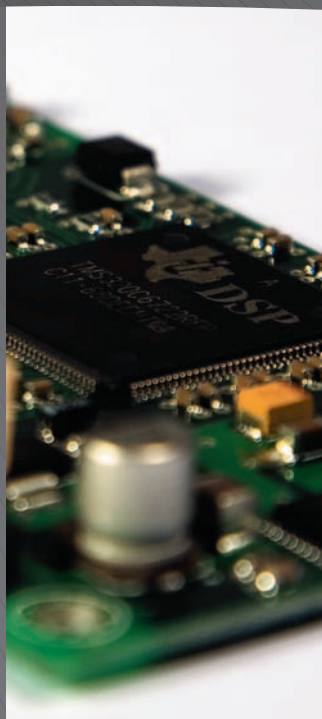
Technology and craftsmanship: at RCF each professional compression driver is precision built using the most advanced moulding and assembly technologies and our experienced dedication and attention.

INTENSITY - The design philosophy for the new TT+ series is based upon offering the sound engineer solutions and tools that are ready to use. Key factors are the ability to sustain very high power with highly efficient sound pressure levels. Intense sound levels are created with extremely high definition and extended dynamic range. Modern construction materials result in mechanical weight ratios that are light for practical flying and portability.



Power

Powerful switching power supplies. Low distortion and natural class D amplifiers. Huge energy reserves in capacitor buses.



Control

Unique audio quality from an RCF exclusive premium analogue input board. Maximum flexibility and control from a newly designed 96Khz, 32 bit floating point DSP.



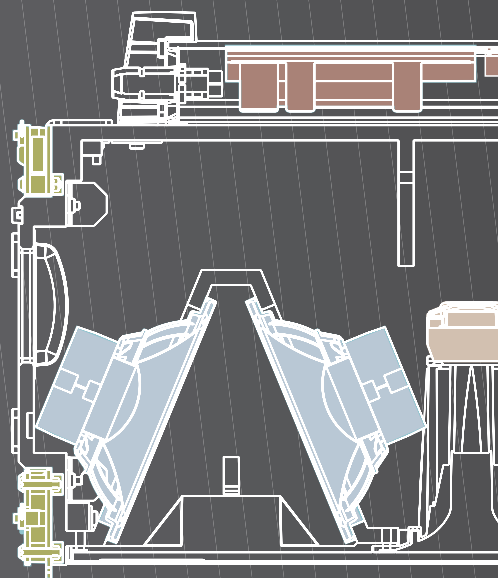
Integrity

Advanced designs. High quality materials. Precise manufacturing. Careful assembly. Extensive quality control procedures. RCF's solid audio heritage.



LINE ARRAY MODULES

- Wide, constant directivity, coverage angle
- High power neodymium transducers
- High power class D amplifiers
- 96 KHz, 32 bit, floating point DSPs



— Digital processing



The integrated digital processor is based on a state of the art 32 bit, floating point DSP running at 96 KHz sampling rate. The calculation capacity largely exceed the processing needs and the DSP is never pushed to the limit. Crossover and equalization of the transducers, limiter, system presets: high pass, air absorption and cluster size corrections.

— Digital power

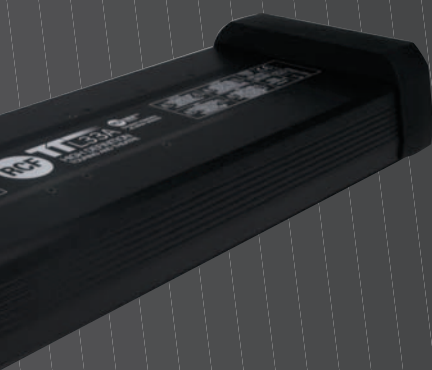
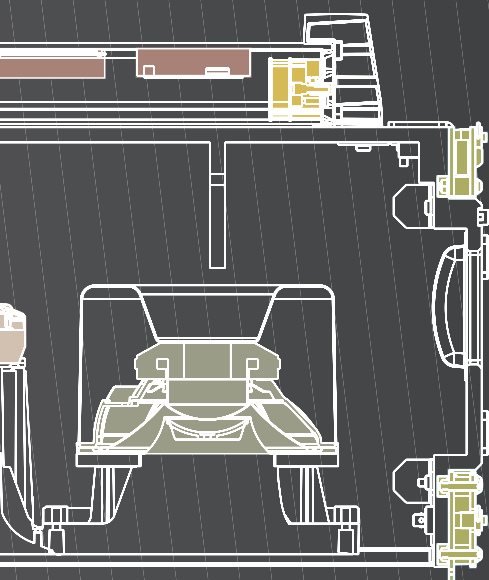


The TTL33-A is powered by a 750 watt switching power supply and 3 digital amplifiers: 500 watt mid-bass , 500 watt midrange and 250 watt compression driver. 750 watt power for the TTL31-A: 500 watt low frequency and 250 watt high frequency. The result is very high output, extremely low distortion and natural sound.



Looks like a "mini" array Sounds like a "compact"

Advanced technologies, knowledge, experience, continuous engineering effort and dedication were able to bring us to these unique results: the TTL33-A and TTL31-A. Active, ultra compact, wide dispersion, line array modules that set a new standard in touring and theatre sound reinforcement.



Compression drivers

A new compression driver unit has been developed in RCF specifically for array applications. The best ratio between the size of the diaphragm and the overall diameter and the very small total size makes the ND1411-MT a unique driver for application in line on straight horns. TTL33-A and TTL31-A houses 3 of them for perfect HF control.



Controlled mid-bass

Light and reliable neodymium 8", in a band pass loading configuration, provides a tight and loud mid-bass. Thanks to a careful acoustic design the sensitivity in the 100 Hz region is almost double than typical, same size, designs.



High output midrange

A fast and accurate horn loaded 8" takes care of the midrange frequencies in TTL33-A. Powerful neodymium magnet, aluminium die cast basket, aluminium back can in direct contact to the rear plate for best heat dissipation.



Reliable mechanics

Laser cut high quality steel bars and precision machining for an easy to use and reliable mechanics. Thanks to the very light weight of the cabinet building the cluster is very simple, fast and effortless.

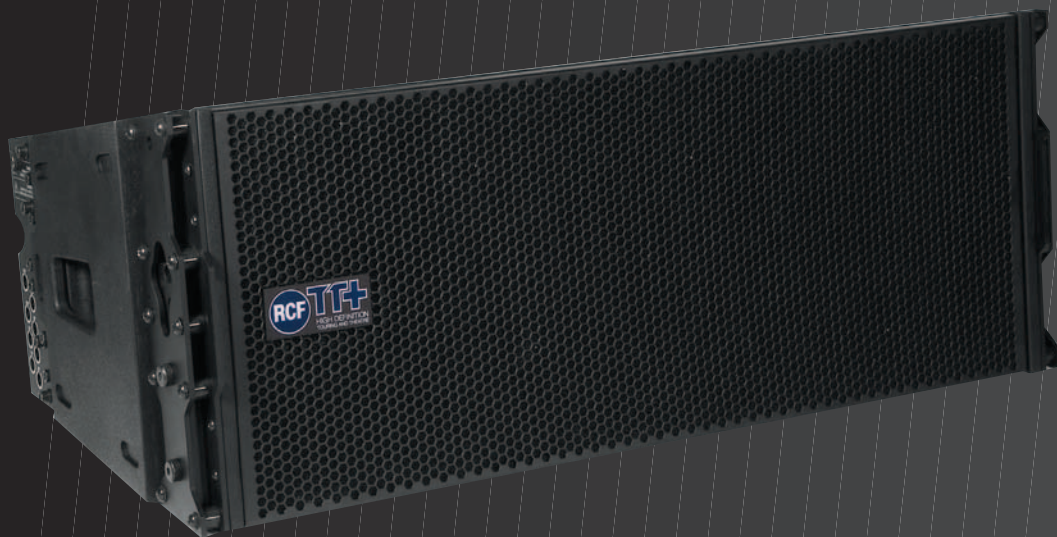


TTL33-A

3 WAY ARRAY MODULE

TTL33-A

The TTL33-A offers the highest performance from a small size 3 way line array. The incredible high output and dynamics, the extreme accuracy and high frequency extension, plus the compact size makes the TTL33-A the ideal tool for outdoor sound reinforcement, live performances and events.



- 750 Watt switching amplifiers
- Wide, constant directivity, coverage angle
- 6 High power neodymium transducers
- High quality analog input board
- 96 KHz, 32 bit DSP processing
- Soft limiter and RMS protection
- Maximum output per size available on the market

TTL31-A

2 WAY ARRAY MODULE

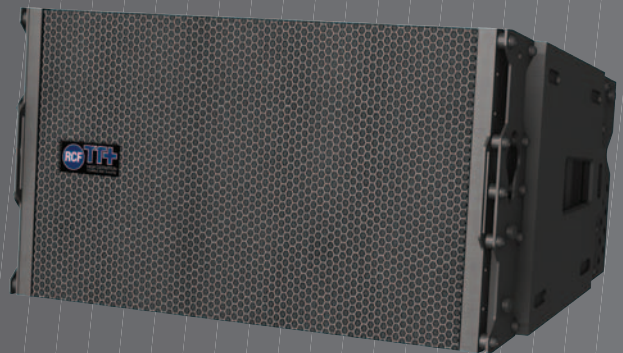
TTL12-AS

LINE ARRAY SUBWOOFER MODULE

TTL31-A

The TTL31-A is a "mini" size 2 way line array. The very high output and dynamics, the extreme accuracy and high frequency extension, plus the very compact size makes the TTL31-A the ideal tool for indoor applications, live performances and events.

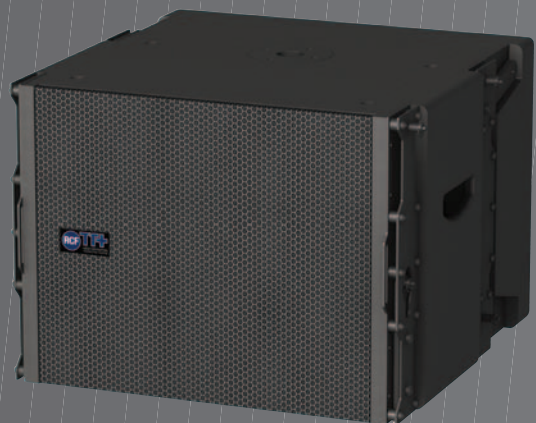
- 750 Watt switching amplifiers
- Wide, constant directivity, coverage angle
- 4 High power neodymium transducers
- High quality analog input board
- 96 KHz, 32 bit DSP processing
- Soft limiter and RMS protection
- Very high output per size



TT12-AS

The TTL12-AS is the ideal complement for the TTL31-A array module. The band-pass design guarantees the maximum output per size, the 4" voice coil vented design woofer offers the minimum of power compression. This model provides integrated mechanics compatible with the TTL31-A array module.

- 1000 Watt switching amplifier
- Band-pass design
- 4" voice coil, high power neodymium woofer
- High quality analog input board
- Phase, crossover, bass shape controls
- Integrated mechanics
- Very high output





TT25-SMA

PRECISION STAGE MONITOR

COAXIAL SYMMETRY

A coaxial loudspeaker presents a response behaviour that is symmetric about its axis. For Stage Monitoring purposes the coaxial characteristics provide near perfect monitoring. You can move left, move right, go forward and go back and you will hear the same, uniform, sound.

The new 15" coaxial neodymium transducer is the result of the latest refinement in years of RCF transducer experience, featuring a 3.5" voice coil woofer and a 2.5" voice coil, titanium dome, compression driver. A massive outside ring neodymium magnet drives the transducers for a controlled mid-bass and extreme precision in high frequency reproduction.





TT25-SMA

The TT25-SMA is a high performance, coaxial, stage monitor. The very linear curve response, the consistent coverage, the acoustic output make the TT25-SMA the professional choice for most demanding situations.

The voicing is accurate and deep, the sound transparent in the mids and extremely accurate at very high frequencies.

The size is compact and the profile very low for a discrete stage professional appearance. Loop through output and power panel on opposite side to minimize cable runs on stage.

- 750 Watt switching amplifiers
- 60° conical, constant directivity coverage angle
- 3.5" voice coil, neodymium woofer
- 2.5" voice coil, neodymium compression driver
- High quality analog input board
- Soft limiter and RMS protection
- Very low profile
- Very high output

TT+
HIGH DEFINITION
TOURING AND THEATRE

SMA HIGH DEFINITION
TOURING AND THEATRE
ACTIVE PRECISION MONITOR

TT25-A TT22-A

HIGH OUTPUT 2 WAY SPEAKERS

TT25-A

The TT25-A offers the highest performance from an active 2 way system. The incredible high output and dynamics, the extreme linearity and accuracy, plus the compact size makes the TT25-A the ideal professional speaker for sound reinforcement, live performance and events.

- 1500 Watt switching amplifiers
- Wide, constant directivity, coverage angle
- High power neodymium transducers
- High quality analog input board
- Soft limiter and RMS protection
- Maximum output per size available on the market



TT22-A

The TT22-A is the most flexible and powerful tool in its class. An extremely careful acoustic design, plus the highest quality transducers and the powerful amplifier makes this system the perfect solution for live sound situations to playback and monitoring.

- 750 Watt switching amplifiers
- Wide, constant directivity, coverage angle
- High power neodymium transducers
- High quality analog input board
- Soft limiter and RMS protection
- Maximum output per size available on the market



Suspension

High quality detachable fly tracks fittings on both side of the cabinet offer horizontal, vertical and coupled suspended orientations



High output at premium sound quality

We started the design of our TT+ compact speakers with a clear idea in mind: maximum high quality audio SPL within the smallest weight and size. With our state of the art neodymium transducers, premium quality analog processing and powerful class D amplifiers we reached and surpassed our original goals.



High frequencies

Our newly designed "thick aluminum body" horns offer the best dissipation to neodymium compression drivers. When our pure titanium compression driver are assembled, all the horn becomes the surface of dissipation for the heat generated from the voice coil. The same coverage angle at all frequencies, compact size and strong, resonance free, mechanical structures for accurate voice and transparent sound. Designed for 90° rotation.

Low frequencies

3" voice coil woofers cannot handle the power, 4" voice coil woofer are too slow for two way systems... so we purposely invented 'RCF 3.5" size', high energy, mid-bass: best balance between low end capability and midrange clarity and control. All this in only 5 kilograms.

Power and control

The massive amount of class D power is driven from a very accurate analog input board: perfect linearity and audio quality, soft peak limiter, rms limiter, high pass and side coupling options. Premium sound quality at maximum output.



TT08

PRECISION MONITOR

Monitor size, pa sound

The TT08-A is by far the smallest member of the TT+ family, whilst being the most flexible and powerful tool in its class. From live sound to playback and monitoring, corporate events and broadcast studios. The TT08-A offers an incredible maximum sound pressure level of 128dB. Its performance efficiency is almost 3dB higher than many larger 10" speaker systems and indeed comparable to many 12" systems.

The TT08-A is the smallest and powerful solution to almost any sound reinforcement situation. Hi-fi fidelity acoustic design, high quality neodymium transducers, powerful amplifiers, very compact size cabinet, incredibly lightweight. Superb deep bass punch, very linear and precise frequency response. The perfect solution for live sound situations, playback and monitoring.

- 750 Watt power switching amplifiers (500W on the woofer, 250W on the compression driver)
- Wide, constant directivity, coverage angle
- High power 64 mm coil neodymium woofer
- 44 mm coil titanium compression driver
- High quality analog input board
- Soft limiter and RMS protection
- Maximum output per size available on the market



Two different angles for near field or long field monitoring. Pole mount, fly bars, side M10 suspension points. The perfect tool for broadcast monitoring, theatrical installations, front and side fills, distributed sound systems.



The TT08-A precision monitor is optimised for use with the high-output TTS12-A subwoofer.

TTS28-A TTS18-A TTS12-A

HIGH POWER SUBWOOFERS



TTS28-A

The TTS28-A is a reference double 18" bass reflex subwoofer. Ideal for touring applications. With the digital switching amplifiers, neodymium woofers and a well designed structure, it is one of the smallest and lightest double 18" systems available. A unique feature is the semi charged horn design which at low frequencies around 40Hz operates as a conventional bass reflex cabinet, however at the slightly higher frequencies in the 80 to 100Hz area the system operates as a 'semi charged horn loaded' design which provides around 3 to 4dB more efficiency.

- 2 x high power full neodymium 18" transducers
- 2000 watt power switching amplifiers



TTS18-A

The TTS18-A is a very high output, compact, bandpass subwoofer. Ideal in combination with TT+ 2 way systems or used in multiples for very flexible touring solutions.

- High power full neodymium 18" transducer
- 1000 watt power switching amplifier



TTS12-A

The TTS12-A is an extremely compact high power subwoofer designed to compliment the TT08-A Speaker System.

Based around a band pass design using a newly designed 4" voice coil vented neodymium 12" woofer the TTS12-A is powered by the onboard 1000 watt Class D power switching amplifier.

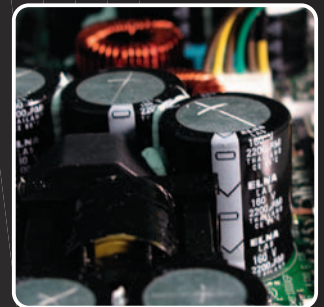
The system can be wired with one subwoofer plus two satellite TT08-A in full stereo, or on a 'one to one' ratio from the inbuilt active crossover system.

Powerful tools for powerful systems

Sound systems designed for almost any application benefit from the addition of extended low frequency or sub bass. True natural reproduction of music requires that the sound system's output should extend into the lowest octaves of the audible spectrum. Whether it is for the provision of subtle dynamic sound for theatre applications, the raw power of a 'bass drum kick' or an air moving concert sound sub bass system – RCF has the solution.

Superior woofers

RCF LF18N401: incredibly linear frequency response characteristics, the highest power handling of any comparable 18-inch neodymium transducer, the lower power compression. Fibre loaded cone assembly along with a high excursion triple roll, constant geometry surround. This combination provides remarkable strength and a peak to peak maximum excursion of 48 mm. A fully optimised T-pole design generate the minimum amount of flux modulation, the unique dual-forced air venting system guarantee a very efficient voice coil ventilation for minimum power compression and higher power handling.



Massive power

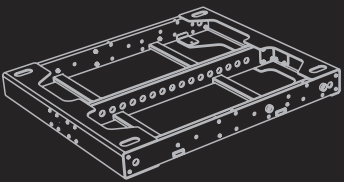
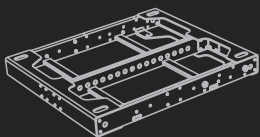

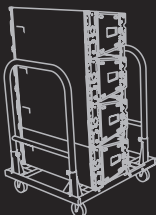
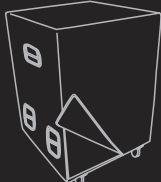
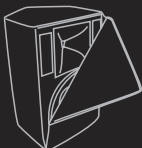
On our subwoofers each single transducer is independently driven from a 1 kilowatt RMS amplifier providing an incredible performance and amount of sound power from a very compact size.



Flexible controls

Power amplifiers are driven from a very accurate analog input board: perfect linearity and audio quality, soft peak limiter, rms limiter. Many crossovers and operation options are available: extreme low frequency high pass, phase inversion, 80 Hz and 110 Hz crossover, adding mode crossover for maximum punch of the system.

Accessories and software

	13360052	FLY BAR TTL33	Suspending bar for TTL33-A array system
	13360076	FLY BAR TTL31A	Suspending bar for TTL31-A array system
	13060057	STCK BAR TTL33	Accessory to add to Fly bar for stacking option on sub TTL33-A. Quick lock pins to be added.
	13360079	STCK BAR TTL31	Accessory to add to Fly bar for stacking option on sub TTL31-A. Quick lock pins to be added.
	13360059	KART TTL33	Kart with wheels for 4 TTL33-A
	13360053	COVER TTS18	Protection cover for TTS18-A
	13360054	COVER TTS28	Protection cover for TTS28-A
	13360055	COVER TT22	Protection cover for TT22-A
	13360056	COVER TT25	Protection cover for TT25-A

	13360060	AC 4PIN TTL33	4 Quick lock pins for TTL33-A array system
	13360077	AC 4PIN TTL31	4 Quick lock pins for TTL31-A array system
	13360067	AC PM M20	M20 Pole mount for TT22-A or TT25-A speakers
	13360066	AC M20-PLATE	Threaded plate for M20 pole mount
	13360068	AC TT PMA	Pole mount cap for TTS18-A or TTS28-A subwoofers

RCF Prediction Software

In order to assist with the set up procedures for the TTL33-A Line Array System, RCF has developed a complete prediction software package.

The software enables a complete two dimensional simulation of the behaviour of the TTL33-A cabinets and also suggests the correct subwoofer combinations. The system curvature angles and the sound projection data are computed with maximum sound pressure levels for the given building design originally inputted. The software will allow simulations up to a maximum of sixteen TTL33-A mid-high cabinets.

There is also a rigging menu which provides data for weight, centre of gravity and height of the array configuration. Rigging points and rigging hardware configurations are also computed.





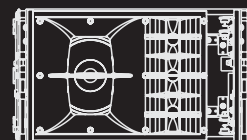
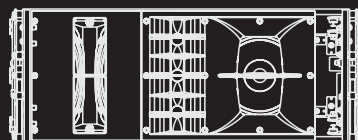
RCF System Solutions

With more than 50 years of experience RCF is one of the leading manufacturers of professional audio; one of the very few companies to use its own transducer technology, RCF has pioneered many of the innovations now recognised and used in pro audio products. RCF products are designed in very close cooperation with our customers, offering complete solutions to meet the highest demanding market needs.

The entire production process in the RCF European factory guarantees that RCF professional products comply with the highest quality standards. The world-wide RCF distribution network offers our customers the most complete and qualified support.



Specifications



MODEL

TTL33-A

TTL31-A

ACOUSTICAL SPECIFICATIONS

Frequency Response	60 Hz - 20 KHz	60 Hz - 20 KHz
Max SPL	134 dB	132 dB
Horizontal coverage angle	15° max, depending on config.	15° max, depending on config
Vertical coverage angle	100°	100°
Compression Driver	3 x 1.0" neo, 37 mm voice coil	3x1.0" neo, 37 mm voice coil
Midrange	8" neo, 64 mm voice coil	x
Woofer	2x8" neo, 64 mm voice coil	8" neo, 64 mm voice coil

INPUT SECTION

Input signal (Impedance)	bal/unbal	bal/unbal
Input connector	xlr	xlr
Output connector	xlr	xlr
Input sensitivity	- 2 dBu / + 4 dBu	- 2 dBu / + 4 dBu

PROCESSOR SECTION

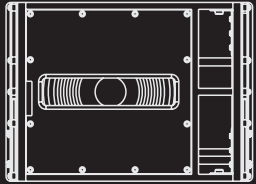
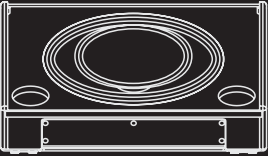
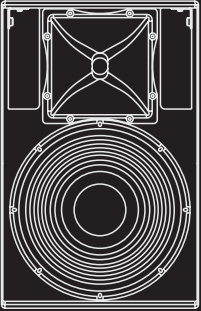
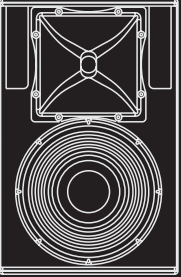
Crossover frequencies	400 Hz, 1800 Hz	1600 Hz
Protections	thermal, hf	thermal, hf
Sensitivity control	yes	yes
Limiter	rms, fast limiter	rms, fast limiter
Phase switch	x	x
High pass	yes, 100 Hz	yes, 100 Hz
Controls	hf correction, cluster size, HPF	hf correction, cluster size., HPF

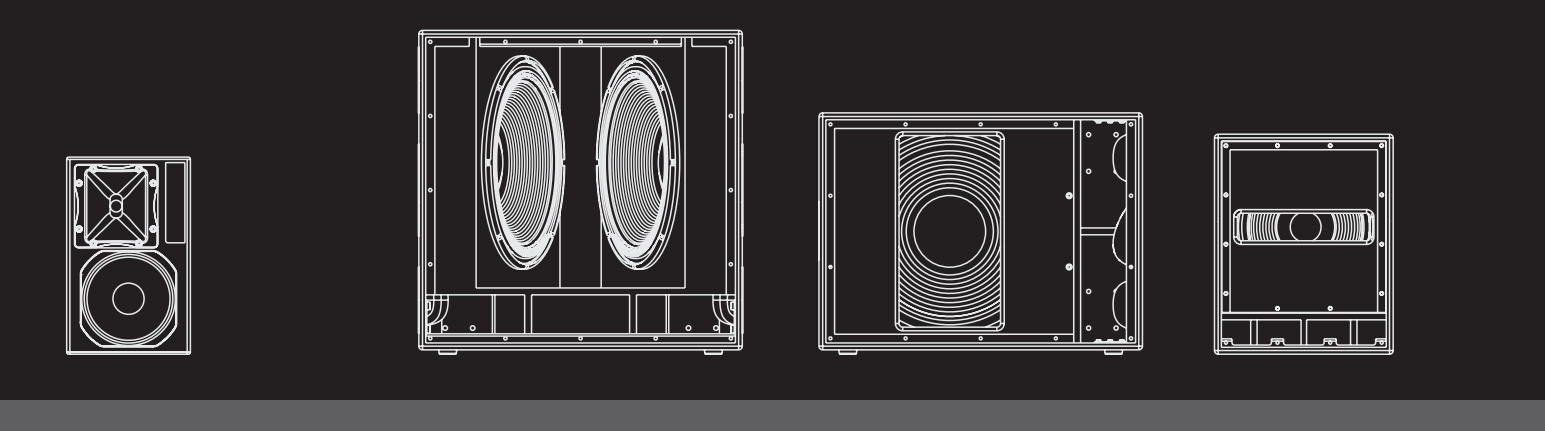
AMPLIFIER

Power supply	Switching 750 Watt	Switching 750 Watt
High frequencies	D / 250 Watt	D / 250 Watt
Mid frequencies	D / 500 Watt	x
Low frequencies	D / 500 Watt	D / 500 Watt
Cooling	convection/forced	convection
Connection	powercon in/out	powercon in/out

PHISICAL SPECIFICATIONS

Height	300 mm (11,8")	300 mm (11,8")
Width	760 mm (30,0")	538 mm (21,18")
Depth	450 mm (18,2")	450 mm (18,2")
Weight	32,5 Kg (71,5 lbs)	22.5 Kg (49,5 lbs)
Cabinet	baltic birch	baltic birch
Hardware	array side fittings	array side fittings
Handles	2 on side	2 on side
Pole Mount/Cap	x	x
Colour	Black	Black

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TTL12-AS	TT25-SMA	TT25-A	TTL22-A
40 Hz - 120 Hz 131 dB x x x x 12" neo, 100 mm voice coil	50 Hz - 20 Khz 131 dB 60° conical 60° conical 1,5" neo, 64 mm voice coil x 15" neo, 87 mm voice coil	50 Hz - 20 Khz 136 dB 90° 40° 1,5" neo, 75 mm voice coil x 15" neo, 100 mm voice coil	50 Hz - 20 Khz 131 dB 90° 40° 1.5" neo, 75 mm voice coil x 12" neo, 87 mm voice coil
bal/unbal xlr xlr - 2 dBu / + 4 dBu	bal/unbal xlr xlr - 2 dBu / + 4 dBu	bal/unbal xlr xlr - 2 dBu / + 4 dBu	bal/unbal xlr xlr - 2 dBu / + 4 dBu
80/110 Hz thermal yes rms, fast limiter yes x 80/110/add crossover. phase	1200 Hz thermal, hf yes rms, fast limiter x x side/floor coupling	1200 Hz thermal, hf yes rms, fast limiter x yes, 90 Hz side/floor coupling, HPF	1200 Hz thermal, hf yes fast limiter x yes, 90 Hz side/floor coupling, HPF
Switching 1000 Watt x x D / 1000 Watt convection powercon in/out	Switching 750 Watt D / 250 Watt x D / 500 Watt convection powercon in/out	Switching 1500 Watt D / 500 Watt x D / 1000 Watt convection powercon in/out	Switching 750 Watt D / 250 Watt x D / 500 Watt convection powercon in/out
390 mm (15,35") 538 mm (21,18") 530 mm (20,86") 37 Kg (81,41") baltic birch array side fittings. pole mount 2 on side yes Black	330 mm (12,99") 580 mm (22,83") 432 mm (17,00") 20 Kg (44 lbs) baltic birch x 2 on side x Black	670 mm (26,37") 430 mm (16,92") 450 mm (17,71") 26,8 Kg (58,96 lbs) baltic birch 6 x fly tracks 2 on side yes Black	600 mm (23,62") 400 mm (15,74") 400 mm (15,74") 23.2 Kg (51,14 lbs) baltic birch 6 x fly tracks 2 on side x Black



TT08-A	TTS28-A	TTS18-A	TTS12-A
65 Hz - 20 Khz 128 dB 90° 60° 1,0" neo, 44 mm voice coil - 8" neo, 64 mm voice coil	30 Hz - 110 Hz 139 dB x x x x 2 x 18" neo, 100 mm voice coil	35 Hz - 120 Hz 136 dB x x x x 18" neo, 100 mm voice coil	45 Hz - 120 Khz 131 dB x x x x 12" neo, 100 mm voice coil
bal/unbal xlr xlr - 2 dBu / + 4 dBu	bal/unbal stereo xlr stereo xlr - 2 dBu / + 4 dBu	bal/unbal stereo xlr stereo xlr - 2 dBu / + 4 dBu	bal/unbal stereo xlr stereo xlr - 2 dBu / + 4 dBu
1700 Hz thermal, hf yes rms, fast limiter x x side/floor coupling	80 Hz /110 Hz thermal yes fast limiter yes x 80/110/add crossover, phase	80 Hz /110 Hz thermal yes fast limiter yes x 80/110/add crossover, phase	110 Hz thermal yes fast limiter yes x phase
Switching 750 Watt D / 250 Watt - D / 500 Watt convection powercon in/out	Switching 2000 Watt - - D / 2000 Watt convection powercon in/out	Switching 1000 Watt - - D / 1000 Watt convection powercon in/out	Switching 1000 Watt - - D / 1000 Watt convection powercon in/out
430 mm (16,93") 270 mm (10,63") 303 mm (11,93") 11,4 Kg (25,13 lbs) baltic birch 2 x fly tracks, pole mount x yes Black	700 mm (27,56") 700 mm (27,56") 920 mm (36,22") 73 Kg (160,6 lbs) baltic birch fittings ready 6 on side ready Black	520 mm (20,47") 700 mm (27,56") 860 mm (33,852") 48 Kg (105,6 lbs) baltic birch fittings ready 6 on side ready Black	480 mm (18,89") 390 mm (15,35") 530 mm (20,86") 28 Kg (61,73 lbs) baltic birch pole mount 2 on side yes Black







the rules of sound

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