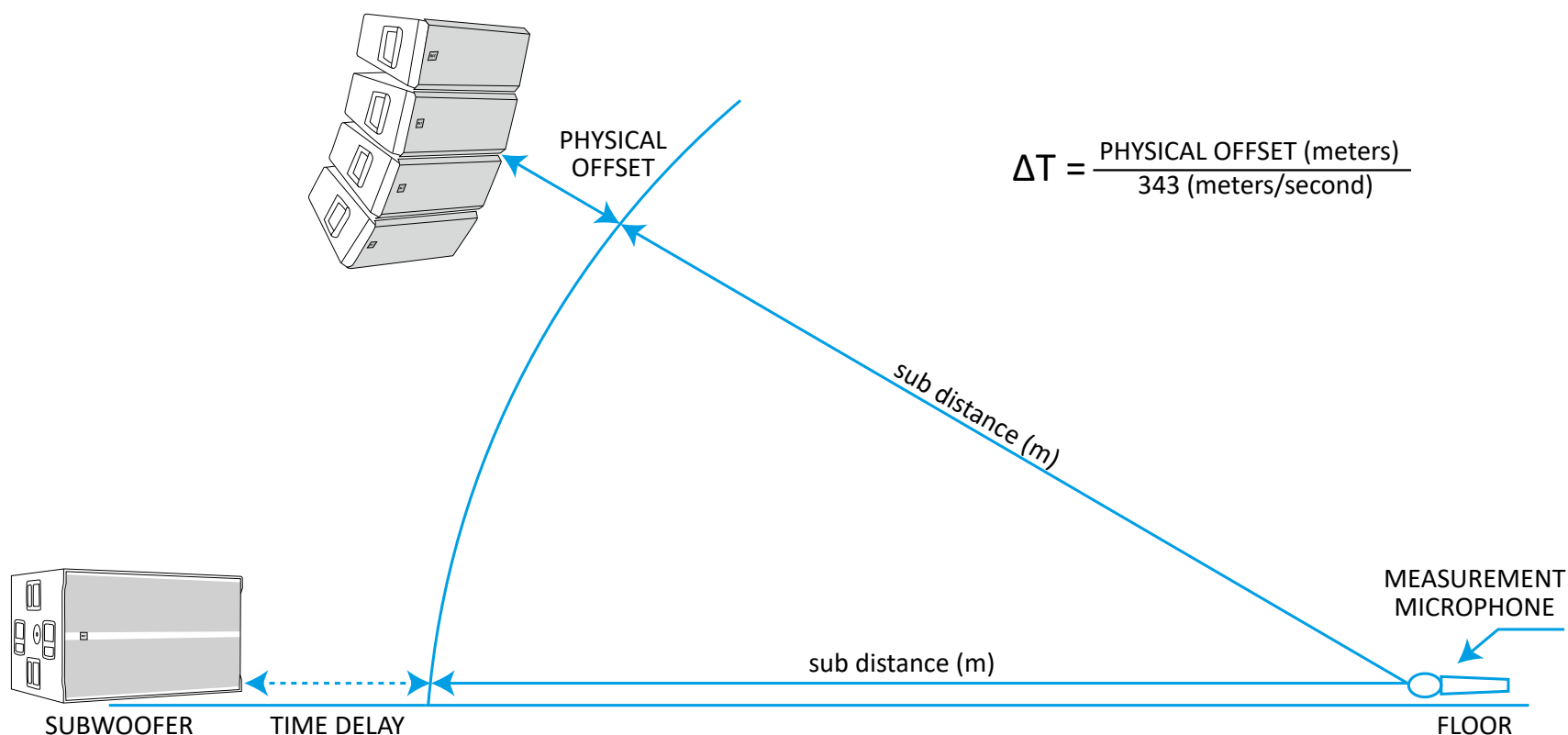


All RCF active speakers feature FIRPHASE processing for a 0° linear-phase response. This means that a perfect phase alignment with other RCF speakers and subwoofers only requires a simple time delay. Time delay is already available onboard RCF HDL and TT+ speakers. Systems without internal delay require an external capable device.

Insert the following pre-alignment values into your RCF speaker's back panel, RDNet manager or external delay device to provide perfect time alignment when paired with RCF subwoofers. For suspended speakers, add (or subtract) delay-values measuring the PHYSICAL OFFSET between the SPEAKER and the SUBWOOFER as in the following scheme:



## HDL 30-A

### Subwoofer 60Hz

Loudspeaker type	HDL 30-A		SUB 9004-AS		SUB 9006-AS		SUB 9006-AS		SUB 9007-AS		SUB 9007-AS		TTS 15-A		TTS 18-A II		TTS 36-A		TTS 56-A	
Preset	60Hz		30 - 60Hz (L2)		20 - 60Hz (S2)		30 - 60Hz (L2)		20 - 60Hz (S2)		30 - 60Hz (L2)		30 - 60Hz (L2)		30 - 60Hz (L2)		30 - 60Hz		30 - 60Hz	
Polarity	[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ - ] / 180°		[ + ] / 0°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	9.9 ms	3.4 m																
	0.0 ms	0.0 m			9.0 ms	3.1 m														
	0.0 ms	0.0 m					9.7 ms	3.3 m												
	0.0 ms	0.0 m							9.0 ms	3.1 m										
	0.0 ms	0.0 m									9.0 ms	3.1 m								
	0.0 ms	0.0 m											6.5 ms	2.2 m						
	0.0 ms	0.0 m													9.4 ms	3.2 m				
	0.0 ms	0.0 m															5.0 ms	1.7 m		
0.0 ms	0.0 m																	9.5 ms	3.3 m	

## HDL 30-A

### Multiple Subwoofer VLF Extension

Loudspeaker type	HDL 30-A		SUB 9006-AS		SUB 9007-AS		TTS 36-A		TTS 56-A	
Preset	60Hz		30 - 60Hz (L2)		20 - 50Hz (S1)		45 - 60Hz		30 - 60Hz	
Polarity	[ + ] / 0°		[ + ] / 0°		[ - ] / 180°		[ - ] / 180°		[ + ] / 0°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	9.7 ms	3.3 m	13.2 ms	4.5 m				
	0.0 ms	0.0 m					5.5 ms	1.9 m	9.0 ms	3.1 m

## HDL 30-A

### Subwoofer 70Hz

Loudspeaker type	HDL 30-A		SUB 9004-AS		SUB 9006-AS		SUB 9007-AS		TTS 15-A		TTS 18-A II	
Preset	70Hz		30 - 70 (L3)		30 - 70 (L3)		30 - 70 (L3)		30 - 70 (L3)		30 - 70 (L3)	
Polarity	[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	9.7 ms	3.3 m								
	0.0 ms	0.0 m			9.5 ms	3.3 m						
	0.0 ms	0.0 m					9.0 ms	3.1 m				
	0.0 ms	0.0 m							6.5 ms	2.2 m		
	0.0 ms	0.0 m									10.0 ms	3.4 m

## HDL 30-A

### Multiple Subwoofer VLF Extension

Loudspeaker type	HDL 30-A		SUB 9006-AS		SUB 9007-AS	
Preset	70Hz		30 - 70 (L3)		20 - 50Hz (S1)	
Polarity	[ + ] / 0°		[ + ] / 0°		[ - ] / 180°	
Link or X-Over Output			Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	9.5 ms	3.3 m	12.0 ms	4.1 m

$\Delta T$  (ms) = Physical Offset (m) / 0.343 (m/ms)

Ø - polarity reverse [ + ] = 0° Phase [ - ] = 180° Phase

To convert milliseconds (ms) values in meters, multiply them by 0.343

## HDL 30-A

### Subwoofer 80Hz

Loudspeaker type	HDL 30-A		SUB 9004-AS		SUB 9006-AS		SUB 9007-AS		TTS 15-A		TTS 18-A II	
Preset	80Hz		30 - 80 (L4)		30 - 80 (L4)		30 - 80 (L4)		30 - 80 (L4)		30 - 80 (L4)	
Polarity	[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	10.0 ms	3.4 m								
	0.0 ms	0.0 m			9.5 ms	3.3 m						
	0.0 ms	0.0 m					8.7 ms	3.0 m				
	0.0 ms	0.0 m							7.0 ms	2.4 m		
	0.0 ms	0.0 m									10.5 ms	3.6 m

## HDL 30-A

### Multiple Subwoofer VLF Extension

Loudspeaker type	HDL 30-A		SUB 9006-AS		SUB 9007-AS	
Preset	80Hz		30 - 80 (L4)		20 - 50Hz (S1)	
Polarity	[ + ] / 0°		[ + ] / 0°		[ - ] / 180°	
Link or X-Over Output			Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	9.5 ms	3.3 m	12.0 ms	4.1 m

## HDL 30-A

### Subwoofer 90Hz

Loudspeaker type	HDL 30-A		SUB 8004-AS		SUB 8006-AS		SUB 9004-AS		SUB 9006-AS		SUB 9007-AS		TTS 15-A		TTS 18-A II		TTS 36-A		TTS 56-A	
Preset	90Hz		90Hz		90Hz		30 - 90 (L5)		30 - 90 (L5)		30 - 90 (L5)		30 - 90 (L5)		30 - 90 (L5)		30 - 90Hz		30 - 90Hz	
Polarity	[ + ] / 0°		[ + ] / 0°		[ - ] / 180°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ + ] / 0°		[ - ] / 180°		[ - ] / 180°		[ + ] / 0°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	5.0 ms	1.7 m																
	0.0 ms	0.0 m			10.0 ms	3.4 m														
	0.0 ms	0.0 m					9.5 ms	3.3 m												
	0.0 ms	0.0 m							9.5 ms	3.3 m										
	0.0 ms	0.0 m									8.7 ms	3.0 m								
	0.0 ms	0.0 m											6.7 ms	2.3 m						
	0.0 ms	0.0 m													4.4 ms	1.5 m				
	0.0 ms	0.0 m															5.5 ms	1.9 m		
	0.0 ms	0.0 m																	8.0 ms	2.7 m

## HDL 30-A

### Multiple Subwoofer VLF Extension

Loudspeaker type	HDL 30-A		SUB 9006-AS		SUB 9007-AS		TTS 36-A		TTS 56-A	
Preset	90Hz		30 - 90 (L5)		20 - 50Hz (S1)		45 - 90Hz		30 - 60Hz	
Polarity	[ + ] / 0°		[ + ] / 0°		[ - ] / 180°		[ + ] / 0°		[ - ] / 180°	
Link or X-Over Output			Link Output		Link Output		Link Output		Link Output	
Pre-alignment delay	0.0 ms	0.0 m	0.0 ms	0.0 m	4.0 ms	1.4 m				
	0.0 ms	0.0 m			1.4 ms	0.5 m	4.3 ms	1.5 m		

$\Delta T$  (ms) = Physical Offset (m) / 0.343 (m/ms)

∅ - polarity reverse [ + ] = 0° Phase [ - ] = 180° Phase

To convert milliseconds (ms) values in meters, multiply them by 0.343