QSC™

Passionate About Sound

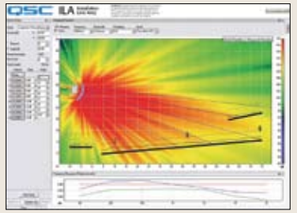
ILA System v2

The Accessible Installation Line Array

Processing | Amplifiers | Loudspeakers

Accessible.

The accessible line array solution for permanent installation.



EASE Focus™ is a software tool that aids in system planning and deployment. Functions performed include:

- Calculating the number of enclosures required for a given space.
- Determining optimum splay angles between enclosures.
- Calculating the angle to set the array grid in a single (variable) pick-point or fixed suspension point application.
- Predicting the acoustical response and SPL throughout the venue.

ILA has proven itself in facilities including houses of worship, hockey stadiums, horse racing tracks, clubs, casinos and performing arts.

The above installations showcase ILA with v1 subwoofer.

The ILA System v2 mission — make touring line array performance accessible to fixed installation venues.

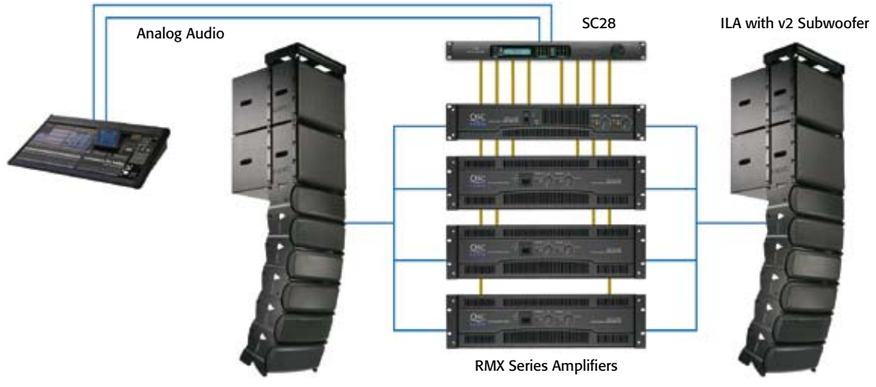
Line array loudspeaker systems have become the standard for concert touring sound due to their audio quality, acoustic output and controllable vertical coverage. Most line array systems currently available are designed for touring applications which require extreme ruggedization and expensive suspension hardware. As a result, overall system cost is driven beyond the means of many facilities that could benefit from line array performance.

By focusing on installation applications, using a molded enclosure and simplifying the rigging design, QSC drove cost out of the ILA System while retaining the sound quality, coverage and power of high-end touring line array systems.

ILA is a line array system designed specifically for installation in a variety of venues and has been successfully installed in facilities ranging from houses of worship to horse racing tracks and from clubs to hockey stadiums. ILA System v2 takes this concept and builds on it by offering a complete solution consisting of processing, amplification, line array, subwoofer and suspension accessories. The result is an accessible system with very high performance, moderate cost and ease of deployment.

Intrinsic Correction™ and SC28

Modern line arrays rely on digital signal processing to perform their best. QSC has developed a sophisticated approach to creating system tunings that improve performance and dramatically simplify system set-up. Intrinsic Correction is far more than just signal processing. It is also a process that begins by taking extensive laboratory measurements of the loudspeaker — typically 60-75 — and then spatially averaging those measurements. Once the spatially averaged response of the loudspeaker is determined, a combination of IIR (Infinite Impulse Response) and FIR (Finite Impulse Response) filters is applied to adjust the time, frequency and amplitude response to a maximally flat band-pass target.



The end result is that signal processing adjustment is no longer a task requiring complicated test gear, prolonged measurements and golden-eared experts. The SC28 System Controller offers preset recall simplicity. Just input the size of the array, the included coverage angle and the amplifier model numbers. The SC28 does all the needed calculations. While it's simple to use, the SC28 offers audio quality so good it's being used on major concert tours.

For applications requiring networked audio and more complex signal routing, BASIS™ processors also support ILA. An Intrinsic Correction white paper is available for download from the QSC website.

Amplification

With over forty years of experience, QSC is known as the leading manufacturer of professional power amplifiers. While there are several QSC amplifier models that will properly power an ILA system, RMX Series amplifiers are an especially good choice for an ILA v2 solution. These proven workhorse amps deliver high power and superb audio quality at affordable prices.

An entire dual-channel ILA system consisting of four subwoofers and twelve ILA line array elements can be powered with just three RMX5050 and one RMX2450 amplifiers (see diagram). An additional four ILA elements may be added without the need for any additional amplification.

ILA

Each Installation Line Array element uses a pair of high-power, neodymium magnet, 8" diameter low-frequency drivers. Both woofers produce low frequencies but only one covers the mid-range resulting in more uniform directivity in the crossover region. For high frequencies, a pair of 1.75" (voice coil diameter) neodymium compression drivers with titanium domes are mounted on a patented* multiple aperture diffraction waveguide that provides extremely wide coverage (140º). As a result, a WL2082-i system will rarely require additional side or center fill speakers and solid stereo imaging is preserved across the entire listening area.

Available in black or white, the WL2082-i enclosure is made of high impact polystyrene with extensive internal ribs to eliminate acoustic losses due to sidewall flex. The Installation Line Array may be used in outdoor applications where the system is not directly exposed to the elements. The enclosure material is formulated with UV inhibitors, the grille is made of powder coated aluminum and the woofer cones are weather resistant.

**Patent No. 7,177,437*

WL118-sw Subwoofer

The subwoofer for ILA System v2 is the WL118-sw, a single 18" version of the popular WideLine-10 touring, dual 18" subwoofer and offers an impressive combination of punch and low-frequency extension. ILA subs may be suspended at the top of an ILA array using the standard FB2082-i array frame. When trim height is limited, the ILA sub may be suspended behind the array using the available EB2082-i extension bar.

Processing

The SC28 is a 2 input, 8 output digital system controller containing pre-programmed tunings for the ILA and other QSC loudspeaker systems. In addition to the preset tunings, the SC28 also offers user-adjustable equalization and delay.

Audio inputs and outputs are via balanced, line-level, analog XLR connectors. Four outputs for each of the two inputs are provided for use with 2 or 3-way systems plus subwoofers. Simple to operate yet uncompromised in audio quality, the SC28 uses 48 kHz, 24-bit A/D and D/A conversion with 32-bit, floating point DSP for wide dynamic range and low distortion. The advanced DSP is capable of implementing tunings that incorporate IIR as well as FIR filters.

ILA System v2

ILA WL2082-i Loudspeaker Features

- Installation-optimized design brings affordable and uncompromised line array performance to a broader range of venues.
- Compact and attractive appearance, available in black and white, harmonizes with any installation environment.
- Wide 140° horizontal coverage.
- Economical and easy-to-install suspension system with ample array adjustability.

ILA WL118-sw Subwoofer Features

- Single 18" subwoofer in a front loaded, vented enclosure.
- 2000 watt power capacity.
- Frequency range down to 29 Hz.
- May be suspended at the top of a WL2082-i array or behind the array.
- Available in black or white to harmonize with venue décor.

Available ILA Accessories

- FB2082-i: Fly-bar, may be used with WL2082-i, WL118-sw or WL115-sw.
- EB2082-i: Extension bar allows suspending WL118-sw or WL115-sw behind WL2082-i.
- PB2082-i: Pullback bar for WL2082-i.
- QRP-KIT-1: Four quick release pins, for use in place of included bolts.
- GS115-sw: Ground stack kit for WL118-sw or WL115-sw.
- AB2082-i: Angle bracket, allows greater vertical splay between WL2082-i and WL118-sw or WL115-sw enclosures in ground stacked configurations.

SC28 Processing Features

- Two (2) XLR line-level inputs and eight (8) XLR line-level outputs.
- Front panel meters for all inputs and outputs.
- Six (6) parametric filters with adjustable frequency, gain and bandwidth.
- High and low shelf filters with adjustable frequency, gain and slope.
- Sub delay adjustable up to 50.00 ms.
- Array delay adjustable up to 20.00 ms.
- Thermal and excursion dynamic protection for each band-pass.

SC28

RMX Amplifier Features

- Independent, defeatable clip limiters reduce distortion and protect speakers.
- Selectable low-frequency filters (30 or 50 Hz) protect speakers and increase headroom.
- High-current toroidal transformers yield higher power and less noise for 2 ohm operation.
- Front panel LED status indicators enable system monitoring and troubleshooting.
- Extensive protection circuitry and thermal protection.
- Connectors: Input – XLR and 1/4" TRS. Outputs – Speakon™, binding post.

ILA	WL2802-i	WL118-sw
System Type	3-way line array element, Bi-amp or Tri-amp	Vented box
Frequency Range (-10 dB)	68 Hz - 22 kHz	29 Hz - 800 Hz
Frequency Response (±3 dB)	80 Hz - 20 kHz	32 Hz - 200 Hz
Nominal Coverage	140° H	N/A
Power Handling [1] LF / MF	400 W	1000 W / 2000 W
HF	100 W	N/A
Peak Output [2]	133 dB	124 dB
Driver Information LF	2 x 8" transducers, 2" voice coil, neodymium magnet	18" transducer, 4" voice coil, ferrite magnet
HF	2 x 1.75" titanium diaphragm, neodymium magnet	N/A
Controls / Selectors	Bi-amp/tri-amp selector switch, LF/MF shading switch	N/A
Input Connectors	2 x NL8 in parallel	2 x NL8 in parallel and 2 x NL4 in parallel
Suspension / Attachment Point	Integral rigging system, vertical splay adjustable in 1 degree increments from 0-10 degrees	Integral, non-adjustable (straight array only)
Dimensions (HWD) inches	11.8" x 27" x 13.4"	22.1" x 27.6" x 30.3"
Dimensions (HWD) mm	300 mm x 686 mm x 340 mm	562 mm x 702 mm x 771 mm
Net Weight (each)	37 lb / 16.8 kg	111 lb / 50.4 kg

1 Continuous IEC specified test signal, 2 hours.
2 Calculated at 1 m using power capacity and system sensitivity. 6 dB peak-to-average signal ratio assumed.

RMX	Watts per channel			
		Stereo		Bridged
Model	8 Ω	4 Ω	2 Ω*	4 Ω*
RMX2450	500	750	1200	2400
RMX5050	1100	1800	2500	5000

*1 kHz, 0.1% THD *1 kHz, 1% THD*

RMX2450

RMX5050

RoHS

please recycle

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