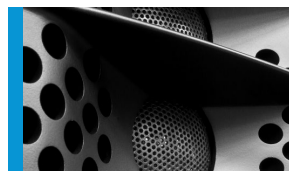**GL 16 i + GL 16 c**

The **GL 16** is a high-performance line array system for high definition voice and music transmission in acoustically challenging venues, particularly in long throw situations. Acoustic coupling between two line arrays arranged one behind the other within the cabinet is exploited in the innovative design of the GL series to provide vertical directivity up to 15 kHz without any loss of power in the lower frequencies, and exceptionally homogenous and symmetrical horizontal dispersion. The design principle also allows the cabinet width to be kept down to a slim 19 cm. The acoustic and mechanical properties of the GL 16 system make it particularly suitable as an alternative to conventional column speakers and compact line arrays. From single element installations in churches, auditoriums and conference facilities to multiple element applications in array configurations in theatres and concert halls, the GL 16 is suitable for a multitude of application.

For operation without separate amplifiers and controllers, active dp (digitally powered) version of the GL 16 is available. The integrated amplifier electronics are based on Class D power amplifiers, which are controlled via particularly low-noise FPGA DSP processing. Various factory-configured presets and volume settings can be called up. Remote monitoring and control is carried out via the Ethernet interface using SEEBURG Network Manager. Signal transmission (AoE) in accordance with the AES 67 standard is also possible.

GL 16 with front grille available in all RAL-colors.

GL 16 c / GL 16 Sub

Integrated fittings for easy connection.

SEEBURG
acoustic line

GL 16 with Front Grill
for unobtrusive installation
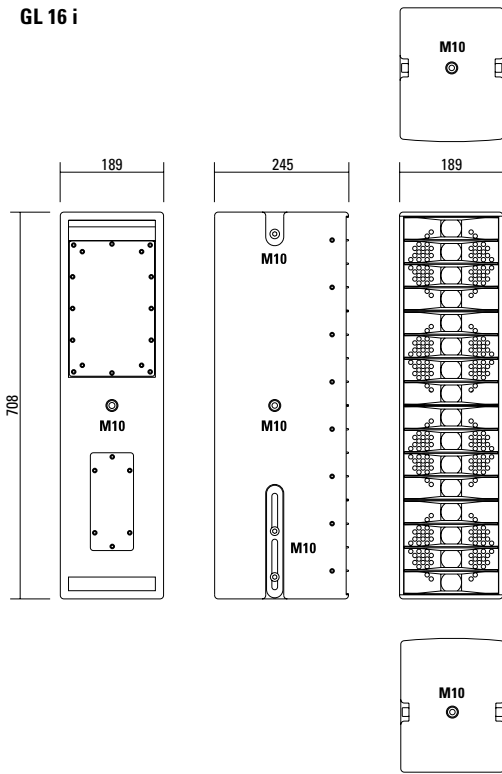(custom version).

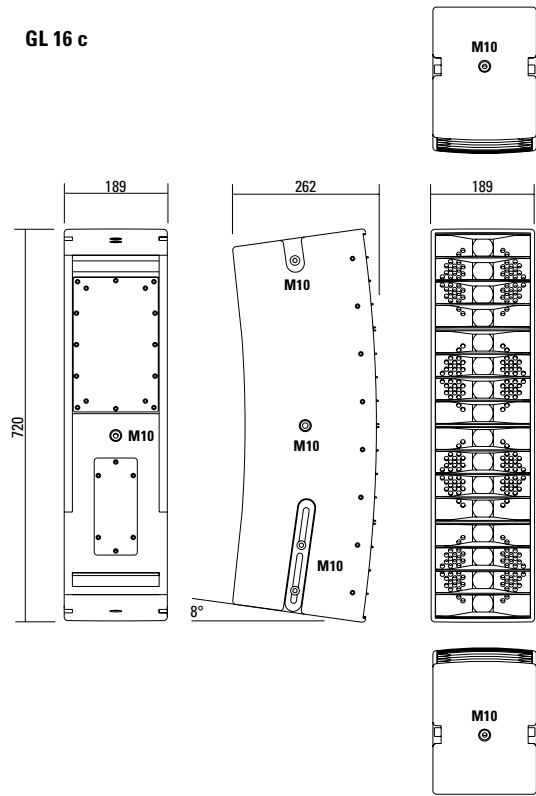GL 16 i · GL 16 c · GL 16 i Front Grill Version · GL 16 c Front Grill Version

	GL 16 dp 1000	GL 16 a	GL 16 xov
Speaker Components	4 x 6,5" Nd / 16 x 1" Nd Tweeter	4 x 6,5" Nd / 16 x 1" Nd Tweeter	4 x 6,5" Nd / 16 x 1" Nd Tweeter
Description	Digitally Powered Cylindric Wave Radiator	Cylindric Wave Radiator	Cylindric Wave Radiator
Power AES / Peak	- - -	LF: 400 W / 1200 W HF: 150 W / 450 W	400 W / 1200 W
Amp Power	2 x 500 W AES biamped/ 110-230 V	- - -	- - -
Impedance nominal	- - -	LF: 8 Ω / HF: 8 Ω	8 Ω
Rated Current	0,85 A @ 230 V	- - -	- - -
SPL 1 W / Peak @ 1 m	- - -	LF: > 96 dB / 127 dB HF: > 97 dB / 124 dB	> 127 dB
SPL Peak @ 1 m	> 130 dB	- - -	- - -
Max. Input Signal	25 dBu	- - -	- - -
DSP	DPLMx FPGA Processing 32 bit floating point	- - -	- - -
AD / DA	24 bit / 96 kHz	- - -	- - -
Latency	0,8 ms (analog in to analog out)	- - -	- - -
Usable Range	80 Hz - 20 kHz (- 6 dB)	80 Hz - 20 kHz (- 6 dB)	80 Hz - 20 kHz (- 6 dB)
Tuning Frequency excursion minimum	90 Hz	90 Hz	90 Hz
X-Overpoint acoustical	Depends on preset	Depends on preset	1,1 kHz
Coverage horizontal/ vertical	100° x 7° (i-version) 100° x 23° (c-version)	100° x 7° (i-version) 100° x 23° (c-version)	100° x 7° (i-version) 100° x 23° (c-version)
Mechanical Splay Angle	0° (i-version) 16° (c-version)	0° (i-version) 16° (c-version)	0° (i-version) 16° (c-version)
Connectors	XLR in/thru, Ethercon, Powercon in/thru	2 x Speakon NL4MP in/out Coding: 1 +/- HF, 2 +/- LF	2 x Speakon NL4MP in/out Coding 1 +/- HiMid, 2 +/- loop thru
Rigging / Fittings	11 x M10 Integrated flying hardware	11 x M10 Integrated flying hardware	11 x M10 Integrated flying hardware
Weight	17 kg	16 kg	16,5 kg
Size height x width x depth	70,8 x 18,9 x 24,5 cm (i-version) 72,0 x 18,9 x 26,2 (24,5) cm (c-version)	70,8 x 18,9 x 24,5 cm (i-version) 72,0 x 18,9 x 26,2 (24,5) cm (c-version)	70,8 x 18,9 x 24,5 cm (i-version) 72,0 x 18,9 x 26,2 (24,5) cm (c-version)
Order No.	**00500/2x500W** (i-version) **00501/2x500W** (c-version)	**00500/a** (i-version) **00501/a** (c-version)	**00500/xov** (i-version) **00501/xov** (c-version)

SEEBURG acoustic line

DIMENSIONS

GL 16 i

M10

189   245   189

M10

708

M10   M10   M10

M10

M10

GL 16 c

M10

189   262   189
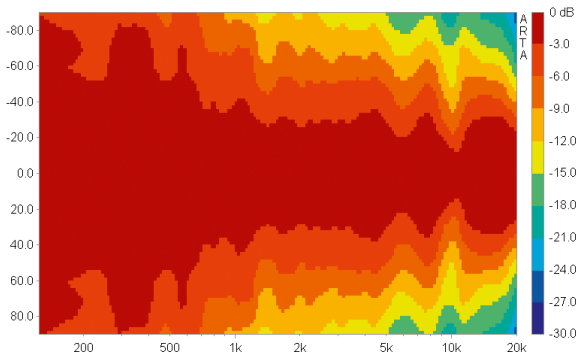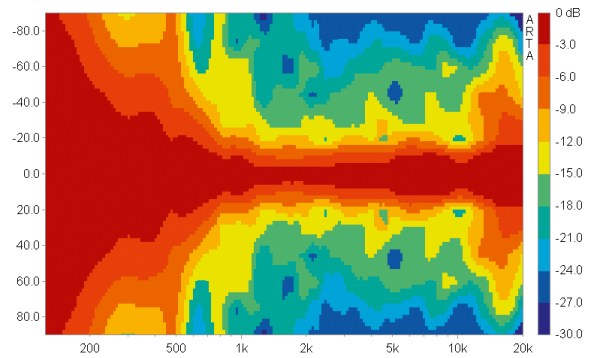
720

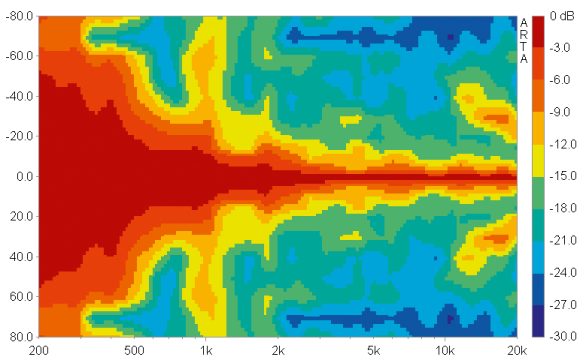M10

M10   M10

M10

8°

M10

COVERAGE PATTERNS

GL 16 i / GL 16 c - horizontal - 2D Directivity Plot

GL 16 c - vertical - 2D Directivity Plot

GL 16 i - vertical - 2D Directivity Plot

SEEBURG
a c o u s t i c   l i n e

Design of two GL 16 systems

M10 thread for connection
of the Flying Cradle or ring screw.

Continous internal steel frame
with integrated M10 threads.

M10 thread
for installation of the Flying Bracket.

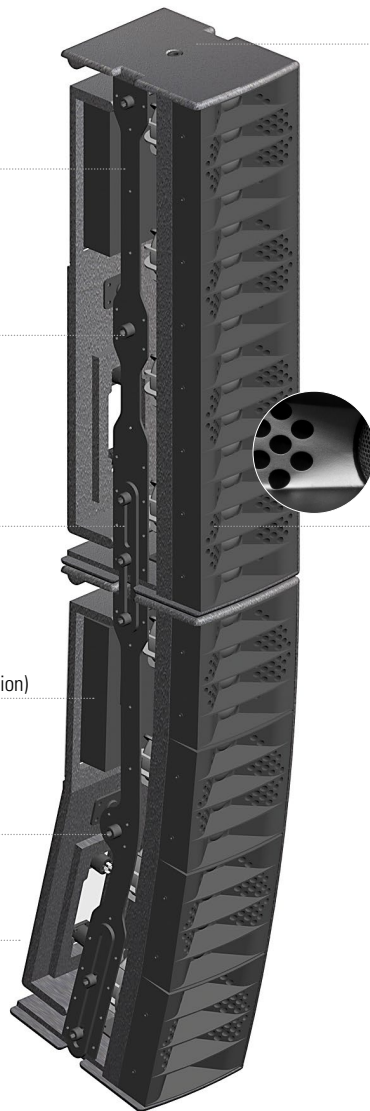**Fitting with elongated holes**
for connecting two systems together.

AMR® - Channels

Integrated amplifier electronics (dp-version)
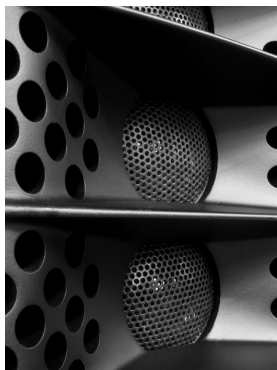Cover panel in the passive version.

M10 thread

Additional M10 thread
on the rear.

AMR® PRINCIPLE

AMR® Principle *

The AMR horn contains integrated channels which allow the sound waves generated by the low-mid speakers mounted behind the horn to pass through.

For sound waves in the frequency range generated by the 1" HF driver, these channels behave as if they were sealed due to the air mass inside the channels acting as a reflector (AMR = Air Mass Reflection).

The low-mid speakers are coupled to an acoustical band pass filter with a center frequency close to the crossover frequency between the Mid and HF drivers. This construction provides smooth horizontal dispersion over a wide frequency range. Another asset is the extreme compactness of this design.
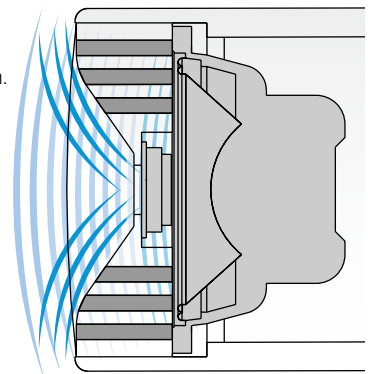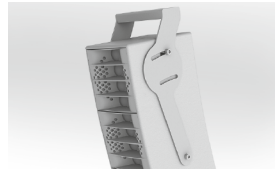
*patentrechtlich geschützt

S E E B U R G
a c o u s t i c   l i n e

Wall Mount for Flying Bracket.

Flying Bracket

Wall Mount with Spacer.

Flying Cradle

Flying Bracket

GL 16 i / GL 16 c-> GL 16 Sub
Montage mittels Verbindern

GL 16 c -> GL 16 Sub
GL 16 c systems can be mounted with the use of the Connection Adapter.

GL 16 i -> GL 16 Sub
GL 16 i systems can be mounted directly.

GL 16 i dp > Monopod

GL 16 i > Monopod

GL 16 c / 2 x GL 16 Sub

2 x GL 16 Sub / 2 x GL 16 i

4 x GL 16 i mounted on XL Base Plate by means of a Connection Adapter.

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acoustic line

GL 16 systems are available not only as „i" (straight) and „c" (curved) versions, but also as selfpowered dp- versions (dp = digitally powered), featuring digital amplifier electronics with a DSP controller. Various factory-configured presets and volume settings can be called up directly on the box or via a network connection.

High-grade electronic components from the industrial sector and a first-class circuit design ensure excellent audio quality with low distortion and a minimal noise floor. Highly efficient and "intelligent" limiter systems ensure optimum protection against overload, without restricting the possibilities offered by this high-performance sound system.

Presets > Quick Start Manual

Level
Adjustment in 3 dB steps
(-12 dB to + 6 dB).

Status

Mute LED
Red light when the system
is muted or under technically
critical conditions.

Limit LED
Yellow light when the limiter
is restricting the level.

Signal LED
Green light when the
input signal exceeds -20 dBu

Power LED
Green light when the system
is switched on.

Ethercon
Interface for remote control and
audio transfer via ethernet (AES 67).

XLR
- Symmetrical analog input.
- Effective filter protection against
  HF interference and DC Voltages.
- Electronically balanced to prevent
  noise.

GL 16 dp 1000
Cylindric Wave Radiator

Status	Level	Presets
Mute	+6dB	Flat —
Limit	0dB	/-Low
Signal	-6dB	/-Low
Power	-12dB	/HP

Mode →

Set ↕

Serial No.:

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acoustic line

AES Network

Input 1=Ground
2=Signal+
3=Signal-

Thru

Mains

110 - 230 V
∿ 50/60 Hz

Made in Germany
www.seeburg.com CE

Presets

Flat
This setting provides a linear
frequency response with a neutral
sound characteristics. Standard
setting for many applications.

Low (slight)
Slight reduction of low / mid range
frequencies for combination with
one GL 16 system.

Low (strong)
Strong reduction of low / mid range
frequencies for combination with
several GL 16 systems.

HP 120 (high pass filter)
Activates a high pass filter
(cut-off frequency 120 Hz) for use in
combination with a subwoofer.

Mode - key
Switches between control modes
Status, Level and Presets.

Set - key
Setting of various values and
Mute on / off.

Powercon (grey)
∿ 110-230 V / 16 A max.
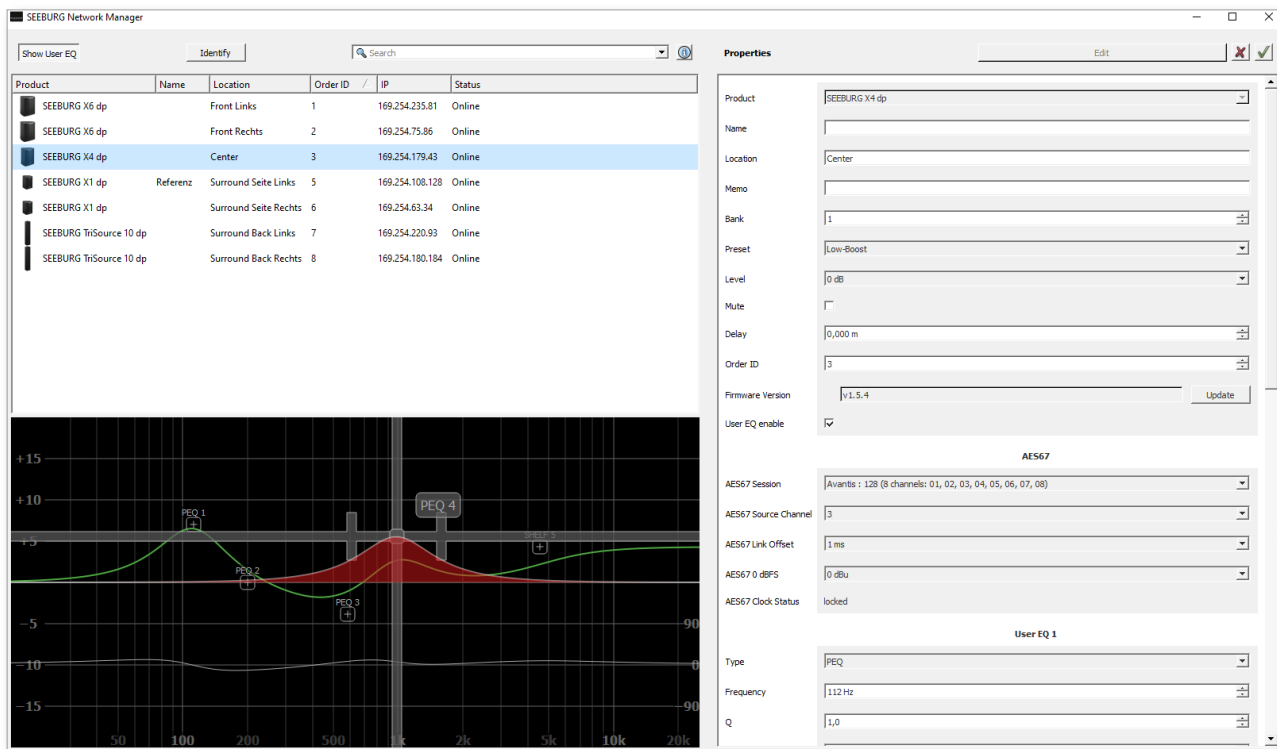loop through connector

Powercon (blue)
Power supply
∿ 110-230 V / 16 A max.

Controller Setups:

https://www.seeburg.com/en/downloads

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acoustic line

SEEBURG NETWORK Manager

With the Software SEEBURG Network Manager all selfpowered systems can be controlled via network.

Features:

> **Remote control** of functions such as recalling presets and banks, level control and mute, and locking the controls on the loudspeakers.

> **Visual display** of all systems connected to the control network.

> Storable names and location labels with a **global search function**.

> **Selection of loudspeakers** in the list for simultanious set-up and control changes.

> **Fully parametric user EQs and delay settings** for time alignment, with a graphical user interface

> **Time Delay** with up to **2.8 seconds runtime**.

> **Audio-over-Ethernet** (AoE) via **AES 67**.

> Connection with **media control systems** via **API**.

> Basic **network settings**.

> **Documentation** is available **online**.

> **Identification function** by way of flashing LEDs on the dp loudspeaker systems.

> **Firmware updates** can be applied.

SEEBURG Network Manager > Quick Start Manual (pdf)

AES NETWORK interface

All selfpowered systems are equipped as standard with an **AES Network interface**. This is used for **remote control** via the **SEEBURG Network Manager** and for **Audio-over-Ethernet (AoE) audio transmission** via **AES 67**.

AES Network

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acoustic line

Flying Cradle

for up to 6 units GL 16 or
for one unit GL 24

Order No. **01354**

Flying Bracket

for GL 16,
incl. (black version:
2 x M10 x 30 handle screws
white version:
2 x M10 x 30 socket head screws)

Order No. **01352/GL16/set/w** (RAL 9010)
Order No. **01352/GL16/set**

Handle Screw

for flying brackets, adjustable

Order No. **08375/20** (M10 x 20)
Order No. **08375/30** (M10 x 30)

Pole Mount Adapter - M20

for flying bracket,
M20 x 35 mm with nut,
incl. 1 x M20 x 30 socket head screw,
1 x flat

Order No. **08127/nut**

Steel Safety

6 mm x 600 mm, black,
max. load 22 kg (BGI 810-3),
quick connector undetachably

Order No. **01376/6**

Chain Fastener

VBS 7 mm

Order No. **01378**

Quick Trigger TV Clamp

max. load 200 kg

Order No. **01223/TV**

Quick Trigger Clamp

max. load 100 kg

Order No. **01223/100 kg**

Quick Trigger Clamp - small

M10, max. load 20 kg

Order No. **01223/20 kg**

Shackle

for GL flying cradle,
max. load 1000 kg

Order No. **01372/GL**

Ring Screw

M10– DIN 580

Order No. **73700**   (zinced)
Order No. **73700/sw**   (black zinced)

TV Adapter

M20 external thread,
28 mm Ø

Order No. **08128/M20**

TV Adapter -> Flying Bracket

SEEBURG
a c o u s t i c l i n e

Wall Mount

2 x M6 fixing holes (d=73 mm),
1 x M10 fixing hole (center),
max. load 25 kg

Order No. **03034/w** (RAL 9010)
Order No. **03034**

Wall Mount Spacer

for wall mount (03034),
M10 x 55 (screw),
polyurea coated

Order No. **03034/spc**

Wall Mount

max. load 40 kg,
incl. (M10 x 70 mm socket head screw,
M10 hex lock nut and flat washer)

bar: 269 mm
Order No. **08130/F/269/w** (RAL 9010)
Order No. **08130/F/269**

bar: 400 mm
Order No. **08130/F400/w** (RAL 9010)
Order No. **08130/F400**

Connection Adapter

for stacking GL 16 i / GL 16 Sub,
incl. M20 x 80 flat head screw

Order No. **01276/GL16**

Connection Adapter

for GL 16 c -> GL 16 Sub

Order No. **01276**

Speaker Stand

incl. wind up,
height 138,5 to 218 cm,
max. load 50 kg

Order No. **03011**

height 137,5 to 218,5 cm,
max. load 50 kg

Order No. **03010**

Height Extender

for stacking
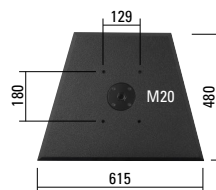GL 8 i, GL 16 i, GL 16 Sub,
height 35,4 cm

Order No. **01277/35**

Height Extender
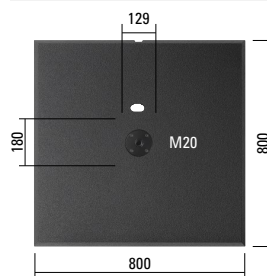
for GL 16,
height 110 cm

Order No. **01277/110**

Base Plate, Small

for GL 16 / GL 16 Sub / L-Series,
with M20 flange, 61,5 x 48,0 cm

Order No. **01278**
Order No. **01278/w** (RAL 9010)

129
180
480
M20
615

Base Plate, XL

for stacked mounting
of multiple GL 16 units / GL 16 Sub,
with M20 flange, cable channel,
80,0 x 80,0 cm

Order No. **01279**
Order No. **01279/w** (RAL 9010)

129
180
800
M20
800

Spacer -> Wall Mount

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acoustic line

ACCESSORIES GL 16

Stretch Cover

for one unit GL 16,
other colors available on request

Order No. **01230/GL16**

for two units GL 16,
several colors on request

Order No. **01230/GL16/long**

Rain Cover Set

for GL 16,
set incl. low lid and
high lid (by using flying cradle),
connectable to other covers of the
GL-system

Order No. **01230/outdoor**

Bag

for one unit GL 16 / GL 16 Sub

Order No. **01230**

Flight Case

for 2 pcs. GL 16 i/c units
and accessories, heavy duty, 9 mm
birch multiplex, PVC coated, hinged lid,
6 x recessed sprung handles,
2 x butterfly catches, 4 x 100 mm blue
wheels, 2 pcs. with brake, inserts for
accessories, interior lined with felt,
size (H x W x D): 48 x 77 x 61 cm

Order No. **16004/pro/T**

Hybrid Cable System

PowerCon-PowerCon / XLR-XLR

2,5 m	Order No. **08462**
5 m	Order No. **08464**
10 m	Order No. **08466**
15 m	Order No. **08468**

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