

# **TTL11-A**

**ACTIVE DIGITALLY STEERABLE ARRAY**

***"HIGH OUTPUT AT PREMIUM SOUND QUALITY"***

# SAFETY PRECAUTIONS

1. All the precautions, in particular the safety ones, must be read with special attention, as they provide important information.

## 2. POWER SUPPLY FROM MAINS

The mains voltage is sufficiently high to involve a risk of electrocution; install and a. connect this product before plugging it in.

Before powering up, make sure that all the connections have been made correctly and b. the voltage of your mains corresponds to the voltage shown on the rating plate on the unit, if not, please contact your RCF dealer.

The metallic parts of the unit are earthed through the power cable. An apparatus with c. CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.

Protect the power cable from damage; make sure it is positioned in a way that it d. cannot be stepped on or crushed by objects.

To prevent the risk of electric shock, never open this product: there are no parts inside e. that the user needs to access.

3. Make sure that no objects or liquids can get into this product, as this may cause a short circuit.

This apparatus shall not be exposed to dripping or splashing. No objects filled with liquid, such as vases, shall be placed on this apparatus. No naked sources (such as lighted candles) should be placed on this apparatus.

4. Never attempt to carry out any operations, modifications or repairs that are not expressly described in this manual.

Contact your authorized service centre or qualified personnel should any of the following occur:

- The product does not function (or functions in an anomalous way).
- The power cable has been damaged.
- Objects or liquids have got in the unit.
- The product has been subject to a heavy impact.

5. If this product is not used for a long period, disconnect the power cable.

6. If this product begins emitting any strange odours or smoke, switch it off immediately and disconnect the power cable.

7. Do not connect this product to any equipment or accessories not foreseen.

For suspended installation, only use the dedicated anchoring points and do not try to hang this product by using elements that are unsuitable or not specific for this purpose. Also check the suitability of the support surface to which the product is anchored (wall, ceiling, structure, etc.), and the components used for attachment (screw anchors, screws, brackets not supplied by RCF etc.), which must guarantee the security of the system / installation over time, also considering, for example, the mechanical vibrations normally generated by transducers.

To prevent the risk of falling equipment, do not stack multiple units of this product unless this possibility is specified in the user manual.

**8. RCF S.p.A. strongly recommends this product is only installed by professional qualified installers (or specialised firms) who can ensure correct installation and certify it according to the regulations in force.**

**The entire audio system must comply with the current standards and regulations regarding electrical systems.**

**9. Supports and trolleys** The equipment should be only used on trolleys or supports, where necessary, that are recommended by the manufacturer. The equipment / support / trolley assembly must be moved with extreme caution. Sudden stops, excessive pushing force and uneven floors may cause the assembly to overturn.

**10.** There are numerous mechanical and electrical factors to be considered when installing a professional audio system (in addition to those which are strictly acoustic, such as sound pressure, angles of coverage, frequency response, etc.).

**11. Hearing loss.**

Exposure to high sound levels can cause permanent hearing loss. The acoustic pressure level that leads to hearing loss is different from person to person and depends on the duration of exposure. To prevent potentially dangerous exposure to high levels of acoustic pressure, anyone who is exposed to these levels should use adequate protection devices. When a transducer capable of producing high sound levels is being used, it is therefore necessary to wear ear plugs or protective earphones. See the manual technical specifications to know the maximum sound pressure level.

#### **IMPORTANT NOTES**

To prevent the occurrence of noise on line signal cables, use screened cables only and avoid putting them close to:

- Equipment that produces high-intensity electromagnetic fields
- Power cables
- Loudspeaker lines.

#### **OPERATING PRECAUTIONS**

Place this product far from any heat sources and always ensure an adequate air circulation around it.

Do not overload this product for a long time.

Never force the control elements (keys, knobs, etc. ).

Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product.

#### **IMPORTANT NOTES**

Before connecting and using this product, please read this instruction manual carefully and keep it on hand for future reference. The manual is to be considered an integral part of this product and must accompany it when it changes ownership as a reference for correct installation and use as well as for the safety precautions. RCF S.p.A. will not assume any responsibility for the incorrect installation and / or use of this product.

**WARNING:** To prevent the risk of fire or electric shock, never expose this product to rain or humidity.

## **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 or large concert situations as well as permanent installed theatre sound applications, 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 transducer and crossover technologies that are superior in acoustic performance and control.

RCF TT+ offers ready to use solutions and tools in true 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 utilise 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+

**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.

## **TT011-A, ACTIVE, DIGITALLY STEERABLE , ARRAY**

**The TTL11A is an active column speaker array system composed by two modules, one for the mid-high and one for the bass frequencies.**

The TTL11A-H is the HF module and is equipped with four 2.5" neodymium compression drivers with 1.5" exit throat.

The TTL11A-B is the bass frequency section of the system and features four 8" neodymium woofers with 2.5" voice coil for a perfect and powerful mid-bass response.

With the addition of the new TTS26-A subwoofer, the TTL11A system becomes a powerful, compact and high definition live sound system.

# FEATURES

- Tour grade cabinet and mechanics
- 4000 Watt, 9 way amplification
- 4 x 1.4" titanium dome, neo compression drivers, 2.5" voice coil
- 3 x 8" neo midranges, 2.5" voice coil
- 4 x 8" neo woofers, 2.5" voice coil
- 96 KHz, 32 bit dsp processing
- Digital steering down to -10°
- Maximum output per size
- RNet Ready

## TTL11-AH REAR PANEL

- 1. Female Xlr inputs (bal/unbal).** The system accept XLR input connectors.  
**Male Xlr signal output.** The output XLR connector provides a loop trough for speakers daisy chaining. The balanced connector is connected in parallel and can be used to send the audio signal to other amplified speakers, recorders or supplementary amplifiers.
- 2. Limiter led.** The amplifier has a built in limiter circuit to prevent clipping of the amplifiers or overdriving the transducers. When the soft clipping circuit is active the LED blinks RED. It is okay if the limit LED blinks occasionally. If the LED blinks frequently or lights continuously, turn down the signal level.  
**Signal led.** The signal indicator lights green if there is audio signal present on the main input.  
**Status led.** This yellow led is ON when the amplifier is in failure mode. In this case please contact the closest RCF service centre.  
**Power led.** this green led is ON when the speaker is connected to the main power supply
- 3. Sensitivity control.** Adjust the amplifier sensitivity. This control does not affect the "Link" - "Input - Link" output level.
- 4. TTL11 A-B PROCESSED OUTPUT.** Using a cat5 RJ45 cable connect this output to the TTL11 A-B input to send processed audio signal and receive amplifiers monitoring.
- 5. LF High-Pass.** When switched on apply to the speaker a 24 dB/Octave filter at 100 Hz
- 6. RNet Bypass.** When switched on bypass any speaker RNet preset.
- 7. Wall Placement.** When switched on apply to the speaker a special shelving filter to optimise the curve response when the speaker is placed close to a wall or to the floor.
- 8. System SET UP encoder.** Push the encoder to move through functions (height – throw, delay), rotate the encoder to select a value.
- 9. System SET UP display.** Display the system setting values. In case of RNet connection a rotating segment will light up.
- 10.AC Input.** Powercon locking 3-pole AC mains
- 11.Power main switch.** The power switch turns the AC power ON and OFF.
- 12.AC Output.** Powercon locking 3-pole AC mains output.
- 13.RNet Option.** The AC RNET IN/OUT PLUG optional accessory is installed removing this panel.



## TTL11-AB REAR PANEL

1. **Female Xlr inputs (bal/unbal).** The system accept XLR input connectors. **Male Xlr signal output.** The output XLR connector provides a loop trough for speakers daisy chaining. The balanced connector is connected in parallel and can be used to send the audio signal to other amplified speakers, recorders or supplementary amplifiers.
2. **TTL11 A-H PROCESSED INPUT.** Using a cat5 RJ45 cable connect this input to the TTL11 A-H output to receive processed audio signal and send amplifiers monitoring.
3. **Limiter led.** The amplifier has a built in limiter circuit to prevent clipping of the amplifiers or overdriving the transducers. When the soft clipping circuit is active the LED blinks RED. It is okay if the limit LED blinks occasionally. If the LED blinks frequently or lights continuously, turn down the signal level. **Signal led.** The signal indicator lights green if there is audio signal present on the main input. **Status led.** This yellow led is ON when the amplifier is in failure mode. In this

case please contact the closest RCF service centre.

**Power led.** this green led is ON when the speaker is connected to the main power supply

4. **Sensitivity control.** Adjust the amplifier sensitivity. This control does not affect the "Link" - "Input - Link" output level.

5. **AC Input.** Powercon locking 3-pole AC mains

6. **Power main switch.** The power switch turns the AC power ON and OFF.

7. **AC Output.** Powercon locking 3-pole AC mains output.



# SETTING THE SYSTEM

## LF HIGH PASS.

This control introduces a 24 dB/octave high pass filter at 90 Hz. It is useful when the system is used for vocal reproduction, for a cleaner vocal output. When this switch is pressed it is possible to obtain from the system higher spl output in the vocal range.

## BYPASS (RECALL).

This control must be used in conjunction with the RDNet optional board.

When the switch is released the system reads settings from the input board.

When the switch is pressed the system reads settings from the internal memory saved during the last RDNet session.

When RDNet is active the position of the switch is bypassed (not influent).

## WALL PLACEMENT

In case of installation or positioning close to a wall, pressing this switch the system apply an equalisation to correct the behaviour of the frequency response (modified by the wall reflections).

## STEERING AND DELAY SETTINGS

The TTL11-A digital array can be steered and focused to the audience in a few steps:

- 1. Press the encoder, the HEIGHT led will light up.
- 2. Rotate the encoder to the right HEIGHT setting (from 0 to 2.0 meters in 0.5 steps)
- 3. Press the encoder, the THROW led will light up.
- 4. Rotate the encoder to the right THROW (near, mid, far,  $\infty$  ).
- 5. Press the encoder, the DELAY led will light up.
- 6. Rotate the encoder to the right DELAY setting.

The HEIGHT of installation is referred to the base of the TTL11 BA.

The DELAY is expressed in 0.1 meter until 10 meters and in meter from 10 to 20 meters.

# CONNECTIONS

The XLR connectors use the following AES standard:

PIN 1 = GROUND (SHIELD)

PIN 2 = HOT (+)

PIN 3 = COLD (-)

The audio XLR cable shall be connected:

- 1. To TTL11 AH signal input
- 2. From TT11 AH signal link to TL11 BA signal input

In case of use of the system in conjunction to the TTS 26-A subwoofer the audio XLR cable shall be connected:

- 1. To TTS 26-A signal input
- 2. From TTS 26-A XOVER output to the TTL11 AH signal input
- 3. From TT11 AH signal link to TL11 BA signal input

## **BEFORE TURNING ON THE SPEAKER**

At this point you can connect the power supply cable and the signal cable, but before turning on the speaker make sure that the volume control is at the minimum level (even on the mixer output). It is important that the mixer is already ON before turning on the speaker. This will avoid damage to the speakers and noisy "bumps" due to turning on parts on the audio chain. It is a good practice to always turn on speakers at last and turn them off immediately after the show.

Now you can turn ON the speaker and adjust the volume control to a proper level.

## **INSTALLATION**

The top and bottom of the speaker is provided with a special mounting plate. To the mounting plate accessories for pole mounting or truss clamping can be assembled.

TT+ speakers MUST be suspended only with RCF approved rigging hardware.

**WARNING:** Daisy chaining speakers always make sure that the maximum current requirement does not exceed the maximum admitted POWERCON current. In case of doubt call the closest RCF SERVICE CENTRE.

## **VOLTAGE SETUP (RESERVED TO THE RCF SERVICE CENTRE)**

### **TTL11-AH**

230 Volt, 50 Hz SETUP : FUSE VALUE T 1.25 A L 250 V

115 Volt, 60 Hz SETUP : FUSE VALUE T 3.15 A H 250 V

### **TTL11-BA**

230 Volt, 50 Hz SETUP : FUSE VALUE T 1.25 A L 250 V

115 Volt, 60 Hz SETUP : FUSE VALUE T 3.15 A H 250 V

# TECHNICAL SPECIFICATIONS

## TTL11-AH

## TTL11-AB

### ACOUSTICAL

Operating frequency range	150 – 20.000 Hz	60 – 300 Hz
Max SPL	136 dB	133 dB
Coverage	10° to 40°	90° x 40°
Crossover point	350 -1.300 Hz	350 Hz

### TRANSDUCERS

Low frequency		4 x 8" mid-bass
Mid frequency	3 x 8" midranges	
High frequency	4 x 2.5" v.c. titanium drivers	

### AMPLIFIER

Total power	2000 Watt	2000 Watt
Low section		2 x 1000 Watt
Mid Section	3 x 350 Watt	
High section	4 x 250 Watt	

### CONNECTIONS

Signal Input/Output XLR male/female  
Power Input/Output Powercon male/female

### CONTROLS

High pass, wall mounting, RDNet bypass,  
Sensitivity Control

### SYSTEM SETTINGS

Height, Throw, Delay

### ANALOG INPUT

2 way equalisation, crossover filtering  
fast limiter, RMS limiter

### MECHANICAL

Size	1198 x 261 x 242	1198 x 261 x 242
Weight	39 Kg	37 Kg