

GMINA GOLCZEWO

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(1)

**PROJEKT NAGŁOŚNIENIA I OŚWIETLENIA SALI WIDOWISKOWEJ
CENTRUM KULTURY W GOLCZEWIE**

Golczewo, listopad 2010

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1. Opis systemu

1.1 Nagłośnienie

System nagłośnieniowy oparty jest na dwóch kolumnach typu JBL JRX 125 oraz dwie kolumny monitorowe typu JBL JRX 112M. Kolumny te zasilane będą cztero kanałowym wzmacniaczem mocy QSC CX-254. Sygnał do wzmacniacza będzie dostarczany z miksera za pomocą wieloparowego przewodu multicore audio typu K28C30 który posiada 24 wejścia oraz 4 wyjścia. Dzięki zastosowaniu takiego połączenia możemy wysłać ze sceny 24 sygnały do miksera a następnie 4 niezależne z sygnały z miksera do wzmacniacza za pomocą jednego przewodu. Mikser powinien znajdować się na środku sali naprzeciwko sceny. Przewód wieloparowy należy ułożyć w sposób zapewniający możliwość zdemontowania go w razie potrzeby przeniesienia miksera w inne miejsce. Wzmacniacz powinien znajdować się na scenie wraz z kolumnami JBL JRX 112M spełniającymi rolę odsłuchów dla artystów. Zaś kolumny przodowe JBL JRX 125 należy zawiesić na stelażu zamocowanym w oknie sceny tuż przed kurtyną. Szczegółowe rozmieszczenie elementów przedstawia rysunek znajdujący się na stronie 25. Zasilanie systemu wykonuje ekipa wykonująca instalację elektryczną. UWAGA – Zasilanie miksera i wzmacniacza musi być poprowadzone z tej samej fazy z jednej rozdzielni.

1.2 Oświetlenie

System oświetlenia scenicznego oparty jest na 16 reflektorach typu PAR LED 56 i PAR LED 64 oraz splitera sygnału DMX i sterownika DMX SCANIC CLUB 12 II. Sterownik powinien znajdować się obok miksera audio. Sygnał ze sterownika do splitera należy poprowadzić przewodem XLR-XLR tym samym torem co multicore audio. Spliter powinien znajdować się na scenie. Pary LED 64 należy zamocować na stelażu przednim a PARY 56 na stelażu z tyłu sceny zgodnie z rysunkiem znajdującym się na stronie 25. Zasilanie systemu wykonuje ekipa wykonująca instalację elektryczną. Zasilanie oświetlenia musi być poprowadzone z jednej fazy bezwzględnie z innej niż nagłośnienie.

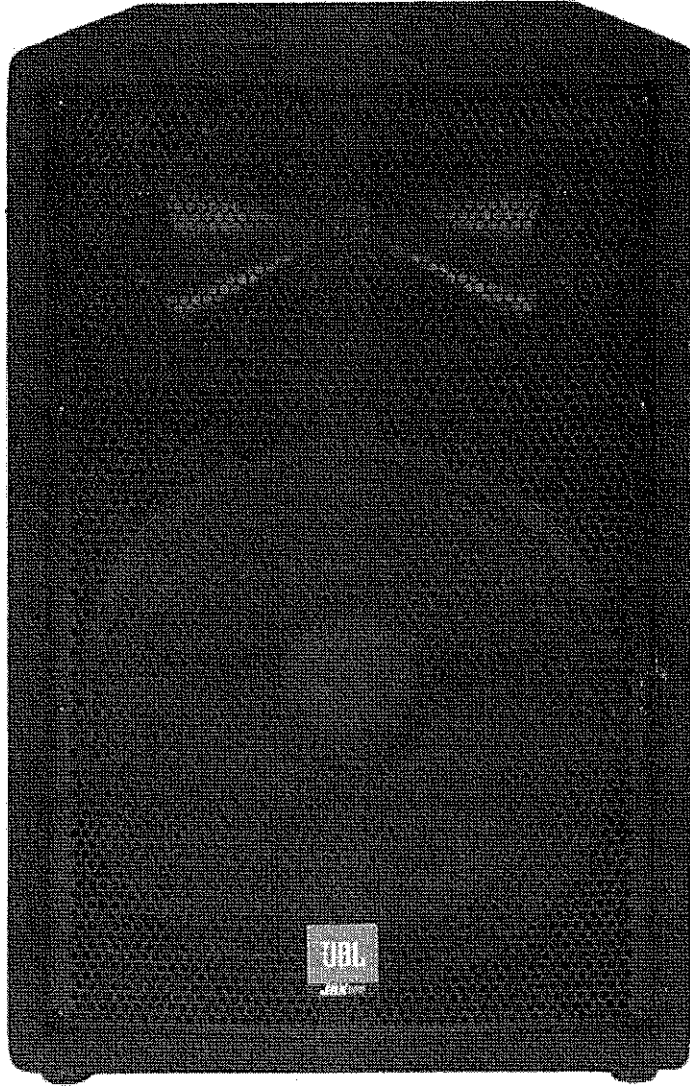
2. Zestawienie sprzętu

LP	NAZWA WYROBU	ILOŚĆ	POZOSTAŁE CHARAKTERYSTYKI
1	Kolumna o mocy 250 W	2 szt	Kolumna typu JBL JRX-112M
2	Kolumna o mocy 1000 W	2 szt	Kolumna typu JBL JRX-125
3	Rozdzielacz linii (spliter)	1 szt	Spliter typu EUROLITE 4X DMX
4	Wzmacniacz mocy	1 szt	Wzmacniacz typu QSC CX-254
5	Sterownik oświetlenia	1 szt	Sterownik typu SCANIC CLUB 12 II
6	Mikser sceniczny	1 szt	Mikser typu SOUNDCRAFT MFXI 20
7	Mikrofon sceniczny	1 szt	Mikrofon typu SHURE SM 58 LCE
8	Stelaż oświetlenie + nagłośnienie	1 kpl	Konstrukcja Aluminiowa Trisystem 30 rura 50mm - 2 x 6metrów
9	Okablowanie	1 kpl	<p>Komplet kabli do nagłośnienia i oświetlenia:</p> <ul style="list-style-type: none"> • Przewód multicore Adam Hall K28C30D -1 szt • Przewód XLR F – XLR M NEUTRIK <ul style="list-style-type: none"> • 30m – 1 szt • 20m – 1 szt • 10m – 11 szt • 5m – 5 szt • 3m – 5 szt • 1m – 20 szt • Przewód głośnikowy SPEAKON – SPEAKON 4 połowe NEUTRIK 2 x 2,5 mm2 <ul style="list-style-type: none"> • 20m – 1 szt • 10m – 2 szt • 5m – 2 szt • Przewód Jack Stereo – XLR M NEUTRIK 0,5m - 3 szt • Przewód WĄSY – GNIAZDO SPEAKON 4 POLOWE NEUTRIK 0,5m – 4 szt
10	Oświetlenie sceniczne główne	1 kpl	Reflektory SCANIC PAR 64 LED RGB 8 szt
11	Oświetlenie sceniczne kolorowe	1 kpl	Reflektory SCANIC PAR 56 LED RGB 8 szt

Wszystkie urządzenia zawarte w tabeli mogą zostać zastąpione urządzeniami równoważnymi tj. o parametrach identycznych lub wyższych.

3. Dane techniczne głównych elementów systemu

- Kolumna JBL JRX 112M





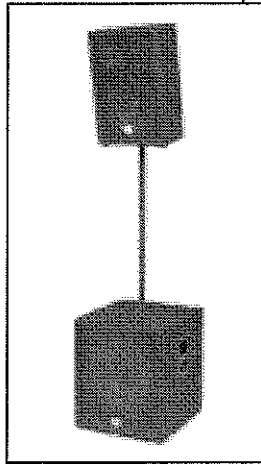
JRX112M

12 Inch Two-Way Stage Monitor Speaker

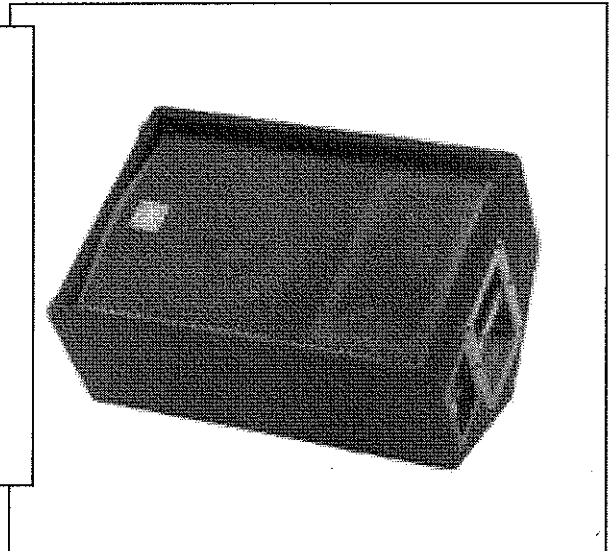
JRX100

Key Features:

- ▶ JBL 12" low frequency driver with a 64 mm (2½ in) diameter edge-wound ribbon voice coil which provides more cross-sectional wire area in the voice coil gap than round wire designs, for greater efficiency and power handling.
- ▶ Ferro-fluid cooled compression driver with titanium diaphragm improves high frequency performance as well as system reliability.
- ▶ The advanced network topology crossover design shapes frequency response and delivers "coherent summation" in the crossover region.
- ▶ High-voltage capacitors and inductors with massive cores and heavy gauge wire enable the crossover network to handle high power without saturating.
- ▶ Progressive Transition™ high-frequency waveguide provides superior coverage control, reduced distortion, and smoother frequency response.
- ▶ The rugged, acoustically superior enclosure is constructed from 19 mm (¾ in) MDF (Medium Density Fiberboard) using advanced adhesives and mechanical fastener technology for extreme durability and improved low-frequency performance.
- ▶ SonicGuard™ protects the high-frequency driver from excess power without interrupting the performance.
- ▶ Non-resonant, all-steel handles are used.
- ▶ Attractive 18-gauge hexagon perforated, steel grille protects components from damage.
- ▶ Dual-angle pole-mount socket allows the speaker to tilt 10° for more uniform audience coverage.



With JRX118S and SS3BK



The JRX112M is a portable, twelve-inch, two-way speaker system designed specifically for live performance stage monitoring applications. With enough sensitivity and power handling to cut through the performance volume on stage, the JRX112M has a smooth response so it can deliver maximum gain before feedback. It also includes JBL's dual-angle pole socket making it equally at home as a front-of-house speaker.

Specifications:

System Type:	12" 2-way, stage monitor
Frequency Range (-10 dB):	60 Hz - 16 kHz
Frequency Response (±3 dB):	70 Hz - 12 kHz
Sensitivity (1w/1m):	99 dB SPL
Nominal Impedance:	8 Ω
Power Capacity ² :	250 watts
Peak Power Capacity ² :	1000 watts
Recommended Amplifier Power:	250-500 watts @ 8 Ω
Maximum SPL:	129 dB
Nominal Dispersion:	90° x 50°
Crossover Frequency:	1.8 kHz
Dimensions (H x W x D):	584 mm x 399 mm x 325 mm (23 in x 15.7 in x 12.8 in)
Weight:	19.5 kg (43 lb)
Shipping Weight:	22.0 kg (49 lb)
High Frequency Driver:	JBL 2412 1" exit compression driver mounted on Progressive Transition™ Waveguide
Low Frequency Driver:	JBL M112-8
Input Connectors:	Neutrik® Speakon® NL-4 (x1); ¼" TS phone jack (x1); parallel
Enclosure Construction:	19 mm (¾ in) MDF (Medium Density Fiberboard); with glued and mechanically fastened joint detail; covered in black carpet.
Grille:	18-gauge, powder-coated steel
Mounting & Suspension:	35 mm, cast aluminum dual-angle pole-mount socket

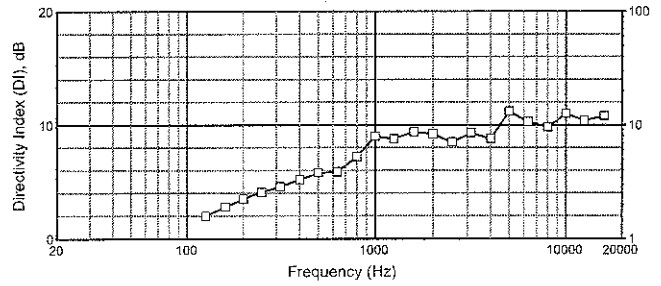
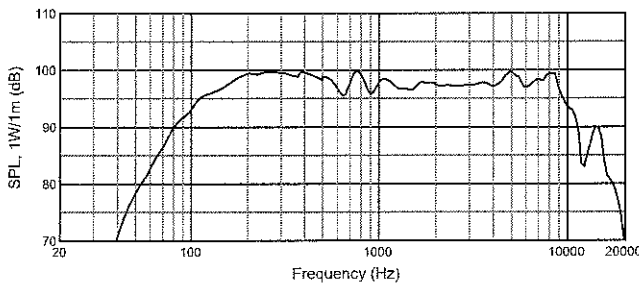
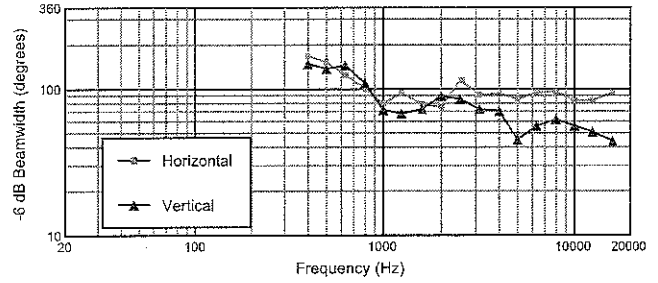
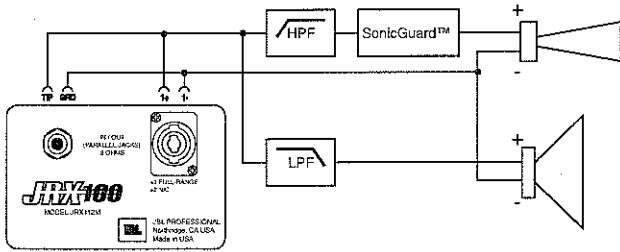
¹ "Frequency Range" and "Frequency Response" are based on half-space response.

² "Power Capacity" and "Peak Power Capacity" ratings are based on the average and peak power capacity of product samples subjected to a 100 hour power test using random noise with a 6 dB crest factor, in accordance with IEC standards.

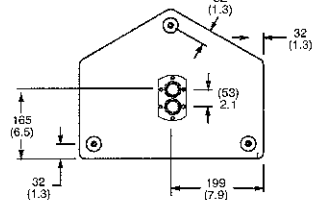
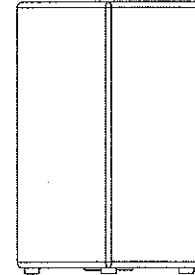
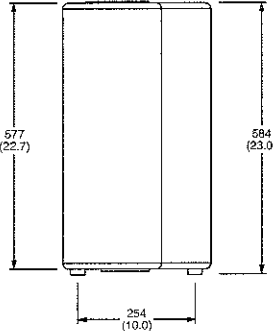
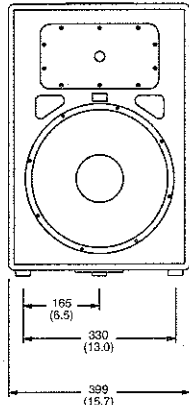
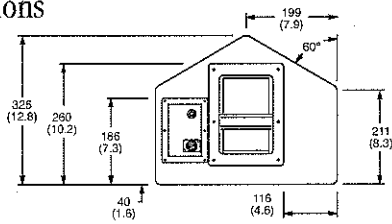
³ Height dimension includes feet.

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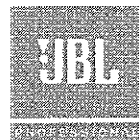
▶ JRX112M 12 Inch Two-Way Stage Monitor Speaker



Dimensions



Dimensions in mm (in)

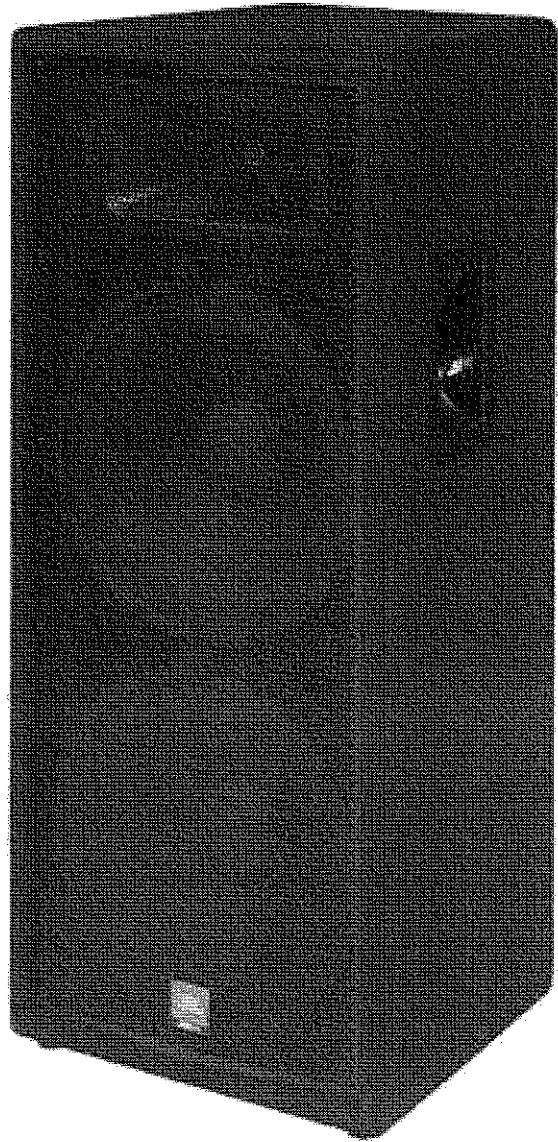
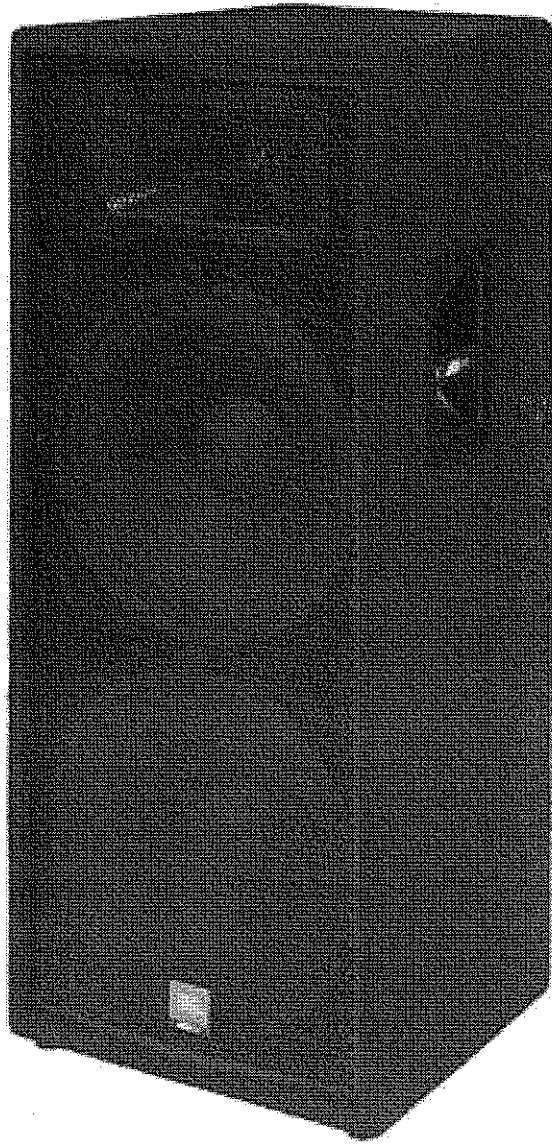


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- Kolumna JBL JRX 125





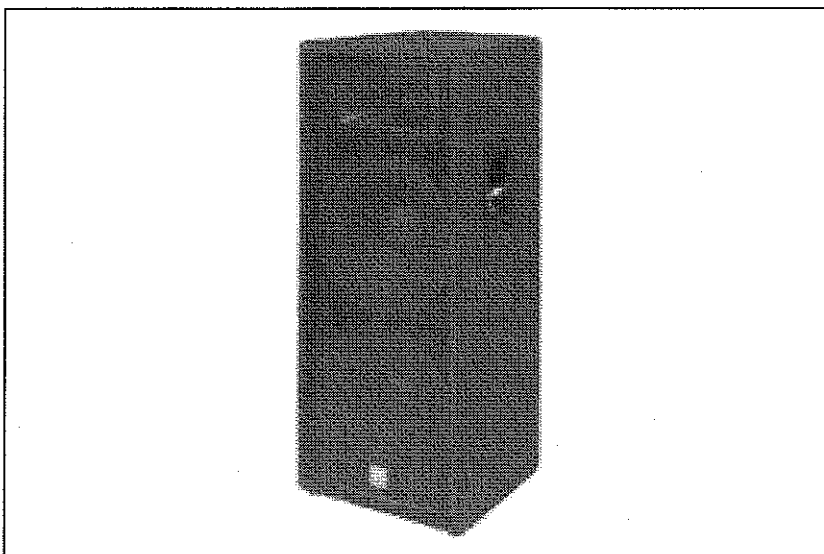
JRX125

Dual 15 Inch
Two-Way
Speaker

JRX100

Key Features:

- ▶ Dual JBL low frequency drivers with a 64 mm (2½ in) diameter edgewound ribbon voice coil which provides more cross-sectional wire area in the voice coil gap than round wire designs, for greater efficiency and power handling.
- ▶ Ferro-fluid cooled compression driver with titanium diaphragm improves high frequency performance as well as system reliability.
- ▶ The advanced network topology crossover design shapes frequency response and delivers coherent summation in the crossover region.
- ▶ A "Quasi 3-Way" design offers the extra bass for which a dual fifteen system is designed, but without sacrificing performance in the critical mid-range. The upper woofer produces mid-frequencies and bass, while the lower woofer concentrates on bass only. The reduction in mid-range phase cancellation greatly improves mid-range sound quality and coverage.
- ▶ High-voltage capacitors and inductors with massive cores and heavy gauge wire enable the crossover network to handle high power without saturating.
- ▶ Progressive Transition™ high-frequency waveguide provides superior coverage control, reduced distortion, and smoother frequency response.
- ▶ The rugged, acoustically superior enclosure is constructed from 19 mm (¾ in) MDF (Medium Density Fiberboard) using advanced adhesives and mechanical fastener technology for extreme durability and improved low-frequency performance.
- ▶ SonicGuard™ protects the high-frequency driver from excess power without interrupting the performance.
- ▶ Non-resonant, all-steel handles are used.
- ▶ Attractive 18-gauge perforated, steel grille protects components from damage.



The JRX125 is a portable, dual fifteen-inch, two-way speaker system designed specifically for applications in live music performance and music playback. The dual fifteen configuration is especially useful for applications in which additional low-frequency power and extension is needed but adding a subwoofer to the system is not practical.

Specifications:

System Type:	Dual 15" 2-way, sound reinforcement speaker
Frequency Range (-10 dB): ¹	35 Hz - 16 kHz
Frequency Response (±3 dB): ²	45 Hz - 12 kHz
Sensitivity (1w/1m):	100 dB SPL
Nominal Impedance:	4 Ω
Power Capacity: ¹	500 watts
Peak Power Capacity: ¹	2000 watts
Recommended Amplifier Power:	500-1000 watts @ 4 Ω
Maximum SPL:	133 dB
Nominal Dispersion:	90° x 50°
Crossover Frequency:	2 kHz
Dimensions (H x W x D): ³	1092 mm x 464 mm x 426 mm (43 in x 18.3 in x 16.8 in)
Weight:	42.6 kg (94 lb)
Shipping Weight:	46.7 kg (103 lb)
High Frequency Driver:	JBL 2412, 1" exit compression driver mounted on Progressive Transition™ Waveguide
Low Frequency Driver:	JBL M115-8A x 2
Input Connectors:	Neutrik® Speakon® NL-4 (x1); ¼" TS phone jack (x1); parallel
Enclosure Construction:	19 mm (¾ in) MDF (Medium Density Fiberboard); with glued and mechanically fastened joint detail; covered in black carpet.
Grille:	18-gauge, powder-coated steel
Mounting & Suspension:	None

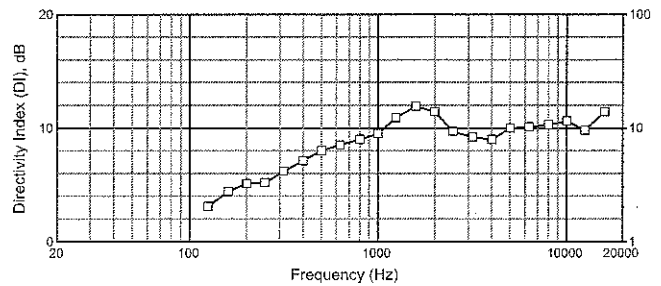
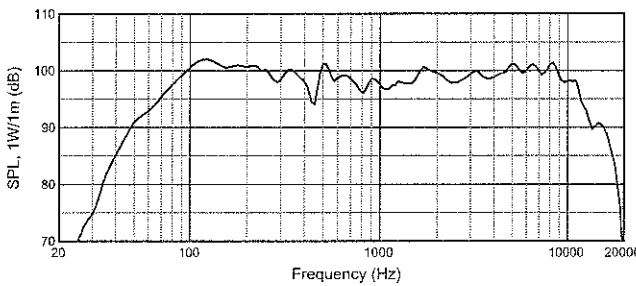
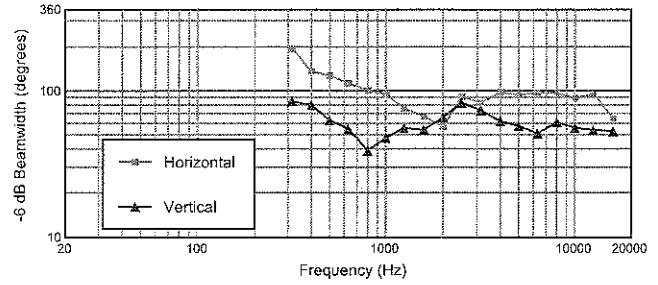
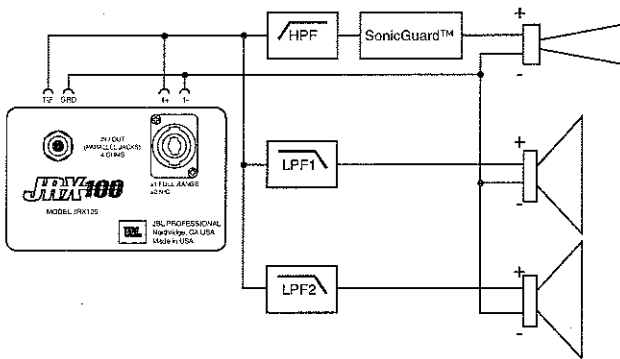
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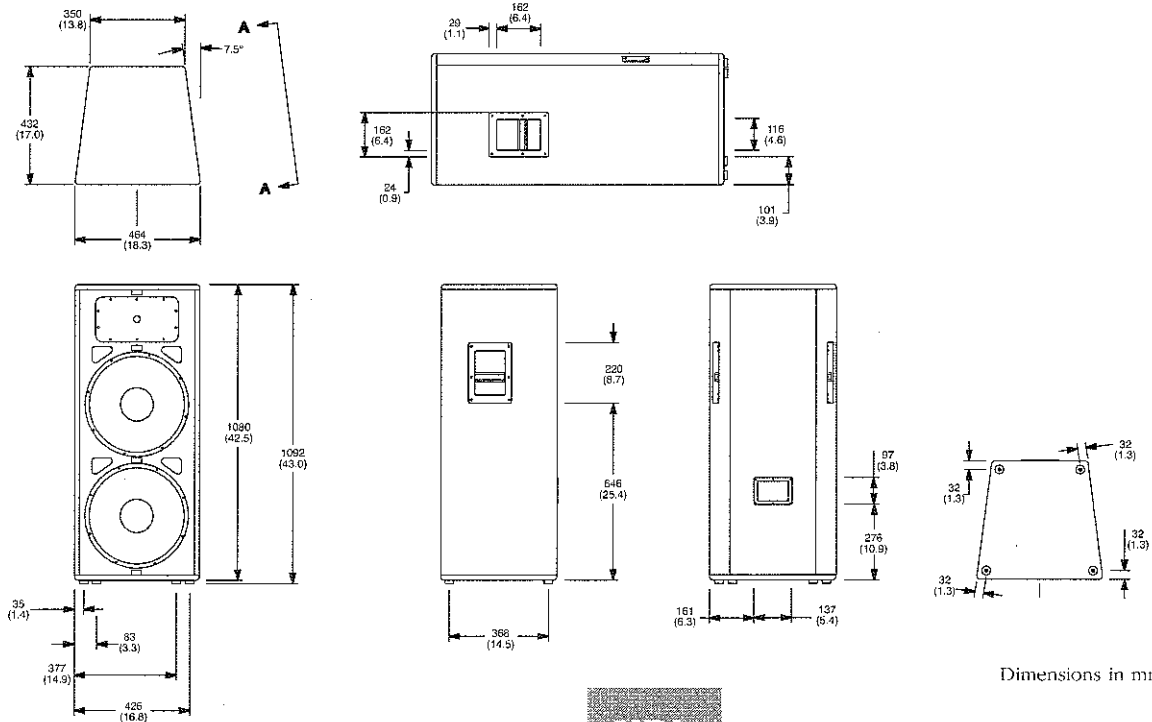
³ Height dimension includes feet.

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▶ JRX125 Dual 15 Inch Two-Way Speaker



Dimensions



Dimensions in mm (in)

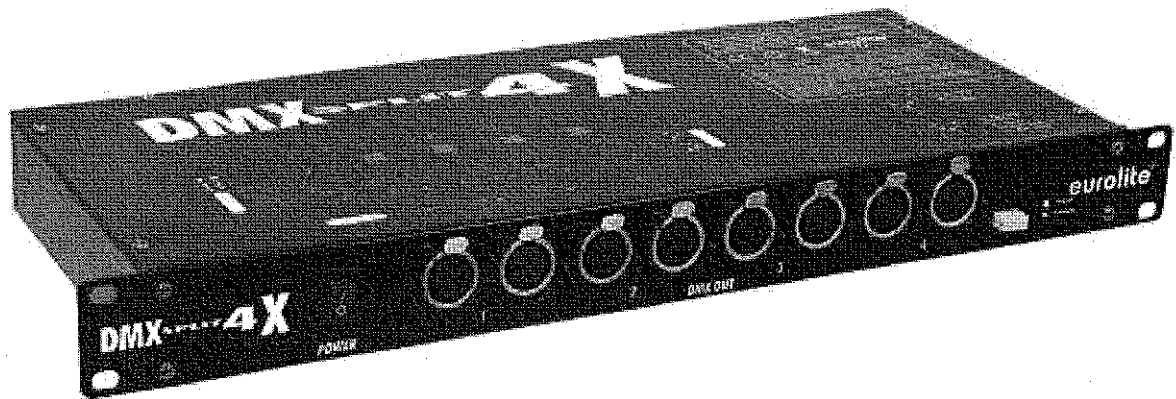


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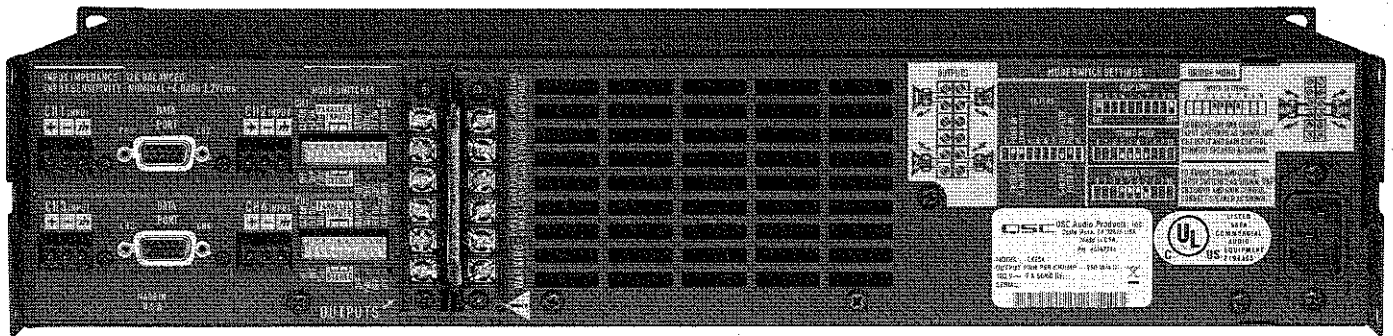
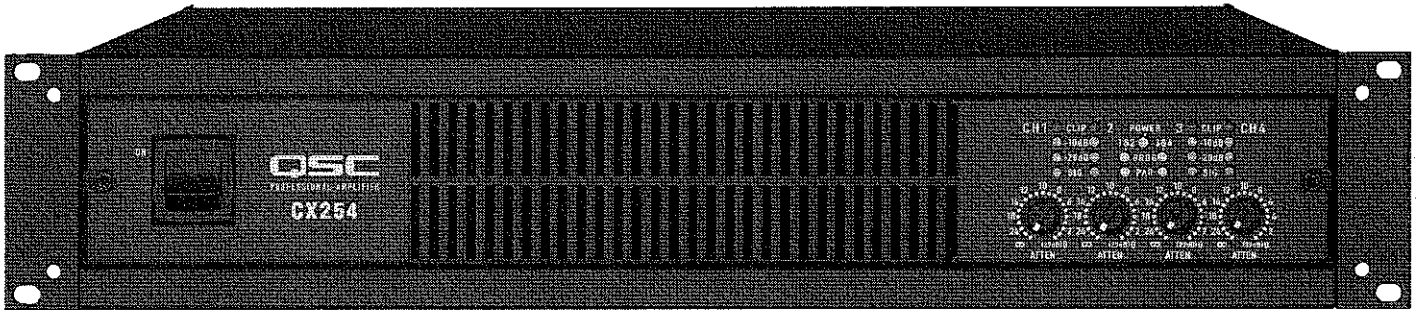
SSJRX125
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- Splitter EUROLITE 4X DMX



- Rozdziałacz sygnału DMX z izolacją galwaniczną 5 wejści wyjściowych linii DMX .
 - Wersja do montażu na ścianie.
- Wejście + 4 wyjścia + 5te wyjście do dalszych wejściów
 - XLR 3 pin i 5pin na wejści i wyjściach
- Zasilanie: 230 V AC, 50 Hz ~
 - Pobór mocy: 20 W
- DMX 512-output: 3-pin or 5-pin XLR-connector
 - Wymiar (LxWxH): 325 x 190 x 80 mm
 - Waga: 3 kg

- Wzmacniacz QSC CX-254



CX

4-channel

PROFESSIONAL POWER AMPLIFIERS

The new 4-channel CX amplifiers give you four channels in only two rack spaces—without compromising on power. Choose from three models—a direct 70-volt model and two low impedance versions—each equipped with our exclusive PowerWave switching power supply technology to virtually eliminate noise and hum. With high output power, versatile loading options, high thermal capacity and unmatched reliability, the CX Series is the perfect solution to any permanently installed sound system.




All models include an integrated security cover for tamper-proof installations.

CX 4-Channel Features

- Three models that range in power from 170 watts to 450 watts per channel
- Compact size – all models only 2 RU and 14" deep for reduced rack cost and floor space
- Channels 1&2 and 3&4 bridgeable for maximum flexibility
- Active Inrush Limiting eliminates AC inrush current, removing the need for expensive power sequencers
- HD15 DataPort connector for QSCControl computer control
- Custom integrated security cover for tamper-proof installations
- Variable speed fan for low noise
- 1 dB detented gain controls for fast and accurate gain settings

CX 4-CHANNEL AMPLIFIERS				
Model	70V	8Ω	4Ω	2Ω
CX204V	200×4	•	•	•
CX254	•	170×4	250×4	450×4*
CX404	•	250×4	400×4†	n/a

20 Hz-20 kHz, .05% THD † 1 kHz, 0.1% THD * 1 kHz, 1% THD

- Detachable Euro style input connectors
- DIP switch control for clip limiters, high pass filters, bridge-mono and parallel operation
- Exclusive PowerWave switch-mode power supply technology for high performance and compact size 
- Selectable high-pass filters protect speakers and prevent speaker transformer saturation with minimal effect on program material (33 Hz or 75 Hz on non-V models, 50 Hz or 75 Hz on V models)
- Comprehensive front panel indicators including signal, clip, protect and QSC's exclusive bridge-mono and parallel-input LEDs
- Barrier strip output connector
- Comprehensive protection circuitry including DC, infrasonic, thermal overload and short circuit protection
- High-performance Class AB+B complementary bipolar output circuitry
- Light weight – all models only 21 pounds (9.5 kg) for easier racking and shipping
- 3-year warranty plus optional 3-year extended service contract

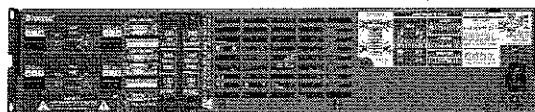
QSC

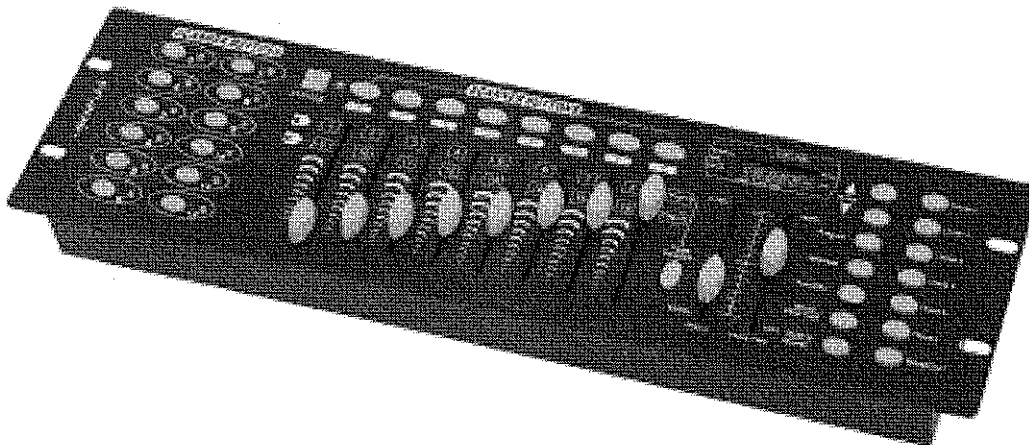
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www.qscaudio.com • email: info@qscaudio.com

CX SPECIFICATIONS			CX204V		CX254		CX404	
Stereo Mode (all channels driven)			Continuous Average Output Power Per Channel					
8 ohms	0.05% THD	20 Hz-20 kHz	-	-	170 Watts	-	250 Watts	-
4 ohms	0.05% THD	20 Hz-20 kHz	-	-	250 Watts	-	400 Watts†	-
2 ohms	1% THD	1 kHz	-	-	450 Watts	-	not recommended	-
70V	0.05% THD	20 Hz-20 kHz	200 Watts	-	-	-	-	-
70V	0.05% THD	1 kHz	220 Watts	-	-	-	-	-
70V	1% THD	1 kHz	300 Watts	-	-	-	-	-
Bridge Mono Mode			Bridge-Mono Mode Operation					
16 ohms	0.1% THD	20 Hz-20 kHz	-	-	340 Watts	-	500 Watts	-
8 ohms	0.1% THD	20 Hz-20 kHz	-	-	500 Watts	-	800 Watts†	-
4 ohms	1% THD	1 kHz	-	-	900 Watts	-	not recommended	-
140V	0.1% THD	20 Hz-20 kHz	400 Watts	-	-	-	-	-
140V	0.05% THD	1 kHz	440 Watts	-	-	-	-	-
140V	1% THD	1 kHz	600 Watts	-	-	-	-	-
Noise (20Hz-20kHz)			-105 dB	-	-106 dB	-	-106 dB	-
Input Sensitivity			1.26 Vrms	-	1.22 Vrms	-	1.22 Vrms	-
Gain (for full-rated output power)			35 dB @ 70.7v	-	29 dB @ 8 ohms	-	31 dB @ 8 ohms	-
Input Clipping			10 Vrms (+22 dBu)	-	10 Vrms (+22 dBu)	-	10 Vrms (+22 dBu)	-
Output Circuitry			Class AB+B	-	Class AB+B	-	Class AB+B	-
Distortion (SMPTE-IM)			Less than 0.02%	-	Less than 0.01%	-	Less than 0.01%	-
All models			All models					
Distortion (typical) 20 Hz-20 kHz: 10 dB below rated power 1.0 kHz and below: full rated power			Less than 0.01% THD Less than 0.01% THD					
Frequency Response			20 Hz-20 kHz, ± 0.2 dB 8 Hz-50 kHz, +0/-3 dB					
Damping Factor			Greater than 500 (1 kHz and below)					
Input Impedance			6 KΩ unbalanced, 12 KΩ balanced					
Connectors			Input: 3 position Euro-style detachable barrier block, Ch 1,2,3 & 4 DataPort: HD-15 Connector, Ch 1+2, Ch 3+4 Output: Six-position barrier strip with monitor connections, Ch 1+2, Ch 3+4					
Cooling			Variable speed fan, rear-to-front airflow through tunnel heat sink					
Controls			Front: AC switch, Ch 1,2,3 & 4 gain knobs Rear: DIP switch for Ch 1,2,3 & 4: clip limiter on/off, LF filter on/off, LF filter freq select 33 Hz or 75 Hz for non-V models; 50 Hz or 75 Hz for V models; inputs parallel or stereo; bridge mode					
Indicators			PARALLEL INPUTS: Yellow LED CLIP/PROT: Red LED (1 per channel) BRIDGED: Yellow LED LEVEL -10 dB: Green LED (1 per channel) PWR-ON: Green LED LEVEL -20 dB: Green LED (1 per channel) SIGNAL -35dB: Green LED (1 per channel)					
Amplifier Protection			Full short circuit, open circuit, thermal, ultrasonic, and RF protection. Stable into reactive or mismatched loads					
Load Protection			On/off muting, DC-fault power supply shutdown					
Dimensions			19" (48.3 cm) rack mounting, 3.5" (8.9 cm) tall (2 rack spaces), 14" (35.6 cm) deep (from front mounting rails)					
Weight			21 lb (9.5 kg) net, 27 lb (12.3 kg) shipping					
Power Requirements			100, 120, 230 Vac, 50-60 Hz					
120V CURRENT CONSUMPTION			CX204V	CX254	CX404			
Multiply currents by 0.5 for 230V units. Idle			0.8 A	0.7 A	0.7 A			
1/8 Average Power* (typical of program material at maximum unclipped power) *Pink noise	8 ohms		-	5.8 A	8.1 A			
	4 ohms		-	9.2 A	12.4 A			
	2 ohms		-	14.3 A	not rated			
	70 Volts		8.3 A	-	-			
1/3 Average Power* (typical of program material with severe clipping) *Pink noise	8 ohms		-	8.8 A	12.2 A			
	4 ohms		-	14.2 A	19.3 A			
	2 ohms		-	21.7 A	not rated			
	70 Volts		12.7 A	-	-			

Specifications subject to change without notice.

† (0.1% THD 1 kHz)



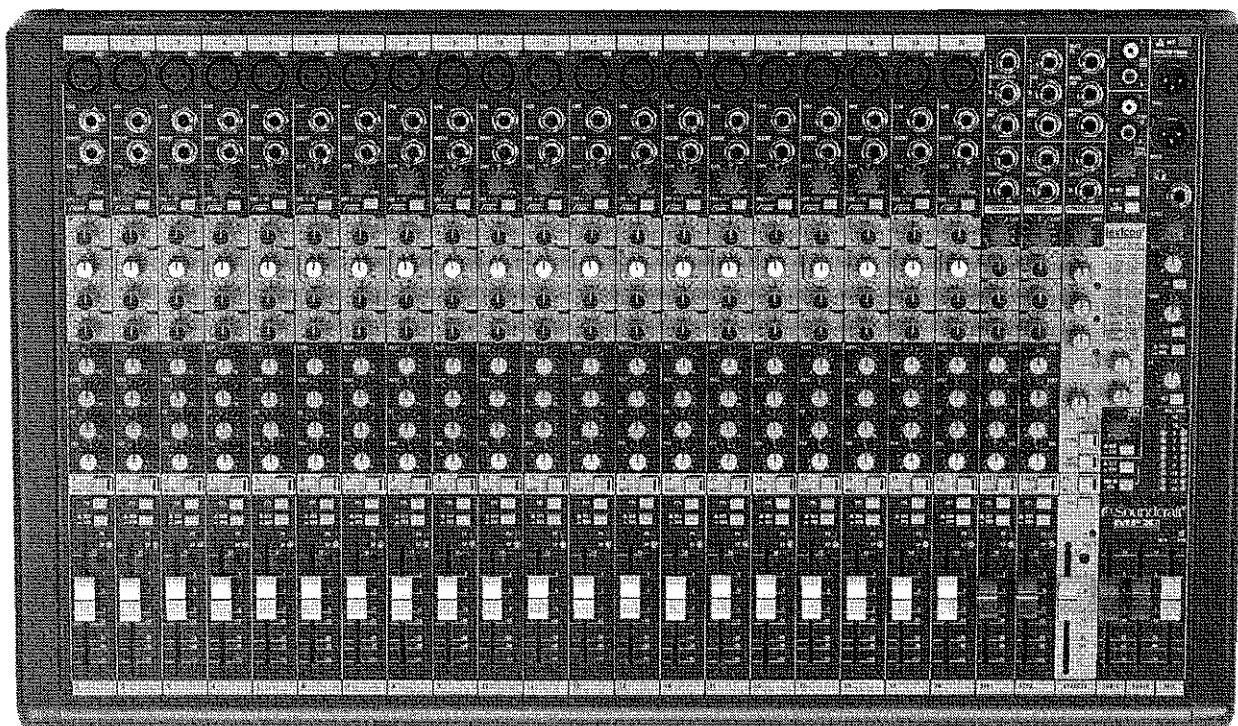


Scanic Club 12 II jest idealnym kontrolerem światła DMX dla małych oraz średnich eventów. Dzięki logicznie rozłożonemu interfejsowi użytkownik ma dostęp do 192 kanałów - dzięki temu może być sterowanych 12 profesjonalnych skanerów bez większego wysiłku. Club 12 II daje możliwość zaprogramowania aż 240 scen, podzielonych na 8 banków. Poza trybem manualnym, sterownik współpracuje z MIDI, dzięki czemu światła będą reagować idealnie do muzyki granej podczas live actów.

Cechy

- 192 kanałów DMX
 - Regulowana prędkość wygaszania
 - Regulowana prędkość efektów świetlnych
 - Możliwość sterowania 12 skanerami
 - 16 kanałów DMX na skaner (2 banki, współpracujące z MIDI)
 - 30 banków z 8 scenami na każdy bank
 - 6 chaserów z 240 scenami na każdy chaser
- wymiary: 482 x 70 x 132
waga: 2.4 kg

- Mikser SOUNDCRAFT MFXi 20



SPECIFICATIONS

FX16ii TYPICAL SPECIFICATIONS

Frequency Response	Mic/Line Input to any Output	+/-1dB, 20Hz - 20kHz
T.H.D.	Mic Sensitivity -30dBu, +14dBu @ Mix output	< 0.09% @ 1kHz
Noise	Mic Input E.I.N. (maximum gain) Aux, Mix and Masters (@ 0dB, faders down)	-127dBu (150Ω source) < -84dBu
Crosstalk (@ 1kHz)	Channel Mute Aux Send Pots Offness	> 96dB > 86dB
EQ (Mono inputs)	HF MF (swept) LF Q	12kHz, +/-15dB 150Hz - 3.5kHz, +/-15dB 80Hz, +/-15dB 1.5
Power Consumption		Less than 40W
Operating Conditions	Temperature Range	5°C to +40°C
Input & Output Levels	Mic Input Line Input Stereo Input Mix Output Headphones (@150Ω)	+15dBu max. +30dBu max. +30dBu max. +20dBu max. 300mW
Input & Output Impedances	Mic Input Line Input Stereo Input Outputs	2kΩ 10kΩ 65kΩ (stereo), 35kΩ (mono) 150Ω (balanced), 75Ω (unbalanced)

MPMI/MFXI TYPICAL SPECIFICATIONS

Frequency Response	Mic/Line Input to any Output	+/-1.5dB, 20Hz - 20kHz
T.H.D.	Mic Sensitivity -30dBu, +14dBu @ Mix output	< 0.01% @ 1kHz
Noise	Mic Input E.I.N. (maximum gain) Aux, Mix and Masters (@ 0dB, faders down)	-126.5dBu (150Ω source) < -82dBu
Crosstalk (@ 1kHz)	Channel Mute Aux Send Pots Offness	> 90dB > 82dB
EQ (Mono inputs)	HF MF (swept) LF Q	12kHz, +/-15dB 150Hz - 3.5kHz, +/-15dB 80Hz, +/-15dB 1.5
EQ (Stereo inputs)	HF MF LF Q (MF)	12kHz, +/-15dB 720Hz, +/-15dB 80Hz, +/-15dB 0.8
Power Consumption		Less than 40W
Operating Conditions	Temperature Range	5°C to +40°C
Input & Output Levels	Mic Input Line Input Stereo Input Mix Output Headphones (@150Ω) Recommended headphones impedance	+15dBu max. +30dBu max. +30dBu max. +20dBu max. 300mW 32 - 200Ω
Input & Output Impedances	Mic Input Line Input Stereo Input Outputs	2kΩ 10kΩ 45kΩ 150Ω (balanced), 75Ω (unbalanced)

EPM/EFX TYPICAL SPECIFICATIONS

Frequency Response	Mic/Line Input to any Output	+/-1.5dB, 20Hz - 20kHz
T.H.D.	Mic Sensitivity -30dBu, +14dBu @ Mix output	< 0.02% @ 1kHz
Noise	Mic Input E.I.N. (maximum gain) Aux, Mix and Masters (@ 0dB, faders down)	-127dBu (150Ω source) < -85dBu
Crosstalk (@ 1kHz)	Channel Mute Aux Send Pots Offness	> 96dB > 86dB
EQ (Mono inputs)	HF MF (swept) LF Q	12kHz, +/-15dB 150Hz - 3.5kHz, +/-15dB 80Hz, +/-15dB 1.5
EQ (Stereo inputs)	HF MF (EFX Only) LF Q (MF)	12kHz, +/-15dB 720Hz, +/-15dB 80Hz, +/-15dB 0.8
Power Consumption		Less than 35W
Operating Conditions	Temperature Range	5°C to +40°C
Input & Output Levels	Mic Input Line Input Stereo Input Mix Output Headphones (@150Ω)	+15dBu max. +30dBu max. +30dBu max. +20dBu max. 300mW
Input & Output Impedances	Mic Input Line Input Stereo Input Outputs	2kΩ 10kΩ 65kΩ (stereo), 35kΩ (mono) 150Ω (balanced), 75Ω (unbalanced)

NOTEPAD TYPICAL SPECIFICATIONS

Frequency Response	Mic/Line Input to any Output	+/-1.5dB, 20Hz - 20kHz
T.H.D.	Mic Sensitivity -30dBu, +10dBu @ Mix output	< 0.005% @ 1kHz
Noise	Mic Input E.I.N. (maximum gain) Aux, Mix and Masters (@ 0dB, at unity)	-128.5dBm (150Ω source) < -85dBu
Crosstalk (@ 1kHz)	Channel Faders Master Faders	> 87dB > 100dB
CMRR (@ 1kHz)	Master Faders	> 90dB
EQ	High Pass Filter HF MF LF Q	100Hz @ 12dB/Octave 12kHz, +/-15dB 1kHz, +/-15dB 80Hz, +/-15dB 0.7
Power Consumption		Less than 40W
Operating Conditions	Temperature Range	5°C to 40°C
Input & Output Levels	Mic Input Line Input Stereo Input Mix Output Headphones (@32Ω)	+10dBu max. +22dBu max. +20dBu max. +25dBu max. 300mW
Input & Output Impedances	Mic Input Line Input Stereo Input Outputs	2kΩ 18kΩ 20kΩ 150Ω

Note: These figures are typical of performance in a normal electromagnetic environment and are often exceeded. Performance may be degraded in severe conditions. All measurements refer to electronically balanced inputs and outputs.

Product Specifications

SM58® Cardioid Dynamic Microphone

Overview

The legendary SM58® is an industry-standard, highly versatile cardioid dynamic vocal microphone that is consistently the first choice of vocal performers around the globe. Even in extreme conditions, the SM58 is tailored to target the main sound source while minimizing background noise, delivering warm and clear vocal reproduction.

Features

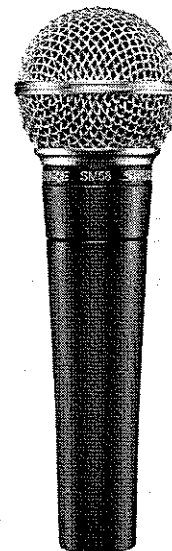
- Frequency response tailored for vocals, with brightened midrange and bass rolloff
- Uniform cardioid pickup pattern isolates the main sound source and minimizes background noise
- Pneumatic shock-mount system cuts down handling noise
- Effective, built-in spherical wind and pop filter
- Supplied with break-resistant stand adapter which rotates 180 degrees
- Legendary Shure quality, ruggedness and reliability
- Cardioid (unidirectional) dynamic
- Frequency response: 50 to 15,000 Hz

Available Models

SM58-LC	Includes Stand Adapter and Zippered Pouch
SM58-CN	Includes 7.6 m (25 ft) XLR-Male to XLR-Female Cable, Swivel Adapter and a Zippered Pouch
SM58S	Includes Integrated On/Off Switch, Swivel Adapter and a Zippered Pouch

Specifications

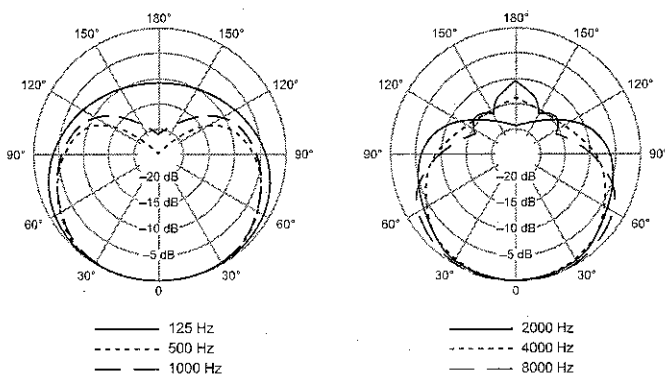
Type	Dynamic
Frequency Response	50 to 15,000 Hz
Polar Pattern	Cardioid
Sensitivity (at 1,000 Hz Open Circuit Voltage)	-54.5 dBV/Pa (1.85 mV) 1 Pa = 94 dB SPL
Impedance	Rated impedance is 150Ω (300Ω actual) for connection to microphone inputs rated low impedance
Polarity	Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3.
Case	Dark gray, enamel-painted, die cast metal; matte-finished, silver colored, spherical steel mesh grille
Connector	Three-pin professional audio connector (male XLR type)
Net Weight	298 grams (10.5 oz)
Dimensions	162 mm (6-3/8 in.) L x 51 mm (2 in.) W



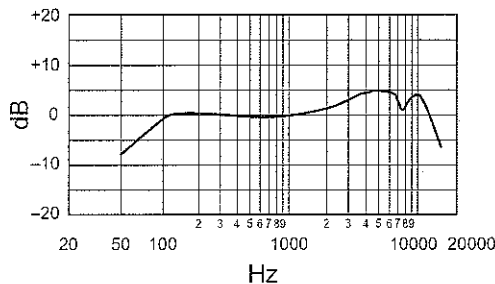
SM58

Optional Accessories and Replacement Parts

A58WS	Windscreens	A55M	Isolation Mount	C25F	7.6 m Cable (25 ft)
A25D	Microphone Clip	A26M	Dual Mount	RK143G	Screen and Grille
R59	Cartridge	S37A, S39A	Desk Stand		



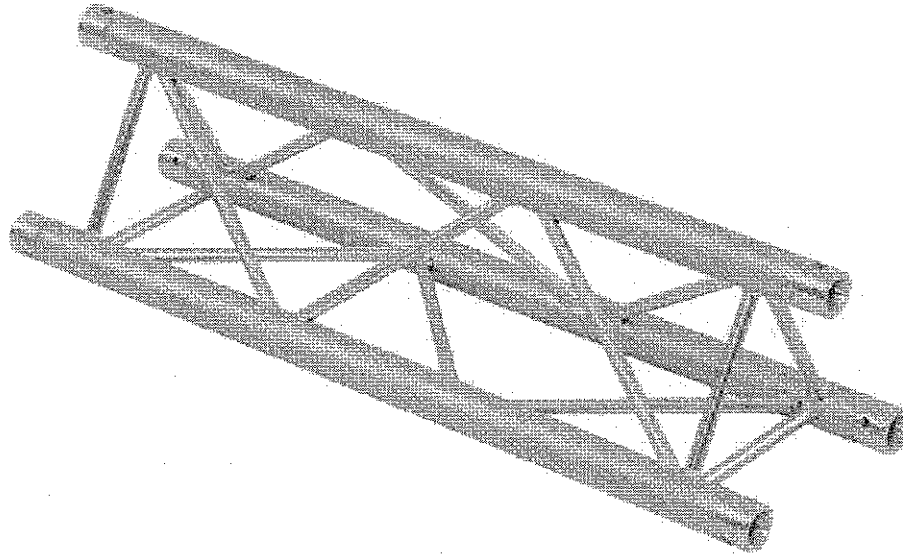
Polar Pattern



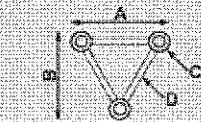
Frequency Response



- Konstrukcja aluminiowa TRISYSTEM 30 rura 50



Static calculation Obliczenia statyczne		1		2		3		4		5		6	
		m	kg	mm	kg	mm	kg	mm	kg	mm	kg	mm	kg
Trisystem 290		1	1163.0	1.4	830.6	1.3	938.9	1.3	1004.6	1.3	1084.8	1.3	3.9
		2	1007.6	2.9	786.7	3.6	646.4	3.1	831.3	2.9	688.7	2.9	7.8
		3	960.1	7.0	577.5	6.9	806.7	7.8	852.7	7.8	863.3	7.5	11.6
		4	939.0	14.5	473.1	11.8	655.2	13.9	783.2	15.2	794.0	14.4	15.5
		5	783.8	22.3	364.6	16.8	573.6	21.9	668.7	20.3	675.8	22.3	19.4
		6	665.1	31.2	334.1	25.7	512.7	32.1	522.4	31.8	535.2	30.8	23.3
		7	559.5	41.6	286.3	31.9	405.8	41.0	412.0	39.7	467.3	41.7	27.2
		8	494.6	54.3	255.4	45.8	367.2	54.7	383.9	53.3	406.3	54.2	31.0
		9	435.1	67.3	210.0	52.3	325.2	68.4	321.6	63.1	361.6	67.6	34.9
		10	394.1	83.3	210.7	71.5	292.0	84.0	305.0	81.6	321.5	82.6	36.8
		11	356.9	99.9	173.2	77.8	267.0	101.5	264.1	93.5	297.0	100.3	42.7
		12	327.7	118.7	173.8	101.0	239.3	119.8	252.6	115.9	272.2	119.0	48.8



- A - 290 mm
- B - 258 mm
- C - Ø 50x2 mm
- D - Ø 16x2 mm

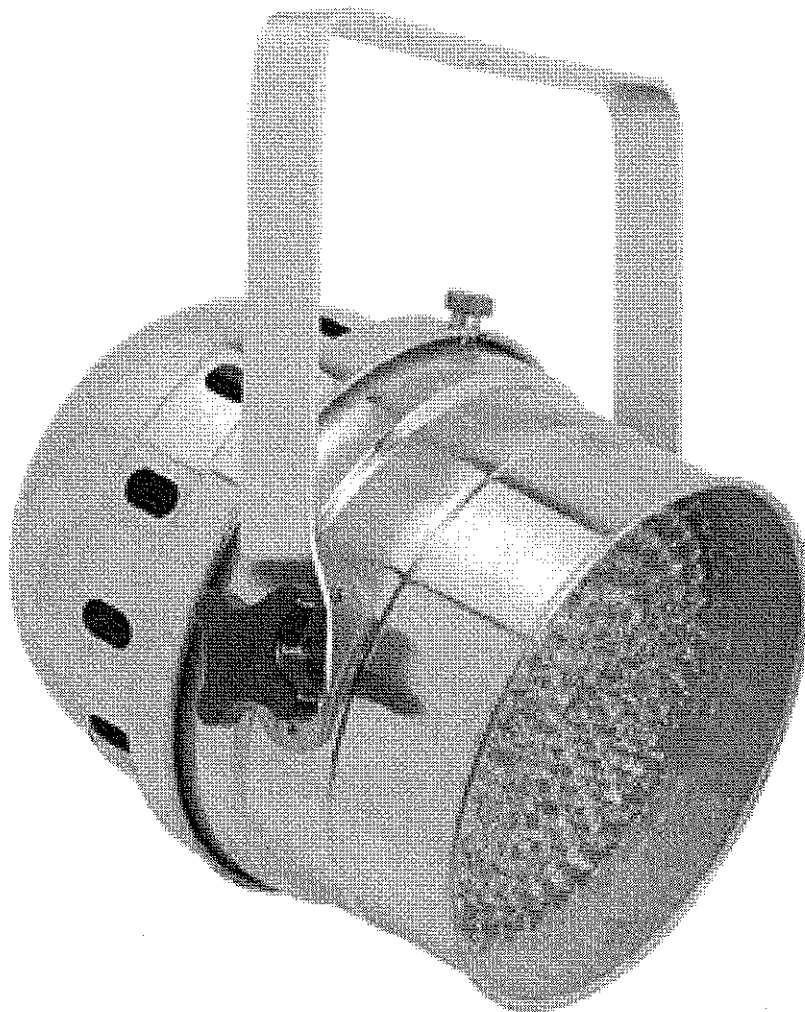
- Multicore K28C30D



- Multicore 24 wejścia + 4 wyjścia
 - 30m długości
- Grubość przewodu 24 mm

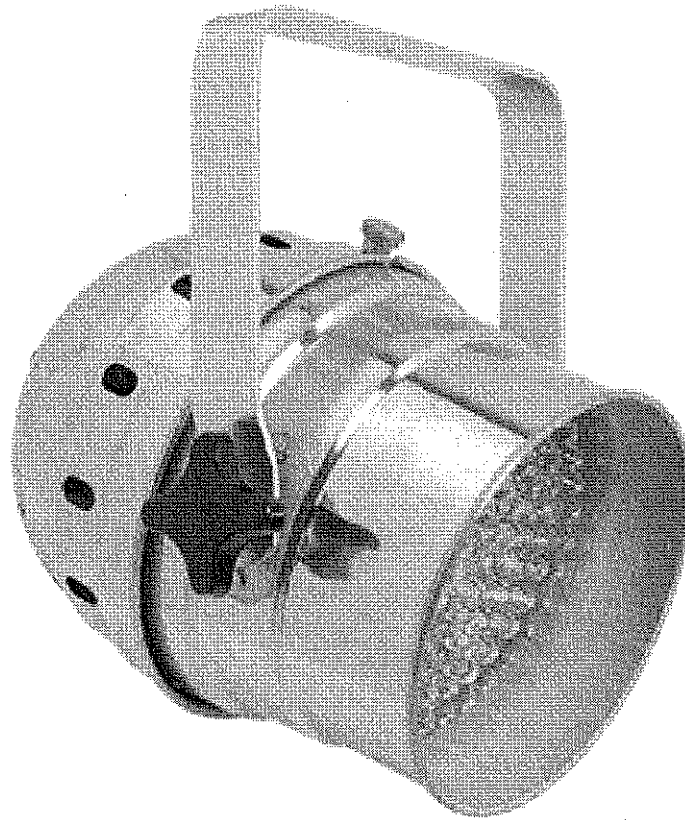
Reszta przewodów połączeniowych powinna być wykonana za pomocą przewodu firmy PROEL oraz na wtykach firmy NEUTRIK.

- Reflektor SCANIC PAR 64 LED RGB



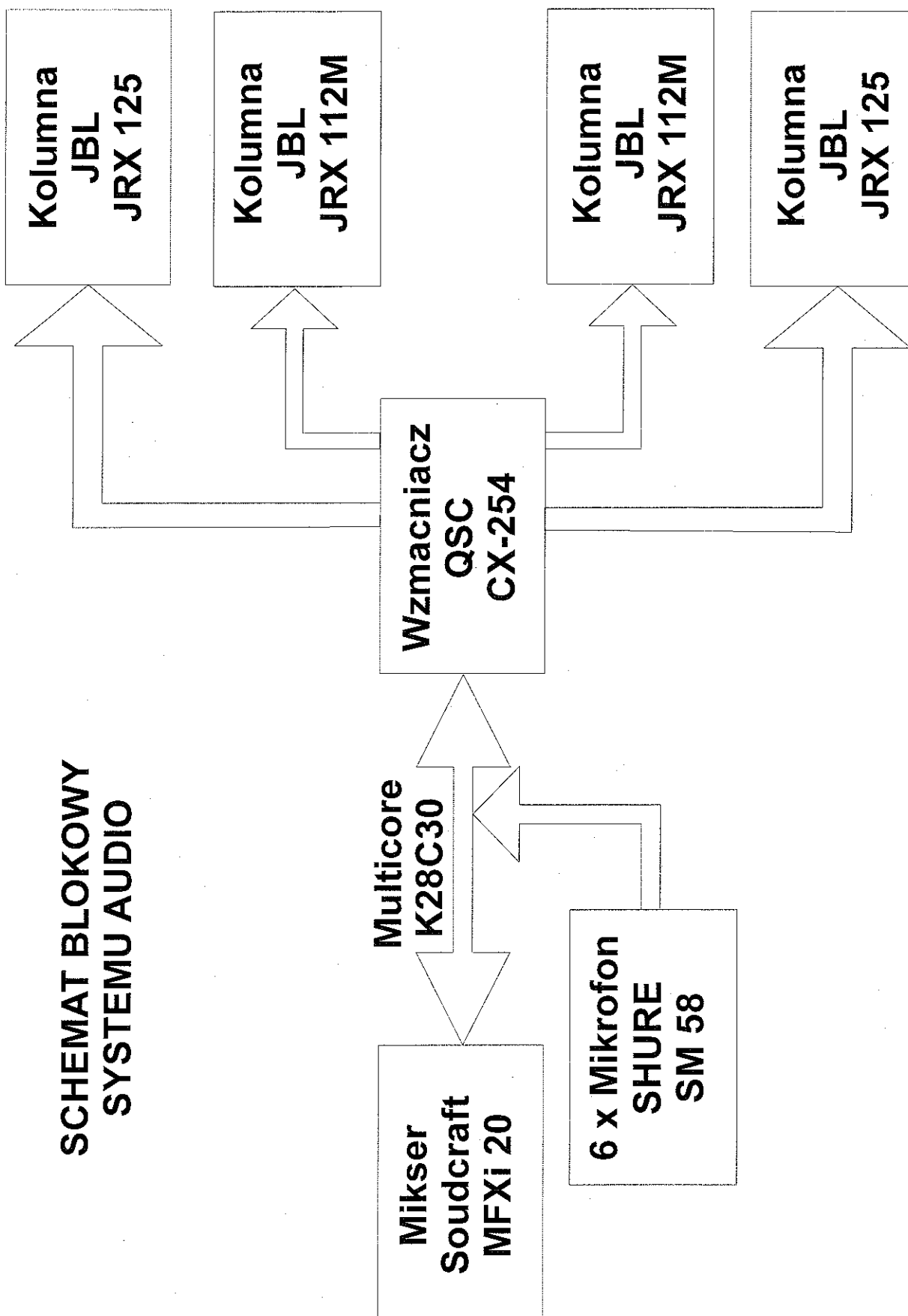
- progresywne mieszanie kolorów RGB
- 177 diod LED: 60 x czerwona, 61 x zielona, 56 x niebieska
- kompatybilny z DMX (7 kanałów)
- 4 tryby pracy samodzielnej: automatyczna zmiana kolorów z regulowaną prędkością, statyczny kolor, efekt stroboskopu z regulacją częstotliwości migotania, zmiana kolorów sterowana dźwiękiem
- wysokiej jakości diody LED
- || wysoka jasność

- Reflektor SCANIC PAR 56 LED RGB

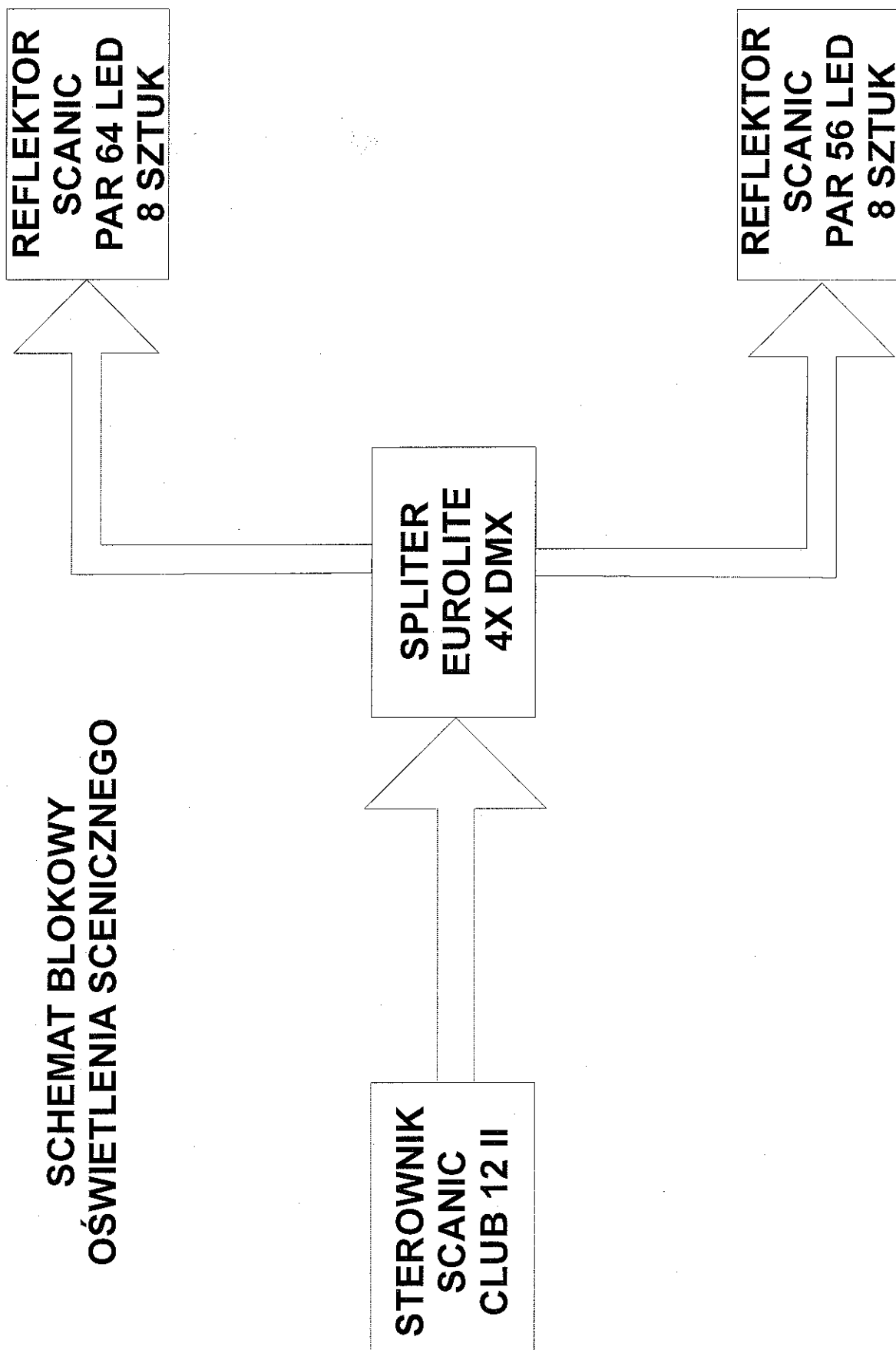


- Progresywne mieszanie kolorów RGB
- Kompatybilny z DMX (4 kanały: czerwony, zielony, niebieski oraz dimmer/strobe)
- Samodzielna praca w 4 trybach (automatyczna zmiana kolorów z regulowaną prędkością, statyczne kolory, strobowanie z regulowaną prędkością, zmiana kolorów w rytm muzyki)
- Wysokiej jakości diody LED
 - 108 diód
 - Niskie napięcie (12 V)
 - Wymiary: 274 x 205 x 232 mm
 - Waga: 1.3 kg

SCHEMAT BLOKOWY SYSTEMU AUDIO



**SCHEMAT BLOKOWY
OŚWIETLENIA SCENICZNEGO**



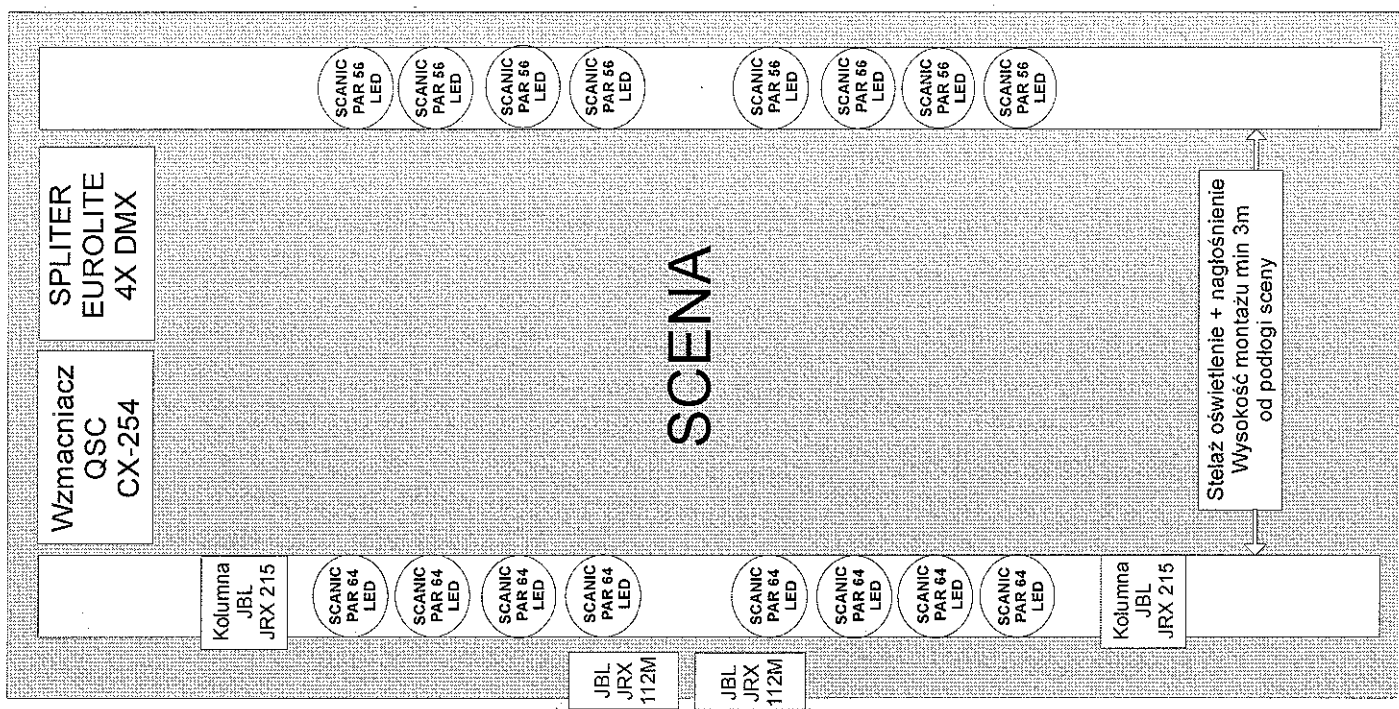
ROZMIESZCZENIE ELEMENTÓW NAGŁOŚNIENIA I OŚWIETLENIA (WIDOK Z GÓRY)

**STEROWNIK
SCANIC
CLUB 12 II**

**Mikser
Soundcraft
MFXi 20**

Przewód XLR-XLR 30m

Multicore K28C30



7. Tabela poboru mocy

LP	NAZWA	POBÓR MOCY
1	Wzmacniacz QSC CX-254	1400 W
2	Mikser SOUDCRAFT MFXi 20	35 W
3	Sterownik SCANIC CLUB 12 II	20 W
4	Spliter EUROLITE 4X DMX	20 W
5	Reflektor SCANIC PAR 56 LED – 1 sztuka	18 W
6	Reflektor SCANIC PAR 64 LED – 1 sztuka	30 W