# ViRAY







# **ViRAY**

# with DDP Dual Diaphragm Planar-wave-driver Technology

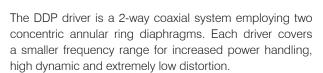
Whether it's for live touring applications or high-end fixed installations, ViRAY has been created to surpass and excite the needs of both user and listener in equal measure.

Introducing "ViRAY" Coda Audio's new compact 3-way symmetrical line array system with DDP technology.

As with all Coda Audio products, the design concept of a new product always start with the key components. ViRAY is no different. ViRAY incorporates all new DDP (Dual Diaphragm Planar-wave-driver Technology), the purpose-built 8" coaxial mid/high planar wave drive sits at the heart of the system.







The larger annular midrange diaphragm covers the frequency range 600 - 6.500 Hz with a smooth, linear response. The extended diaphragm excursion of max. +/ - 0,8 mm results in high output and increased power handling up to 1300 W peak.



The ultra light annular diaphragm for the high range offers exceptional transient response with very high efficiency from 6 to 22 kHz.

This distinctive new transducer was engineered to radiate a true coherent planar wave front form a rectangular piston without internal diffraction for superior dispersion control and high fidelity sound.

The patented design is a result of extensive, dedicated research and development providing dramatic improvement in dynamic response, clarity and transparency.

# ViCOUPLER Technology

## **VICOUPLER**

All ViRAY drivers are loaded to a common ViCOUPLER which combines the energy produced from all transducers to perform as a single source, without phase destruction achieving a coherent and uniform wavefront. In fact the ViCOUPLER determines the horizontal on-axis and off-axis frequency response.

The ViCOUPLER technology integrates 3 main functions:

- Waveguide for the Mid/High Planar-wave-driver
- Large plane screen panel to avoid backwards reflections
- Phase plug for the 8" drivers for optimized loading

The ViCOUPLER unites all elements to form a complete entity with complete balance.

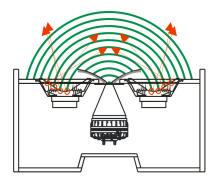
reflected waves produce comb filter response. The ViCOUPLER ensures that sound is reflected in a coherent manner because the dimension of the reflective surface is large compared to the wavelength.

In conventional design a backward sound wave from the mid/high range reflects to the cone onto the low frequency

drivers. The interference between the direct radiating and

In fact a ViCOUPLER loaded array performs as a single waveguide mounted in a large, flat baffle (screen) without diffractions.

When sound waves from the mid/high range gather onto the flat surface, it generates a coherent sound field providing uniform power response and directivity control over a wide frequency range.



Conventional design



ViRAY with ViCOUPLER

## Phase-Plug-Loaded cone drivers

Precision phase plugs are integrated into the ViCOUPLER to ensure acoustically coherent coupling of the low range providing perfectly consistent coverage down to 350Hz. This optimizes the horizontal directivity and maximizes the system efficiency.

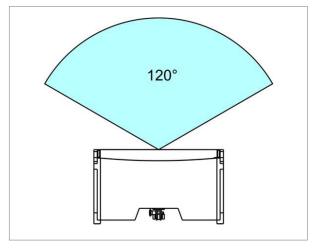




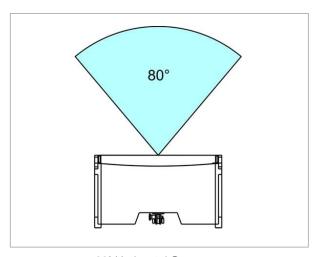
# **Horizontal Dispersion**

To maximise precise coverage, and therefore maximise application results, user selectable horizontal coverage of  $120^{\circ}$  /  $80^{\circ}$  or asymmetrical  $100^{\circ}$  ( $60^{\circ}$ +  $40^{\circ}$ ) or ( $40^{\circ}$ +  $60^{\circ}$ )

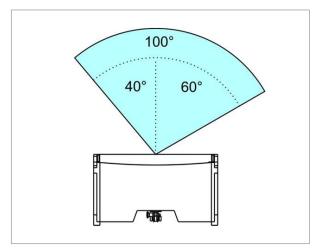
are available, allowing for very accurate audience coverage, reduced possibility of reflections, all resulting in outstanding system intelligibility.



120° Horizontal Coverage



80° Horizontal Coverage



100° Horizontal Coverage

ViRAY's vertical coverage is array dependent from 0° to 10° in 1° steps. The system design allows for a vast increase in ground stack configurations as well as in flown arrays. ViRAY frequency response is from 55Hz to 22kHz. For extended Sub response the SCV-F Subwoofer, which utilises Coda Audio's award winning Sensor Control technology, turns the two elements into one remarkable system. The SCV-F can be flown in curved arrays allowing full system flown applications to be completely coherent in all respects. SCV-F may be used in Omni or Cardioid formats.

The ViRAY is designed to work exclusively with dedicated Coda Audio RC racks as an integrated solution for DSP control, amplification, network remote control and diagnostic. The integrated solution ensures optimal performance and protection.

# **Application**

Designed for medium size touring and installation applications the ViRAY is perfectly suited for theatres, clubs, houses of worship, corporate events and touring. Dedicated hardware allows the ViRAY to be used as a down-fill for AIRLINE LA12, and as a ground stack or in-fill system in its own right.



# SCV-F

# Compact 18" sensor controlled subwoofer

Coda Audio's award winning sensor controlled technology is extended with the compact SCV-F subwoofer. Combining a closed feedback-loop control with large, low noise laminar flow ports the SCV-F subwoofer offers increased output and well controlled response. This technology goes ahead of conventional subwoofers offering measurable and clearly audible advantages in the impulse response, group delay, waterfall and the distortion domain. In fact the range 35 – 100 Hz is time aligned while the group delay increases slightly in the range 25 – 35 Hz. The reduced group delay results in extremely accurate and musical bass reproduction. The sound quality is far beyond conventional port loaded systems.

The 18" long excursion driver contains an integrated velocity sensor that measures the diaphragm movement in real time, compares it with the input audio signal and adjusts the amplifier driving voltage and/or current, correcting any driver inaccuracy. It is a self-optimizing, closed feedback-loop in which the driver confirms precisely the power it needs to ac-

curately reproduce the original audio signal. The key advantage is a very extended and controlled response. Any distortion produced by the driver or the enclosure is instantly corrected by the feedback.

## Electronics and cabling

The Coda Audio C10 amplifier and comparator provides integrated power and feedback loop control solution for the SCV-F subwoofer. The unit has two amplifier channels as well as two comparators connected to a 5-pol Neutrik XLR input. The Comparator's electronic circuit loop measures the voice coil excursion of the driver and corrects the signal, significantly decreasing distortion. The unit is set for flat frequency response down to 25 Hz (-6 dB).

Primarily designed for integration into the ViRAY line arrays, the SCV-F is also suited for a variety of applications in touring and installations where compact size, high precision, deep bass with directivity control is needed.







# Specifications

# SPECIFICATIONS

TECHNICAL SPECIFICATIO	NS VIRAY
Type:	Compact 3-way Bi-amplified line array modu
	Minimal 1, maximal 24 units line array
Frequency response:	55 Hz - 22 kHz (-3 dB)
Power handling:	
Low AES / peak:	600 / 2400 W
Mid AES / peak:	150 / 1300 W
	80 / 400 W
Sensitivity low 1 W / 1 m:	99 dB
Sensitivity mid/hi 1 W/1m:	112 dB
Max. SPL peak low $(+6dB)$ :	133 dB
	142 dB
	120°, 80° or 100° (60° $+$ 40° or 40° $+$ 60°)
	Array dependent, 0°-10° in 1°-steps
	2x 8" neodymium, water resistant cones
	2" (50.8 mm) voice coil, 300 W (AES) each
	8" coaxial neodymium Planar-wave-driver
	Mid: 3.5" (90 mm) voice coil, 150 W (AES)
	Hi: 1.75" (44.4 mm) voice coil, 80 W (AES)
	600 Hz Active, 6.300 Hz Passive

SYSTEM PER	FORMANCE		
	Horizontal Coverage	Vertical Coverage	Peak Output (+6dB)
			133 dB
		0 - 10° adjustable	139 dB
			145 dB
		0 - 80° adjustable	151 dB

	Sensor controlled subwoofer
	Compact subwoofer
Frequency response:	25Hz (-6dB)
Power handling (AES / peak):	1500 W / 6000 W
Sensitivity 1 W / 1 m:*	97 dB
Maximum output peak:**	138 dB
	18" neodymium ultra low distortion woofers
	(101.6 mm) voice coil, 1500 W (AES)
Nominal impedance:	8 Ohm, +1 / -1
Cabinets per channel C10:	3 or 4***
Input connectors:	$2 \times NeutrikTM NL4MP (rear) + 2 \times NeutrikTM$
	NL4MP (front)
Velocity sensors output:	1 x Neutrik™ NC3MAV (rear) + 1 x Neutrik™
	NC3MAV (front)
	Baltic birch
	Polyurea coating (water resistant)
	674 x 490 x 790 mm

# Accessories

## **ACCESSORIES VIRAY**

FR-VR Heavy duty frame for flying or ground stacking ViRAY and SCV-F

EXBAR-VR Extension bar for FR-VR frame

TILT-VR Tilting legs for ground stacking ViRAY/SCV-F on FR-VR

DOW-VR-12 Down fill ViRAY under LA12 LP-VR Laser plate for FR-VR frame

VGA Groundstack adapter for ViRAY and SCV-F

SH-VR Shackle for FR-VR FC-VR Flight case for 4x ViRAY

## **ACCESSORIES SCV-F**

FR-VR Heavy duty frame for flying or ground stacking ViRAY and SCV-F

EXBAR-VR Extension bar for FR-VR frame

TILT-VR Tilting legs for ground stacking ViRAY/SCV-F on FR-VR

SH-VR Shackle for FR-VR
DOL-SCV Front dolly for single SCV-F
DOT-SCV Transport dolly for up to 4 x SCV-F
CO SCV Protection cover for single SCV-F
CO SCV-3 Protection cover for 3x SCV-F

CAH SCP-10 Hybrid speaker and sensor system cable 10m

1xNL4 Speakon® +1x 5-PolXLR-M

2xNL4 Speakon® +2x 3-PoIXLR-F

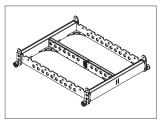
CAH SCP-20 Hybrid speaker and sensor system cable 20m

1xNL4 Speakon® + 1x 5-PolXLR-M 2xNL4 Speakon® + 2x 3-PolXLR-F

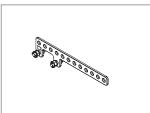
CAL4SP-1.5 4-Pole loudspeaker cable, 4x4 mm<sup>2</sup> 1,5m

1xNL4 Speakon®

CAL4SP-0.75 4-Pole loudspeaker cable, 4x4 mm² 1,5m 1xNL4 Speakon®



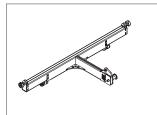
FR-VR Heavy duty frame for flying or ground stacking ViRAY and SCV-F



EXBAR-VR Extension bar for FR-VR frame



TILT-VR
Tilting legs for ground tacking ViRAY/SCV-F on FR-VR



DOW-VR-12 Down fill ViRAY under LA12



Laser plate for FR-VR frame



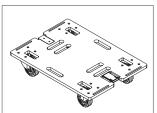
VGA
Groundstack adapter for ViRAY and SCV-F



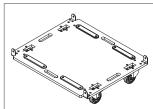
SH-VR Shackle for FR-VR



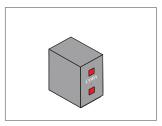
FC-VR Flight case for 4x ViRAY



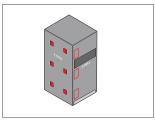
DOL-SCV Front dolly for single SCV-F



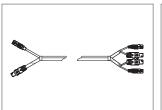
DOT-SCV Transport dolly for up to 4 x SCV-F



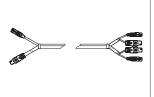
CO SCV Protection cover for single SCV-F



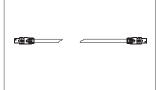
CO SCV-3
Protection cover for 3x SCV-F



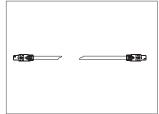
CAH SCP-10 Hybrid speaker and sensor system cable 10m



CAH SCP-20 Hybrid speaker and sensor system cable 20m

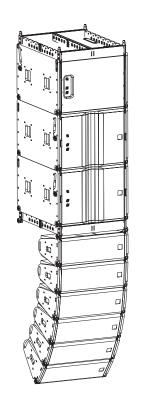


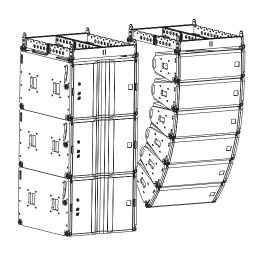
CAL4SP-1.5 4-Pole loudspeaker cable, 4x4 mm² 1,5m

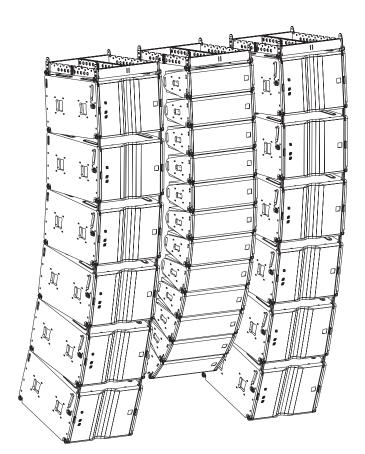


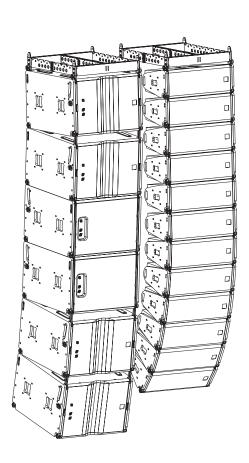
CAL4SP-0.75 4-Pole loudspeaker cable, 4x4 mm<sup>2</sup> 0,75m

# **RIGGING OPTIONS**

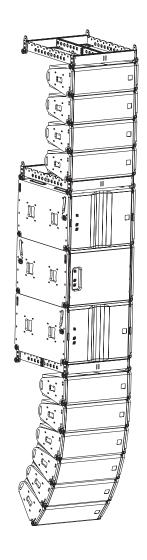


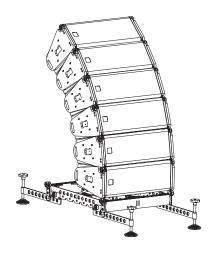






# RIGGING OPTIONS

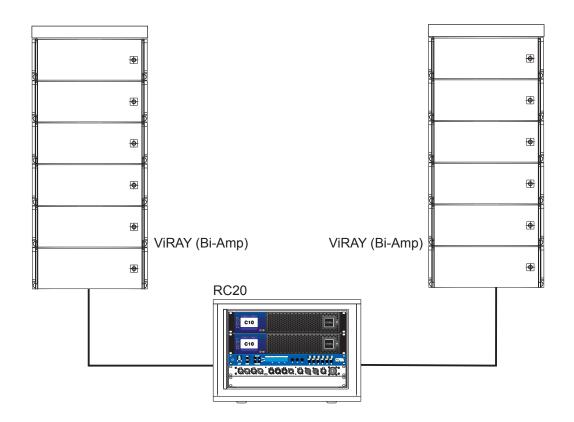








ViRAY Bi-Amp Stereo



System components:

12x ViRAY (Bi-Amp)

1x RC20 2x FR-VR

Cables:

2x CAL4SP-20

Optional:

2x FC-VR

1x DOT RC Dolly

Standalone Arrayed ViRAY without subwoofers Frequency range (-6dB): 55Hz – 22kHz

Cabinets per RC20:

		1
	Optimum	Maximum
ViRAY	2x4	2x6

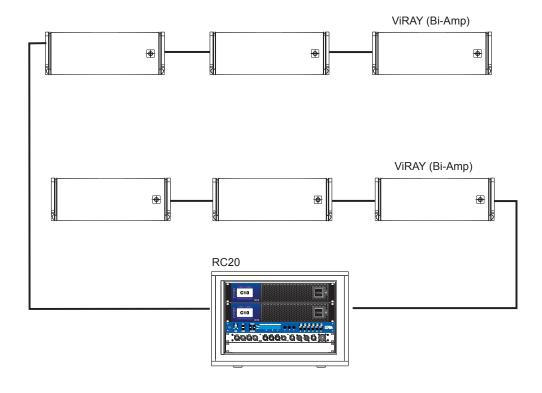
Presets:

VRay-A-L -Optimized for Array of 6 to 8 ViRAYs (per side)

Crossover Preset when used with Subs:

VRay-Ax-70 -70Hz crossover optimized for array of 6 to 8 ViRAYs VRay-Ax-100 -100Hz crossover optimized for array of 6 to 8 ViRAYs

ViRAY Bi-Amp Stereo Frontfill



System components: 6x ViRAY (Bi-Amp) 1x RC20

Cables:

4x CAL4SP-20

4x Speakon Adaptor 4-Pol

Optional: 2x FC-VR 1x DOT RC Dolly Frontfill System

Frequency range (-6 dB): 55Hz – 22kHz

Cabinets per RC20:

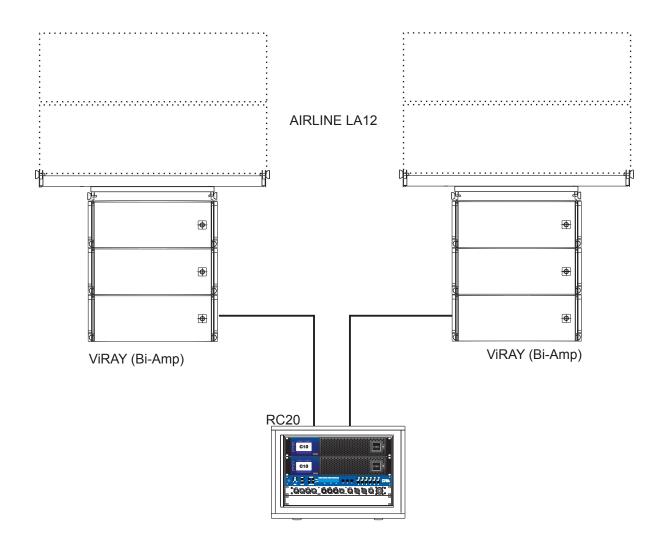
	Optimum	Maximum
ViRAY	2x4	2x6

Presets:

-Full-Range optimized for single (not arrayed) VRay-A-FF

ViRAY (Frontfill)

ViRAY Bi-Amp Stereo Downfill



System components:

6x ViRAY (Bi-Amp)

1x RC20

2x DOW-VR Alteration Kit

Cables:

2x CAL4SP-20

Airline LA12 Downfilll System

Frequency range (-6 dB): 55Hz - 22kHz

Cabinets per RC20:

Optimum Maximum **ViRAY** 2x4 2x6

Presets:

VRay-A-DF

-optimized for 3-4 ViRAYs including delay presetting

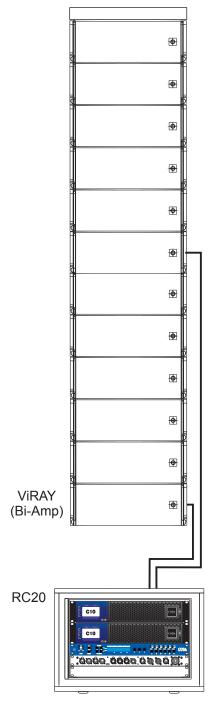
and 100Hz x-over.

Optional: 2x FC-VR 1x DOT RC Dolly

# **System Solutions**

# SYSTEM SOLUTIONS

ViRAY Bi-Amp Mono



System components: 12x ViRAY (Bi-Amp)

1x RC20 1x FR-VR

Cables:

2x CAL4SP-20

Optional: 3x FC-VR

1x DOT RC Dolly

Mono System

Frequency range (-6dB): 55Hz - 22kHz

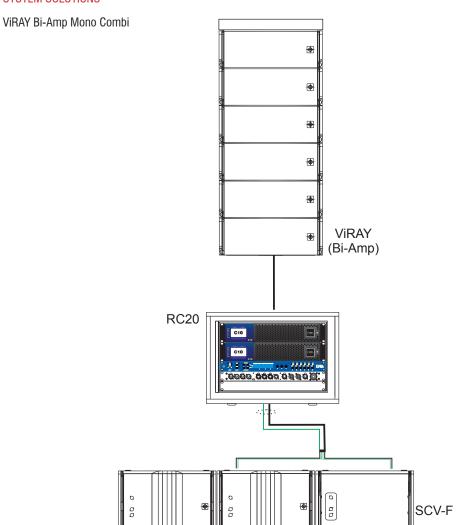
Cabinets per RC20:

	Optimum	Maximum
ViRAY	8x	12x

Presets: VRay-A-L

Crossover Preset when used with Subs:

VRay-Ax-70 -70Hz crossover VRay-Ax-100 -100Hz crossover



System components:

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6x ViRAY (Bi-Amp)

6x SCV-F

1x RC20

1x FR-VR

# Cables:

1x CAL4SP-20

1x CAHSCP-20

4x CAL4SP1,5

# Optional:

2x FC-VR

2x DOT-SCV-F

2x CO-SCV-F-3

1x DOT RC Dolly

Mono System

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Frequency range (-6dB): 25Hz - 22kHz

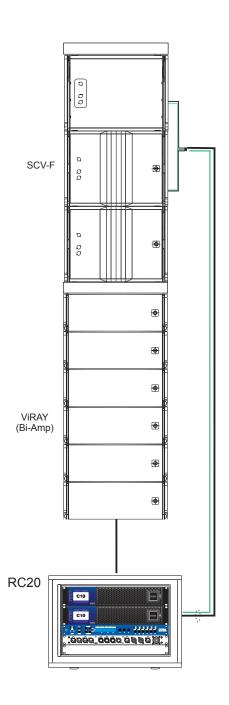
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# Cabinets per RC20:

	Optimum	Maximum
ViRAY	4x	6x
SCV-Cardio	3x	6x
SCV-Omni	2+2	4+4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination: VRAxSCV70C -ViRAY in Bi-amp + 3xSCV in Cardio mode VRAxSCV70 -ViRAY in Bi-amp + SCV or SCP in omni mode

ViRAY Bi-Amp Mono Combi



System components:

6x ViRAY (Bi-Amp)

3x SCV-F

1x RC20

2x FR-VR

# Cables:

1x CAL4SP-20

1x CAHSCP-20

1x CAL4SP1,5

# Optional:

2x FC-VR

1x DOT-SCV-F

1x CO-SCV-F-3

1x DOT RC Dolly

Mono System

Frequency range (-6dB): 25Hz - 22kHz

# Cabinets per RC20:

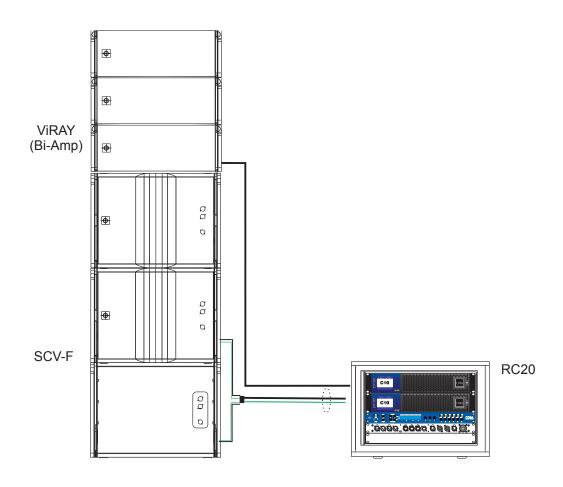
	Optimum	Maximum
ViRAY	4x	6x
SCV-Cardio	3x	6x
SCV-Omni	2+2	4+4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination:

VRAxSCV70C -ViRAY in Bi-amp + 3xSCV in Cardio mode

VRAxSCV70 -ViRAY in Bi-amp + SCV in omni mode

ViRAY Bi-Amp Mono Groundstack



System components:

3x ViRAY (Bi-Amp)

3x SCV-F

1x RC20

1x VGA

Cables:

1x CAL4SP-20

1x CAHSCP-20

1x CAL4SP1,5

Optional:

1x FC-VR

1x DOT-SCV-F

1x CO-SCV-F-3

1x DOT RC Dolly

Mono Groundstack System

Frequency range (-6dB): 25Hz – 22kHz

Cabinets per RC20:

	Optimum	Maximum
ViRAY	3x	6x
SCV-Cardio	3x	6x
SCV-Omni	2+2	4+4

Combi System Preset for ViRAY + SCV-F:

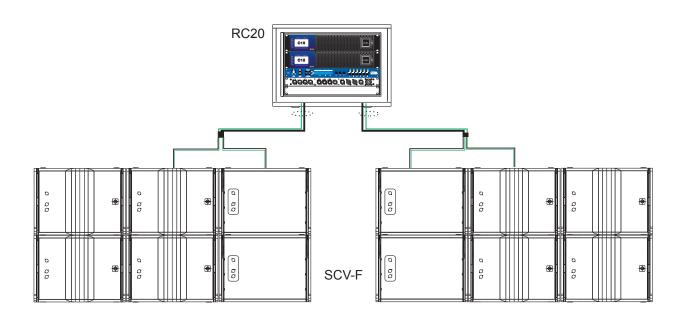
VRA-GndSCV-C -3 to 4 ViRAYs in Bi-amp + 3xSCV-F in Cardio

mode

VRA-GndSCV -3 to 4 ViRAYs in Bi-amp + 3xSCV-F in onmi

mode

SCV Cardio Mode



System components:

12x SCV-F 1x RC20

Cables:

2x CAHSCP-20 8x CAL4SP1,5

Optional:

4x DOT-SCV-F 4x CO-SCV-F-3 1x DOT RC Dolly SCV-F Sub extension

Cabinets per RC20:

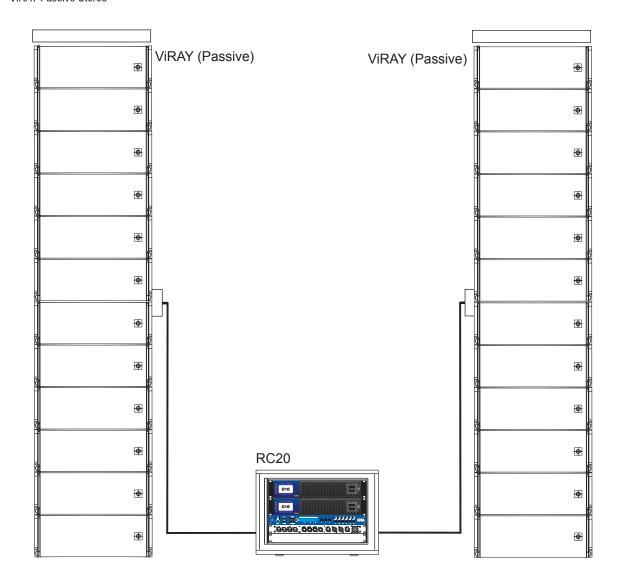
	Optimum	Maximum
SCV-Cardio	. 6x	12x
SCV-Omni	2+2+2+2	4+4+4+4

70Hz Crossover point for groundstacked subs:

SCV-Card70 SCV in Cardio mode SCV or SCP in omni mode SCV-omni70

100Hz Crossover point for flown Subs: SCV-Card100 -SCV in Cardio mode SCV-omni100 -SCV or SCP in omni mode

# ViRAY Passive Stereo



System components:

24x ViRAY 1x RC20 2x FR-VR

Cables:

2x CAL4SP-20 2x CAL4SP-10 2x CAY-2

Optional:

6x FC-VR 1x DOT RC Dolly Standalone Arrayed ViRAY without subwoofers Frequency range (-6dB): 55Hz – 22kHz

Cabinets per RC20:

	Optimum	Maximum
ViRAY	4x4	4x6

Presets:

VRay-P-L -Optimized for Array of 6 to 8 ViRAYs (per side)

Crossover Preset when used with Subs:

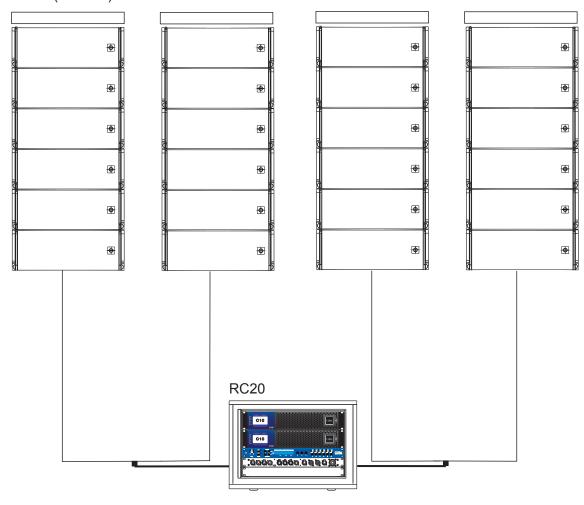
VRPx70 -ViRAY in Passive Crossover point 70Hz
VRPx100 -ViRAY in Passive Crossover point 100Hz

# **System Solutions**

# SYSTEM SOLUTIONS

ViRAY Passive Stereo

# ViRAY (Passive)



System components:

ViRAÝ 24x RC20 1x

4x FR-VR

Cables:

4x CAL4SP-20

CAY-2 2x

Optional:

FC-VR 6x

DOT RC Dolly 1x

Standalone Arrayed ViRAY without subwoofers Frequency range (-6dB): 55Hz - 22kHz

Cabinets per RC20:

	Optimum	Maximum
ViRAY	4x4	4x6

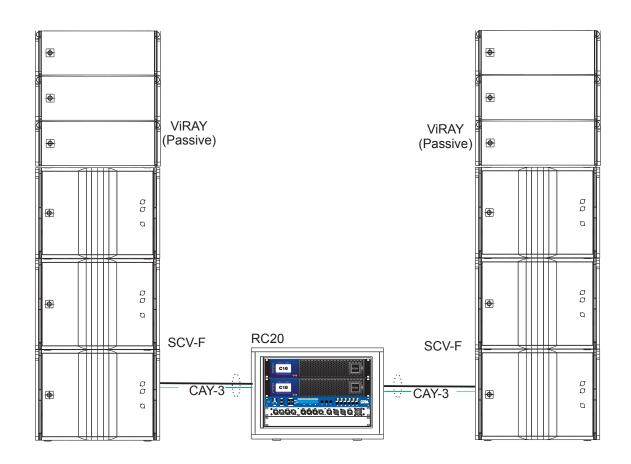
Presets:

VRay-P-L -Optimized for Array of 6 to 8 ViRAYs (per side)

Crossover Preset when used with Subs:

VRPx70 -ViRAY in Passive Crossover point 70Hz VRPx100 -ViRAY in Passive Crossover point 100Hz

ViRAY Passive Stereo Groundstack



System components:

6x ViRAY

6x SCV-F

1x RC20

2x VGA

# Cables:

2x CAHSC-20 2x CAL4SP-1,5

2x CAY-3

# Optional:

2x FC-VR

2x DOT-SCV-F

2x CO-SCV-3

1x DOT RC Dolly

Passive ViRAY + SCV-F - 120Hz optimized for small flown or ground stacked arrays

Frequency range (-6dB): 25Hz - 22kHz

# Cabinets per RC20:

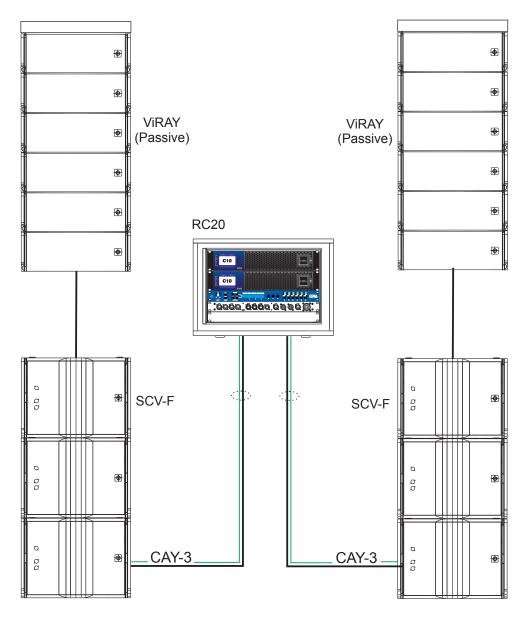
	Optimum	Maximum
ViRAY	2x3	2x6
SCV-F Omni	2x2	2x4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination: VRP-Gnd-SCV -3 to 4 ViRAYs in Passive + 3xSCV-F in onmi mode

# System Solutions

# SYSTEM SOLUTIONS

# ViRAY Passive Combi Stereo



# **System Components:**

12x ViRAY

6x SCV-F

1x RC20

2x FR-VR

# Cables:

2x CAHSC-10

2x CAY-3

2x CAL4SP-10

4x CAL4SP-1,5

# Optional:

3x FC-VR

2x DOT-SCV-F

1x DOT-RC

2x CO-SCV-3

Passive ViRAY + Ground stacked SCV-F strereo Frequency range (-6dB): 25Hz - 22kHz

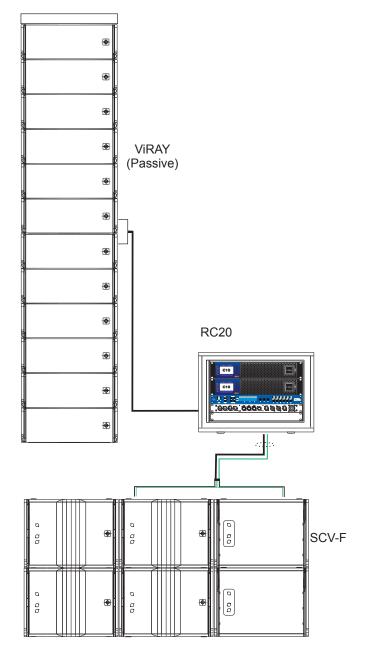
Cabinets per RC20:

## Optimum Maximum **ViRAY** 2x4 2x6 SCV-F Omni 2x2 2x4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination: VRPxSCV70 -ViRAY in Passive mode + SCV or SCP in omni mode. Crossover point 70Hz. optimized for groundstacked subs

VRPxSCV100 -ViRAY in Passive mode + SCV or SCP in omni mode. Crossover point 100Hz. Optimized for groundstacked subs.

# Passive Combi Mono



System components:

12x ViRAY

6x SCV-F

1x RC20

1x FR-VR

# Cables:

1x CAL4SP-20

1x CAY-2

1x CAHSCP-20

5x CAL4SP1,5

# Optional:

3x FC-VR

2x DOT-SCV-F

2x CO-SCV-F-3

1x DOT RC Dolly

Passive ViRAY + Ground stacked SCV-F mono Frequency range (-6dB): 25Hz – 22kHz

# Cabinets per RC20:

	Optimum	Maximum
ViRAY	2x4	2x6
SCV-F Cardio	3x	6x
SCV-F Omni	2+2	4+4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination:

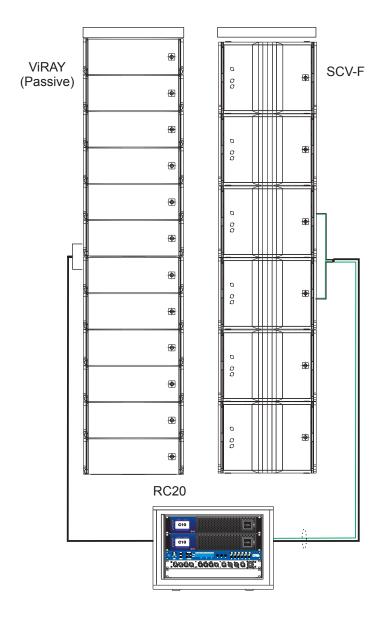
VRPxSCV70 -ViRAY in Passive mode + SCV or SCP in omni mode.

 $\label{eq:vrpxscv70C} \textit{VRPxSCV70C} \quad \textit{-ViRAY in Passive mode + SCV or SCP in Cardio}$ 

mode.

Crossover points 70Hz. Optimized for groundstacked subs.

Passive Combi Mono



System components:

12x ViRAY

6x SCV-F

1x RC20

2x FR-VR

# Cables:

1x CAL4SP-20

1x CAY-2

1x CAHSCP-20

5x CAL4SP1,5

# Optional:

3x FC-VR

2x DOT-SCV-F

2x CO-SCV-F-3

1x DOT RC Dolly

Passive ViRAY + Flown SCV-F mono Frequency range (-6dB): 25Hz - 22kHz

# Cabinets per RC20:

	Optimum	Maximum
ViRAY	2x4	2x6
SCV-F Cardio	3x	6x
SCV-F Omni	2+2	4+4

Combi System Preset for ViRAY + SCV-F/ SCP Sub combination:

VRPxSCV100 -ViRAY in Passive mode + SCV or SCP in omni

mode.

VRPxSCV100C -ViRAY in Passive mode + SCV or SCP in Cardo

mode.

Crossover points 100Hz. Optimized for flown subs.







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