



Service Manual

3-Way Cinema Screen Channels

Basic Cinema Speakers System





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HIGHLIGHTS ■

Premium JBL Sound & Design

Professional JBL performance in a cost-effective package, with high SPL capabilities, maximum coverage and minimum distortion

Easy & Versatile Deployment

Easily accessible binding post connectors and easily adjustable mid/high coverage positioning

Complete Cinema Solution

Combine with the Crown XLC amplifiers, JBL CPi2000 processor and other Cinema Expansion Series speakers for a fully integrated HARMAN cinema audio solution

The JBL 3153 3-way cinema screen speaker, part of the Cinema Expansion Series, delivers fidelity and performance synonymous with the JBL name at a competitive price point for cost-conscious theater owners seeking to offer a premium experience while making the most of their investment.

The 460-watt 3153 is optimized for small- to medium-sized theaters, delivering high SPLs and covering rooms up to 45 feet (14 m).

The 3153 is designed for hassle-free deployment and operation, integrating seamlessly with the entire JBL Cinema Expansion Series, which includes two subwoofers and a high-power surround. Speakers are conveniently available as complete systems or as individual M/HF and LF modules in separate housings.

Combine Cinema Expansion Series speakers with the JBL CPi2000 cinema processor and Crown XLC Series amplifiers to build a fully integrated cinema sound solution.

KEY MESSAGES ■

PREMIUM SOUND WITHOUT THE PREMIUM PRICE

With the Cinema Expansion Series, it's never been easier to step into the stunning sound of a JBL cinema system. 3153 screen speakers provide high SPL output and wide coverage, ensuring a thrilling sound experience in every seat. Add 8102 surrounds for complete coverage; pair with JBL Cinema Expansion Series 3181F and 4281F subwoofers for superior bass extension.

ROCK-SOLID AND RELIABLE

Trust the Cinema Expansion Series to provide peak performance throughout the life of your investment: Systems are designed for superior overall efficiency; transducer-protection circuitry ensures long-term stability.

DEPLOY WITH EASE, ANY WAY YOU PLEASE

The Cinema Expansion Series is designed for streamlined system setup and operation in a range of configurations. 3153 screen speakers offer passive and bi-amp drive modes. Cabinet hardware is engineered for maximum versatility, with enclosure-top input terminals and binding-post connectors.

BUILD AN INTEGRATED SOUND SYSTEM

Complete your JBL cinema sound system with the JBL CPi2000 cinema processor, which provides audio enhancement including DSP, room EQ tuning, volume control and system fault detection. The CPi2000 features Cinema Expansion Series speaker presets for better sound and performance and easier deployment, and can send amplifier and speaker status to a central TMS (Theater Management System) control system.

SYSTEM COMPONENTS ■ (Ordered Separately)

HPD3159 (LF unit for 3153)
3132-M/HF (M/HF unit for 3153)

APPLICATIONS ■

CINEMA THEATERS

Small- to medium-sized (80–100-seat) cinema theaters

FEATURES ■

- 3-way design offers maximum output, symmetrical 90° x 50° coverage and minimum distortion
- Optimized waveguide technology delivers a consistent pattern
- Two drive modes: passive and bi-amp
- Integrate seamlessly with the entire JBL Cinema Expansion Series including 8102 surround and 3181F and 4281F subwoofers
- Optimized operation using dedicated presets in the JBL CPI2000 cinema processor
- Binding-post connectors on top of LF enclosure are easy to wire and save space behind the screen
- Transducer-protection circuitry prolongs equipment life
- 460W rated power
- Available as a complete system or as individual M/HF (3132-M/HF) and LF (HPD3159) modules in separate housings
- 4-ohm impedance allows smaller Crown XLC amplifiers to power the speaker system
- 134 dB peak SPL
- Frequency range: 50 Hz–18 kHz (-10 dB)
- Throw capability of up to 45 ft (14 m); suitable for 80–100-seat cinemas

TECHNICAL SPECIFICATIONS ■

SYSTEM TYPE:	3-way screen
FREQUENCY RANGE (-10 dB):	50 Hz–18 kHz
SYSTEM IMPEDANCE:	Passive: 4Ω LF: 4Ω M/HF: 4Ω
CROSSOVER:	Bi-amp (MF/HF + LF), full passive
SYSTEM POWER:	Passive: 460W Bi-amp: LF 460W, M/HF 160W
SENSITIVITY (4 PI):	98 dB
MAX PEAK SPL (2 PI):	134 dB
SYSTEM DIRECTIVITY (H x V):	90° x 50° (-30/+20)

TRANSDUCERS:	LF: 1 x 15" MF: 1 x 6.5" HF: 1 x 1" exit
COMPLIANCE:	CE
MATERIAL:	LF Enclosure: MDF M/HF Horn: Plastic
COLOR/FINISH:	Matte black, vinyl
INSTALLATION:	M/HF in one unit
CONNECTORS:	Binding post
WEIGHT:	33.5 kg (73.85 lb)
DIMENSIONS (D x W x H):	455 x 560 x 1218 mm (17.91 x 22.05 x 47.95 in)

ORDER SPECIFICATIONS ■

BOX DIMS (L x W x H):	3132-M/HF: 579 x 314 x 607 mm (22.8 x 12.36 x 23.9 in) HPD3159: 509 x 744 x 619 mm (120.04 x 29.3 x 24.37 in)
SHIPPING WEIGHT:	3132-M/HF: 12.5 kg (27.56 lb) HPD3159: 30 kg (66.14 lb)
COUNTRY OF ORIGIN:	CN
UPC CODE:	3132-M/HF: 691991034022 HPD3159: 691991033889



HIGHLIGHTS ■

Premium JBL Sound & Design

Professional JBL performance in a cost-effective package, with high SPL capabilities, maximum coverage and minimum distortion

Easy & Versatile Deployment

Easily accessible binding post connectors and easily adjustable mid/high coverage positioning

Complete Cinema Solution

Combine with the Crown XLC amplifiers, JBL CPi2000 processor and other Cinema Expansion Series speakers for a fully integrated HARMAN cinema audio solution

The JBL 4253 3-way cinema screen speaker, part of the Cinema Expansion Series, delivers fidelity and performance synonymous with the JBL name at a competitive price point for cost-conscious theater owners seeking to offer a premium experience while making the most of their investment.

The 800-watt 4253 is optimized for small- to medium-sized theaters, delivering high SPLs and covering rooms up to 85 feet (26 m).

The 4253 is designed for hassle-free deployment and operation, integrating seamlessly with the entire JBL Cinema Expansion Series, which includes two subwoofers and a high-power surround. Speakers are conveniently available as complete systems or as individual M/HF and LF modules in separate housings.

Combine Cinema Expansion Series speakers with the JBL CPi2000 cinema processor and Crown XLC Series amplifiers to build a fully integrated cinema sound solution.

KEY MESSAGES ■

PREMIUM SOUND WITHOUT THE PREMIUM PRICE

With the Cinema Expansion Series, it's never been easier to step into the stunning sound of a JBL cinema system. 4253 screen speakers provide high SPL output and wide coverage, ensuring a thrilling sound experience in every seat. Add 8102 surrounds for complete coverage; pair with JBL Cinema Expansion Series 3181F and 4281F subwoofers for superior bass extension.

ROCK-SOLID AND RELIABLE

Trust the Cinema Expansion Series to provide peak performance throughout the life of your investment: Systems are designed for superior overall efficiency; transducer-protection circuitry ensures long-term stability.

DEPLOY WITH EASE, ANY WAY YOU PLEASE

The Cinema Expansion Series is designed for streamlined system setup and operation in a range of configurations. 4253 screen speakers offer passive and bi-amp drive modes. Cabinet hardware is engineered for maximum versatility, with enclosure-top input terminals and binding-post connectors.

BUILD AN INTEGRATED SOUND SYSTEM

Complete your JBL cinema sound system with the JBL CPi2000 cinema processor, which provides audio enhancement including DSP, room EQ tuning, volume control and system fault detection. The CPi2000 features Cinema Expansion Series speaker presets for better sound and performance and easier deployment, and can send amplifier and speaker status to a central TMS (Theater Management System) control system.

SYSTEM COMPONENTS ■ (Ordered Separately)

HPD3259 (LF unit for 4253)
3132-M/HF (M/HF unit for 4253)

APPLICATIONS ■

CINEMA THEATERS

Small- to medium-sized (100-150-seat) cinema theaters

FEATURES ■

- 3-way design offers maximum output, symmetrical 90° x 50° coverage and minimum distortion
- Optimized waveguide technology delivers a consistent pattern
- Two drive modes: passive and bi-amp
- Integrate seamlessly with the entire JBL Cinema Expansion Series including 8102 surround and 3181F and 4281F subwoofers
- Optimized operation using dedicated presets in the JBL CPi2000 cinema processor
- Built-in crossover network
- Transducer-protection circuitry prolongs equipment life
- Binding-post connectors on top of LF enclosure are easy to wire and save space behind the screen
- Dual 15-inch transducers deliver higher output and superior bass extension
- 800W rated power
- Available as a complete system or as individual M/HF (3132-M/HF) and LF (HPD3259) modules in separate housings
- 4-ohm impedance allows smaller Crown XLC amplifiers to power the speaker system
- 138 dB peak SPL
- Frequency range: 50 Hz–18 kHz (-10 dB)
- Throw capability of up to 85 ft (26 m); suitable for 100–150-seat cinemas

TECHNICAL SPECIFICATIONS ■

SYSTEM TYPE:	3-way screen
FREQUENCY RANGE (-10 dB):	50 Hz–18 kHz
SYSTEM IMPEDANCE:	Passive: 4Ω LF: 4Ω M/HF: 4Ω
CROSSOVER:	Bi-amp (MF/HF + LF), full passive
SYSTEM POWER:	Passive: 800W Bi-amp: LF 800W, HF 160W
SENSITIVITY (4 PI):	100 dB
MAX PEAK SPL (2 PI):	138 dB
SYSTEM DIRECTIVITY (H x V):	90° x 50° (-30/+20)

TRANSDUCERS:	LF: 2 x 15" MF: 1 x 6.5" HF: 1 x 1" exit CE
COMPLIANCE:	
MATERIAL:	LF Enclosure: MDF M/HF Horn: Plastic
INSTALLATION:	M/HF in one unit
COLOR/FINISH:	Matte black, vinyl
CONNECTORS:	Binding post
WEIGHT:	46.1 kg (79.59 lb)
DIMENSIONS (D x W x H):	450 x 704 x 1359 mm (17.72 x 27.72 x 53.50 in)

ORDER SPECIFICATIONS ■

BOX DIMS (L x W x H):	3132-M/HF: 579 x 314 X 607 mm (22.8 x 12.36 x 23.9 in) HPD3259: 509 x 884 x 759 mm (20.04 x 34.8 x 29.88 in)
SHIPPING WEIGHT:	3132-M/HF: 12.5 kg (27.56 lb) HPD3259: 44.5 kg (98.11 lb)
COUNTRY OF ORIGIN:	CN
UPC CODE:	3132-M/HF: 691991034022 HPD3259: 691991033902



HIGHLIGHTS ■

Premium JBL Sound & Design

Professional JBL performance in a cost-effective package, with high SPL capabilities and a shallow depth profile

Easy & Versatile Deployment

Easily accessible binding post connectors and built-in rigging points for wall mounting

Complete Cinema Solution

Combine with the Crown XLC amplifiers, JBL CPi2000 processor and other Cinema Expansion Series speakers for a fully integrated HARMAN cinema audio solution

The JBL 3181F cinema subwoofer, part of the JBL Cinema Expansion Series, delivers fidelity and performance synonymous with the JBL name at a competitive price point for cost-conscious theater owners seeking to offer a premium sound experience.

The 650-watt 3181F delivers room-shaking low end for a variety of cinema configurations, including Dolby Atmos and DTS:X installations. The 3181F works seamlessly with the entire JBL Cinema Expansion Series, which includes two 3-way screen speakers and a surround speaker.

Combine Cinema Expansion Series speakers with the JBL CPi2000 cinema processor and Crown XLC Series amps to build a fully integrated JBL cinema sound solution.

KEY MESSAGES ■

PREMIUM SOUND WITHOUT THE PREMIUM PRICE

With the Cinema Expansion Series, it's never been easier to step into the stunning sound of a JBL cinema system. The Cinema Expansion Series 3181F subwoofer is engineered and built to the same standards of all other JBL cinema products, providing powerful, punchy low-end coverage in the 30–500 Hz range; pair them with Cinema Expansion Series 3153 and 4253 screen arrays and 8102 surrounds for a complete solution.

ROCK-SOLID AND RELIABLE

Trust JBL Cinema Expansion Series speakers and subs to provide peak performance throughout the life of your investment: Systems are designed for superior overall efficiency; transducer-protection circuitry ensures long-term stability.

DEPLOY WITH EASE, ANY WAY YOU PLEASE

The Cinema Expansion Series is designed for streamlined system setup and operation in a range of configurations. 3181F subwoofers operate in 4-ohm mode, enabling them to be driven with Crown XLC Series amps. Hardware is engineered for maximum versatility, with enclosure-top input terminals and binding-post connectors.

BUILD AN INTEGRATED SOUND SYSTEM

Complete your JBL cinema sound system with the JBL CPi2000 cinema processor, which provides audio enhancement including DSP, room EQ tuning, volume control and system fault detection. The CPi2000 features Cinema Expansion Series speaker presets for better sound and performance and easier deployment, and can send amplifier and speaker status to a central TMS (Theater Management System) control system.

IN THE BOX ■

3181F Subwoofer Enclosure

APPLICATIONS ■

CINEMA THEATERS

Small- to medium-sized (80-150-seat) cinema theaters

FEATURES ■

- Shallow 14.97-inch (355 mm) depth saves space behind screens
- Connectors are mounted on enclosure top to preserve minimum depth
- Built-in rigging points facilitate wall mounting for immersive sound installations such as Dolby Atmos and DTS:X
- Binding-post input connectors are consistent with other JBL cinema speakers and easy to wire
- Footprint matches both the JBL 3153 and 4253 screen speakers and the C200 Series cinema speakers to build complete system solutions
- 650W rated power
- 4-ohm impedance; can be driven with Crown XLC Series amps
- 132 dB peak SPL
- Frequency range: 30 Hz–500 Hz (-10 dB)

TECHNICAL SPECIFICATIONS ■

SYSTEM TYPE:	Subwoofer
FREQUENCY RANGE (-10 dB):	30 Hz–500 Hz
SYSTEM IMPEDANCE:	4Ω
SYSTEM POWER:	650W
SENSITIVITY (4 PI):	95 dB
MAX PEAK SPL (2 PI):	132 dB
TRANSDUCERS:	1 x 18"
COMPLIANCE:	CE
MATERIAL:	MDF
COLOR/FINISH:	Matte black, vinyl
CONNECTORS:	Binding post
RIGGING SYSTEM:	Four rigging points for hanging
WEIGHT:	42 kg (92.60 lb)
DIMENSIONS (D x W x H):	355 x 736 x 933 mm (13.98 x 28.98 x 36.73 in)

ORDER SPECIFICATIONS ■

BOX DIMS (L x W x H):	413 x 793 x 987 mm (16.97 x 31.22 x 38.86 in)
SHIPPING WEIGHT:	50 kg (110.23 lb)
COUNTRY OF ORIGIN:	CN
UPC CODE:	691991033919



HIGHLIGHTS ■

Premium JBL Sound & Design

Professional JBL performance in a cost-effective package, with high SPL capabilities and a shallow depth profile

Easy & Versatile Deployment

Easily accessible binding post connectors and built-in rigging points for wall mounting

Complete Cinema Solution

Combine with the Crown XLC amplifiers, JBL CPi2000 processor and other Cinema Expansion Series speakers for a fully integrated HARMAN cinema audio solution

The JBL 4281F cinema subwoofer, part of the JBL Cinema Expansion Series, delivers fidelity and performance synonymous with the JBL name at a competitive price point for cost-conscious theater owners seeking to offer a premium sound experience.

The 1,600-watt 4281F delivers room-shaking low end for a variety of cinema configurations, including Dolby Atmos and DTS:X installations. The 4281F works seamlessly with the entire JBL Cinema Expansion Series, which includes two 3-way screen speakers and a surround speaker.

Combine Cinema Expansion Series speakers with the JBL CPi2000 cinema processor and Crown XLC Series amps to build a fully integrated JBL cinema sound solution.

KEY MESSAGES ■

PREMIUM SOUND WITHOUT THE PREMIUM PRICE

With the Cinema Expansion Series, it's never been easier to step into the stunning sound of a JBL cinema system. The Cinema Expansion Series 4281F subwoofer is engineered and built to the same standards of all other JBL cinema products, providing powerful, punchy low-end coverage in the 30–500 Hz range; pair them with Cinema Expansion Series 3153 and 4253 screen speakers and 8102 surrounds for a complete solution.

ROCK-SOLID AND RELIABLE

Trust JBL Cinema Expansion Series speakers and subs to provide peak performance throughout the life of your investment: Systems are designed for superior overall efficiency; transducer-protection circuitry ensures long-term stability.

DEPLOY WITH EASE, ANY WAY YOU PLEASE

The Cinema Expansion Series is designed for streamlined system setup and operation in a range of configurations. 4281F subwoofers operate in 4-ohm mode, enabling them to be driven with Crown XLC Series amps. The 4281F's 4-pin connectors allow driving the two transducers separately (discrete mode) or together (parallel mode). Hardware is engineered for maximum versatility, with enclosure-top input terminals and binding-post connectors.

BUILD AN INTEGRATED SOUND SYSTEM

Complete your JBL cinema sound system with the JBL CPi2000 cinema processor, which provides audio enhancement including DSP, room EQ tuning, volume control and system fault detection. The CPi2000 features Cinema Expansion Series speaker presets for better sound and performance and easier deployment, and can send amplifier and speaker status to a central TMS (Theater Management System) control system.

IN THE BOX ■

4281F Subwoofer Enclosure

APPLICATIONS ■

CINEMA THEATERS

Small- to medium-sized (80-150-seat) cinema theaters

FEATURES ■

- Shallow 14.97-inch (355 mm) depth saves space behind screens
- Connectors are mounted on enclosure top to preserve minimum depth
- Built-in rigging points facilitate wall mounting for immersive sound installations such as Dolby Atmos and DTS:X
- Binding-post input connectors are consistent with other JBL cinema speakers and easy to wire
- 4-pin connectors allow driving the two transducers separately (discrete mode) or together (parallel mode)
- Dual 18-inch transducers deliver higher output and superior bass extension
- Footprint matches both the JBL 3153 and 4253 screen speakers and the C200 Series cinema speakers to build complete system solutions
- 1,600W rated power
- 4-ohm impedance in parallel mode; can be driven with Crown XLC Series amps
- 139 dB peak SPL
- Frequency range: 30 Hz–500 Hz (-10 dB)

TECHNICAL SPECIFICATIONS ■

SYSTEM TYPE:	Subwoofer
FREQUENCY RANGE (-10 dB):	30 Hz–500 Hz
SYSTEM IMPEDANCE:	Parallel mode: 4Ω Discrete mode: 8Ω x 2
SYSTEM POWER:	1,600W continuous
SENSITIVITY (4 PI):	98 dB
MAX PEAK SPL (2 PI):	139 dB
TRANSDUCERS:	2 x 18"
COMPLIANCE:	CE
MATERIAL:	MDF
COLOR/FINISH:	Matte black, vinyl
CONNECTORS:	Binding post
RIGGING SYSTEM:	Four rigging points for hanging
WEIGHT:	79.2 kg (174.61 lb)
DIMENSIONS (D x W x H):	355 x 1454 x 933 mm (13.98 x 57.24 x 36.73 in)

ORDER SPECIFICATIONS ■

BOX DIMS (L x W x H):	413 x 1508 x 990 mm (16.26 x 59.37 x 38.98 in)
SHIPPING WEIGHT:	90 kg (198.42 lb)
COUNTRY OF ORIGIN:	CN
UPC CODE:	691991033933



HIGHLIGHTS ■

Premium JBL Sound & Design

Professional JBL performance in a cost-effective package, with high SPL capabilities and maximum coverage

Easy & Versatile Deployment

Easily accessible binding post connectors and mountable via JBL QuickMount™, Omnimount® or APC Multimount brackets

Complete Cinema Solution

Combine with the Crown XLC amplifiers, JBL CPi2000 processor and other Cinema Expansion Series speakers for a fully integrated HARMAN cinema audio solution

The JBL 8102 high-power professional cinema surround speaker, part of the JBL Cinema Expansion Series, offers fidelity and performance synonymous with the JBL name at a competitive price point for cost-conscious theater owners seeking to offer a premium sound experience. The 10-inch, 2-way 8102 is optimized for small- to medium-sized theaters, delivering high SPLs and a throw capability of 40 feet for maximum coverage, along with superior headroom for improved performance and long-term stability.

The 8102 is designed for hassle-free deployment and operation, integrating seamlessly with the entire JBL Cinema Expansion Series, which includes two 3-way screen speakers and two subwoofers.

Combine Cinema Expansion Series speakers with the JBL CPi2000 cinema processor and Crown XLC Series amplifiers to build a fully integrated cinema sound solution.

KEY MESSAGES ■

PREMIUM SOUND WITHOUT THE PREMIUM PRICE

With the Cinema Expansion Series, it's never been easier to step into the stunning sound of a JBL cinema system. The Cinema Expansion Series 8102 surround speaker delivers up to 125 dB peak SPL, with 110° x 90° coverage, thanks to an innovative angled cabinet baffle design. Pair with JBL Cinema Expansion Series 3153 and 4253 screen speakers and 3181F and 4281F subwoofers for seamless coverage.

ROCK-SOLID AND RELIABLE

Trust the JBL Cinema Expansion Series to provide peak performance throughout the life of your investment: Systems are designed for superior overall efficiency; transducer-protection circuitry ensures long-term stability.

PURPOSEFUL, COST-CONSCIOUS DESIGN

The 8102 features a 20° down-angled baffle when mounted flat against a wall, for improved aesthetics and ideal directivity. With an impedance of 8 ohms, multiple surrounds can be wired to a single amplifier channel, reducing amplification cost—while the increased 110° x 90° coverage pattern means fewer surrounds are needed to achieve full coverage.

BUILD AN INTEGRATED SOUND SYSTEM

Complete your JBL cinema sound system with the JBL CPi2000 cinema processor, which provides audio enhancement including DSP, room EQ tuning, volume control and system fault detection. The CPi2000 features Cinema Expansion Series speaker presets for better sound and performance and easier deployment, and can send amplifier and speaker status to a central TMS (Theater Management System) control system.

IN THE BOX ■

8102 2-Way Surround Speaker

APPLICATIONS ■

CINEMA THEATERS

Small- to medium-sized (80-150-seat) cinema theaters

FEATURES ■

- 10-inch transducer, 2-way configuration
- 110° x 90° (horizontal x vertical) coverage
- Cabinet features 20° down-angled front baffle
- Mounting design features JBL QuickMount™, Omnimount® or APC Multimount brackets
- Input terminals located on enclosure top for quick access
- Binding-post connectors are consistent with other JBL cinema speakers and easy to wire
- 260W rated power
- 8-ohm impedance allows multiple surround speakers to be wired to a single amplifier channel
- 125 dB peak SPL
- Frequency range: 55 Hz–18 kHz (-10 dB)
- Throw capability of up to 40 ft (12 m)

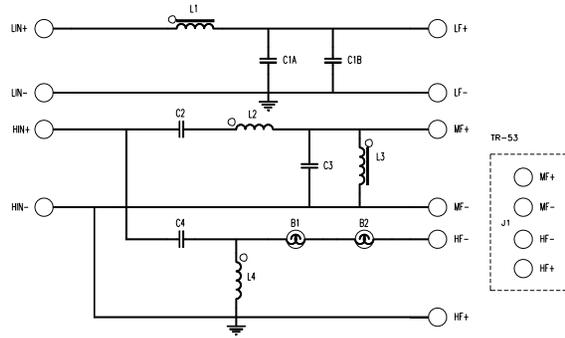
TECHNICAL SPECIFICATIONS ■

SYSTEM TYPE:	2-way passive surround
FREQUENCY RANGE (-10 dB):	55 Hz–18 kHz
SYSTEM IMPEDANCE:	8Ω
SYSTEM POWER:	260W
SENSITIVITY (4 PI):	92 dB
MAX PEAK SPL (2 PI):	125 dB
SYSTEM DIRECTIVITY (H x V):	110° x 90°
TRANSDUCERS:	LF: 1 x 10" HF: 1 x 1"
COMPLIANCE:	CE
MATERIAL:	Cabinet: MDF Horn: Plastic Grill: Fabric
COLOR/FINISH:	Matte black, vinyl
CONNECTORS:	Binding post
WEIGHT:	8.5 kg (18.74 lb)
DIMENSIONS (D x W x H):	254 x 370 x 470 mm (10 x 14.57 x 18.5 in)

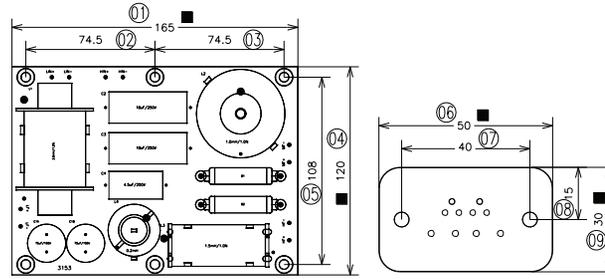
ORDER SPECIFICATIONS ■

BOX DIMS (L x W x H):	313 x 404 x 529 mm (12.32 x 15.91 x 20.83 in)
SHIPPING WEIGHT:	11.5 kg (25.35 lb)
COUNTRY OF ORIGIN:	CN
UPC CODE:	691991033872

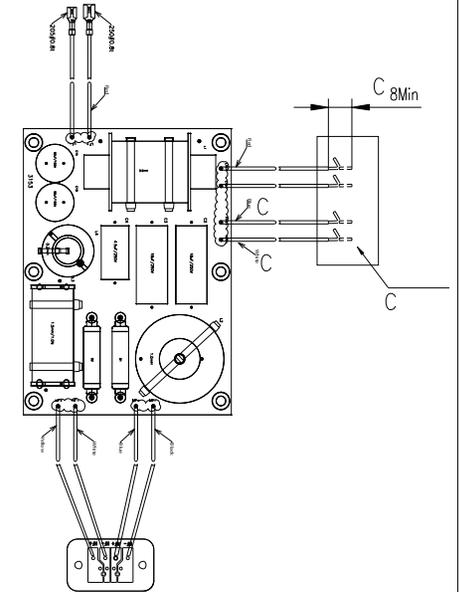
(一) SCH



(三) PCB



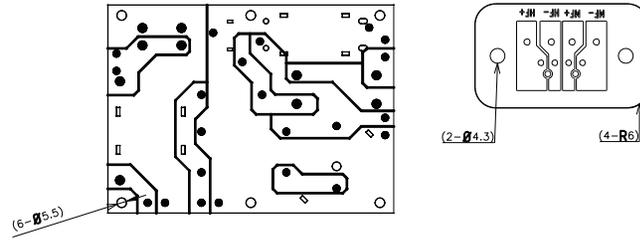
(五) Assembly drawing



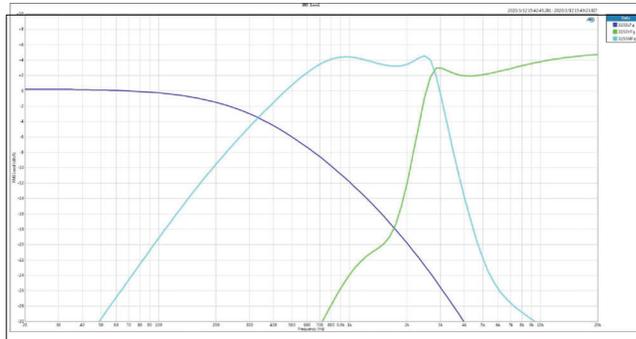
(二) Component

PCB	3153;165*120*1.6L,FR4
TR	53;50*30*1.6I
wire 1015#18AWG	LN± 600mm S1*5T
	HN± 600mm S1*5T
	MF± 670mm S1*5
	LF± 400mm S1*5+ 250*0.8I/ 205#0.8I
Inductor	L1 3.0mH/1.2mmx F16 PA, DCR=0.5Ω
	L2 1.0mH/1.0mm S1*26 PA, DCR=0.51Ω
	L3 1.5mH/1.0mm F3 PA, DCR=0.27Ω
	L4 0.2mH/0.7mm S0*15 PA, DCR=0.36Ω
Capacitor	C1A 75uF/100V NPR, 22*36,TOL±5%,DF<3%,105L, HINGTAT
	C1B 75uF/100V NPR, 22*36,TOL±5%,DF<3%,105L, HINGTAT
	C2 18uF/250V MKT, 45*25*18,TOL±5%,DF<1%,HINGTAT
	C3 18uF/250V MKT, 45*25*18,TOL±5%,DF<1%,HINGTAT
Bulb	C4 4.5uF/250V MKT, 15*30.5,TOL±5%,DF<1%,HINGTAT
	B1 SK-3
Socket	B2 SK-3
	J1 4P

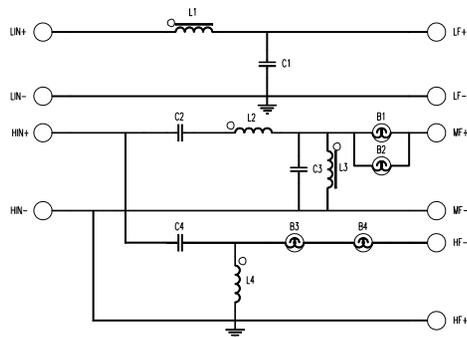
(四) PCB copper-clad surface



(六) Test graph



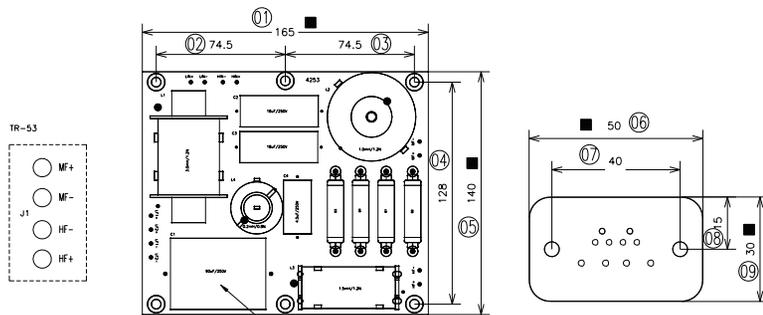
(一) SCH



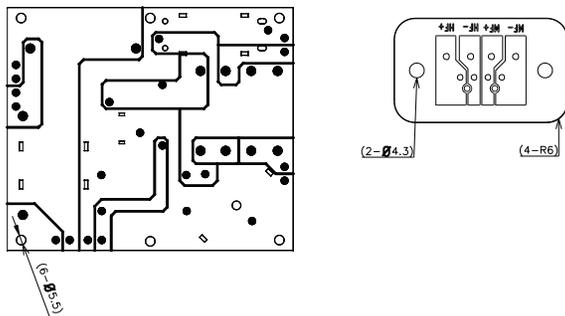
(二) Component

PCB	425.3;165*140*1.6;FR4	
wire	TR-53;50*30*1.6t	
1015#18AWG	LN±	600mm 5T*5T
	HN±	600mm 5T*5T
	HF±	550mm 5T*5T
	MF±	550mm 5T*5T
	LF±	400mm 5T*5+ 250*0.8t/ 205#0.8t
Inductor	L1	3.0mH/1.2mmx F16 PA DCR=0.3Ω
	L2	1.0mH/1.2mmN 51*26 PA DCR=0.35Ω
	L3	1.5mH/1.2mmN F3 PA DCR=0.21Ω
	L4	0.2mH/0.8mmN 30*15 PA DCR=0.25Ω
Capacitor	C1	90uF/250V MKTJ 55*47*41,TOL±5%,DF<1%,HNGTAT
	C2	18uF/250V MKT 45*25*19,TOL±5%,DF<1%,HNGTAT
	C3	18uF/250V MKTJ 45*25*19,TOL±5%,DF<1%,HNGTAT
	C4	4.5uF/250V MKT 15*30.5,TOL±5%,DF<1%,HNGTAT
Bulb	B1/2	SK-3
	B3/4	SK-3
Socket	J1	4P

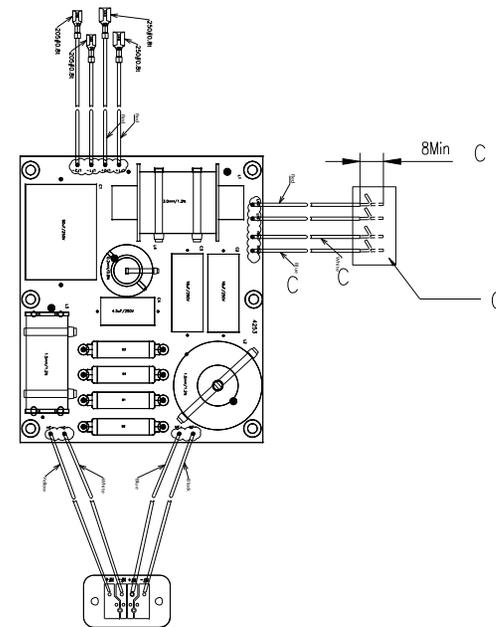
(三) PCB



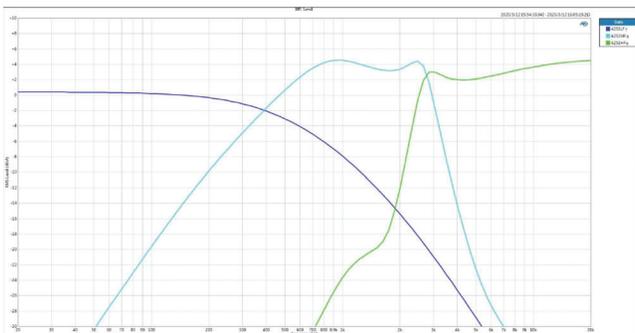
(四) PCB copper-clad surface



(五) Assembly drawing

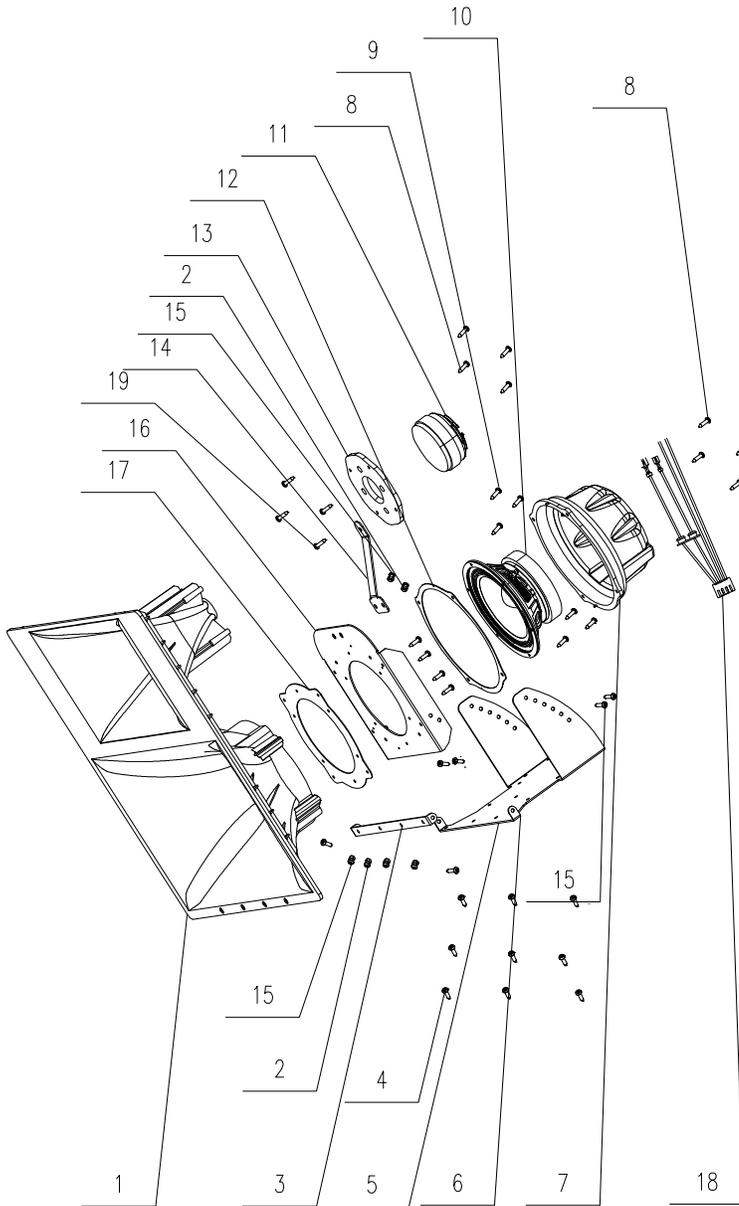


(六) Test graph



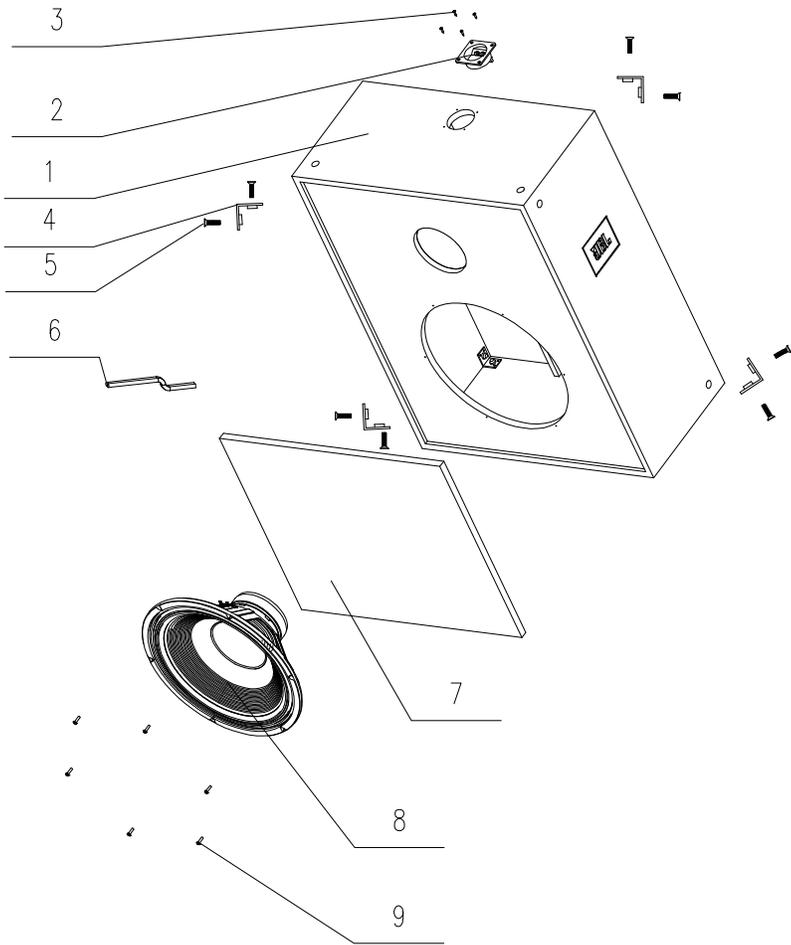
c	ECN-011308	李阳	2020-04-15	P/N:		DWG No.		REV	C
b	ECN-010993	李阳	2020-03-20						
标记	更改文件号	签字	日期	DESCRIPTION	4253 Frequency divider	投影类型	重量		
				公差表(±)		1:1	1.3±10% kg		
尺寸范围	A级	B级	C级	D级	设计	李阳	2020-04-13	所属装配号	
0c<=5	0.05	0.10	0.20	0.30	复核	李阳	2020-04-13	共 1 张	第 1 张
5c<=20	0.10	0.20	0.30	0.50	标准化	顾小曼	2020-04-17	比例	
20c<=80	0.20	0.30	0.50	0.80	批准	李阳	2020-04-16		
80c<=250	0.30	0.50	0.80	1.20					
250c<	0.50	0.80	1.20	2.00					

3132-M/HF



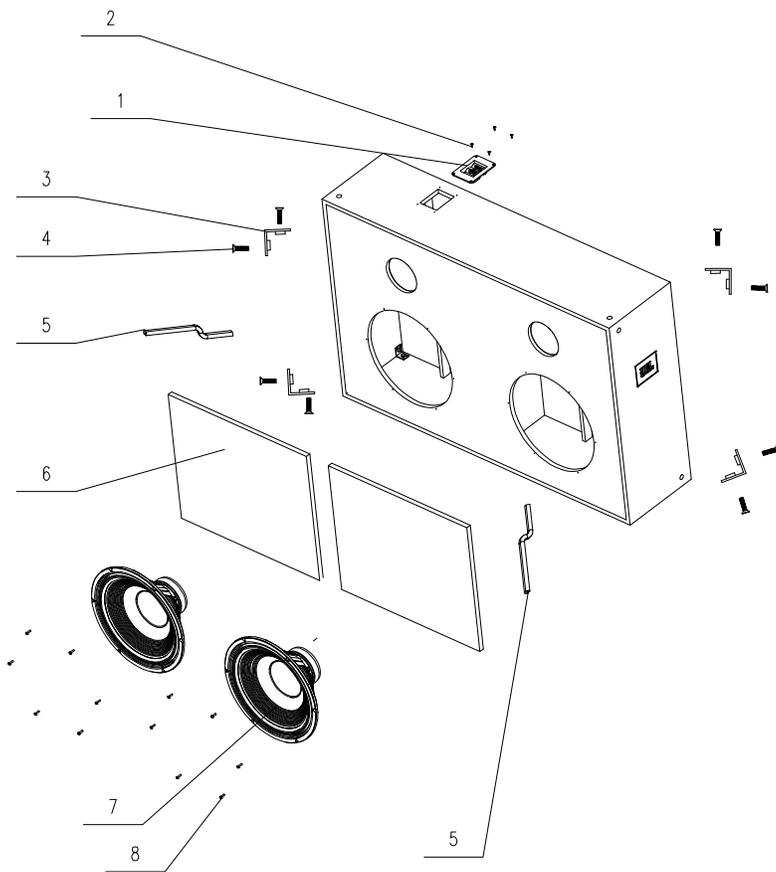
Bill of Materials(3132M/HF)		
Ref ID	Description	Qty
1	SPKRSYS,HORN,550*521*200mm	1
2	HDW,NUT,M5*4	6
3	HDW,BRKT-1,305.7*15*16mm,black,PP	1
4	HDW,SCREW,M5*20	9
5	HDW,BRKT-2,310*201.75*133mm,black,PP	1
6	HDW,SHLD,Rear shade,201*201*108mm,ABS+SPCC	1
7	ENCL,PORT,BDPT-,14.5mm,ABS	1
8	ENCL,PORT,BDPT+,14.5mm,ABS	1
9	HDW,SCREW,3.5*12	6
10	AUD,LS,mid-range mediant,6.5 inch,8Ohm	1
11	AUD,LS,TWEETER,36mm,8Ohm	1
12	HDW,GSKT,206*201*11mm,EVA	1
13	HDW,BRKT,126*126*7mm,black,PP	1
14	HDW,BRKT-4,139*48*41mm,black,PP	1
15	HDW,SCREW,M5*10	15
16	HDW,BRKT-3,225.5*235*32mm,black,PP	1
17	HDW,GSKT,201.5*201.5*11mm,EVA	1
18	HDW,CONNECTING LINE,4 PIN,UL1015,EVA	1
19	HDW,SCREW,PM5*16.5,SPCC	1

3181F



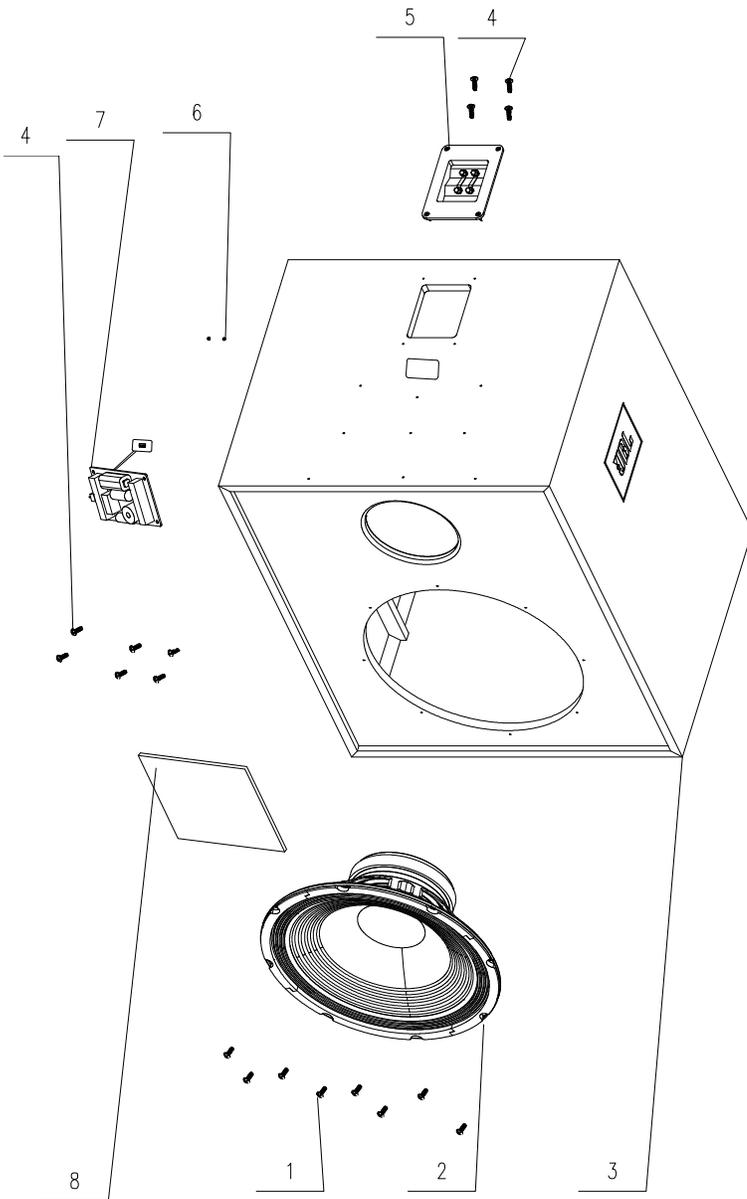
Bill of Materials(3181F)		
Ref ID	Description	Qty
1	MDF,3181F BOX,	1
2	ENCL,PORT,BDPT,80*80*30mm,ABS	1
3	HDW,SCREW,M4*20,SPCC	4
4	HDW,ANGEL IRON,3mm,41*41*30	4
5	HDW,SCREW,M10*30,SPCC	8
6	HDW,CBL,Connecting CBL,1300mm 18AWG	1
7	HDW,SPONGE,COTTON	1
8	AUD,LS,WOOFER,18 inch,4Ohm	1
9	HDW,SCREW,M5*20,SPCC	6

4281F



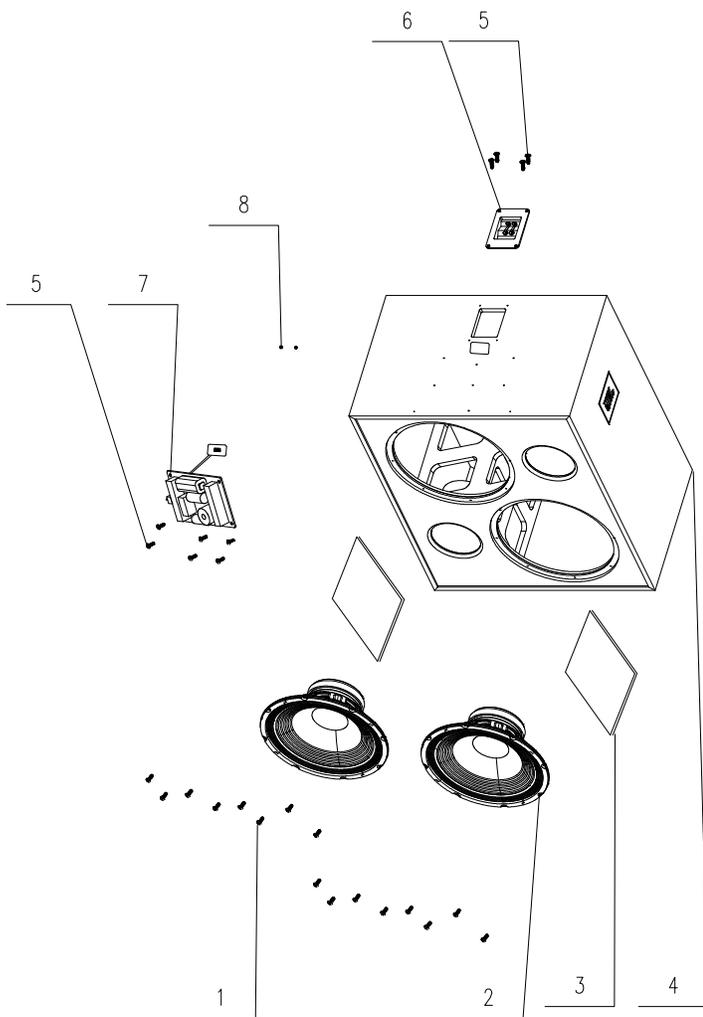
Bill of Materials(4281F)		
Ref ID	Description	Qty
1	ENCL,PORT,BDPT,4 pin,103*145*43mm,ABS	1
2	HDW,SCREW,M4*20,SPCC	4
3	HDW,ANGEL IRON,3mm,41*41*30	4
4	HDW,SCREW,M10*30,SPCC	8
5	HDW,CBL,Connecting CBL A ,1300mm 18AWG	2
6	HDW,SPONGE,COTTON	2
7	AUD,LS,WOOFER,18 inch, 8Ohm,SPCC	2
8	HDW,SCREW,M5*20,SPCC	16

3153



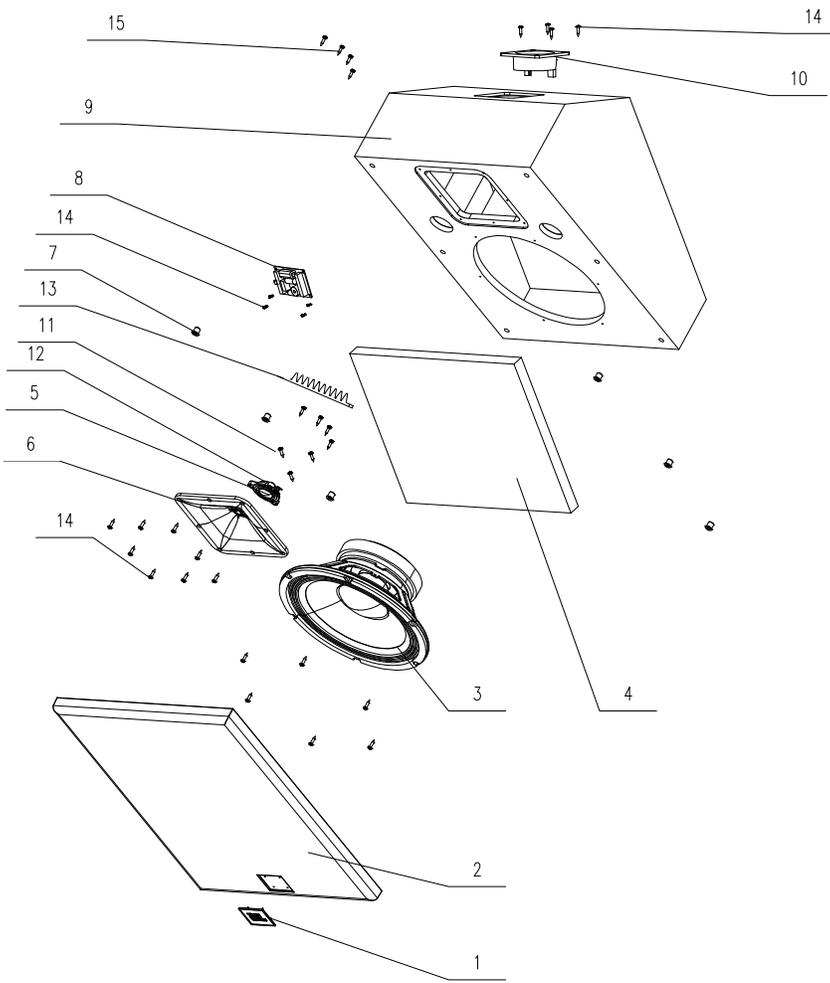
Bill of Materials(3153)		
Ref ID	Description	Qty
1	HDW,SCREW,M5*20	8
2	AUD,LS,WOOFER,15 inch,4Ohm	1
3	MDF.3153 BOX	1
4	HDW,SCREW,M4*20	10
5	ENCL,Junction box,4 pin,103*145*43mm	1
6	HDW,SCREW,M4*15	2
7	PCB,ASY,Frequency divider,165*120	1
8	HDW,SPONGE,COTTON,530*409*20mm	1

4253



Bill of Materials(4253)		
Ref ID	Description	Qty
1	HDW,SCREW,M5*20	16
2	AUD,LS,WOOFER,15 inch,8 Ohm	2
3	HDW,SPONGE,COTTON,	2
4	MDF,4253 WOODEN BOX	1
5	HDW,SCREW,M4*20	10
6	ENCL,Junction box,4 PIN,103*145*43mm	1
7	PCB,ASY,frequency divider ,165*130mm,4253	1
8	HDW,SCREW,M4*15	2

8102



Bill of Materials(8102)		
Ref ID	Description	Qty
1	HDW,NPL,LOGO,50*40.8*9.8mm	1
2	HDW,FR,SCRN FR,369.6*469.6*30.7mm	1
3	AUD,LS,WOOFER,10 inches	1
4	HDW,SPONGE,COTTON	1
5	AUD,LS,TWEETER,25mm	1
6	SPKRSYS,HORN,147.8*153*43.2mm	1
7	HDW,BUBBER PLUG	9
8	PCB,ASY,requency divider,Cinema 8102	1
9	MDF,8102 BOX	1
10	ENCL,PORT,BDPT,80*80*30mm	1
11	HDW,SCREW,3*10,SPCC	7
12	HDW,HEAT CONDUCTION SILICONE,28*1mm	1
13	HDW,HEAT SINK,64*35*9mm,ALUMINUM	1
14	HDW,SCREW,M4*20,SPCC	22
15	HDW,SCREW,M6*16,SPCC	4

Bill of Materials - 3 Way Cinema speakers system

Bill of Materials(3132M/HF)		
Ref ID	Description	Qty
1	SPKRSYS,HORN,550*521*200mm	1
2	HDW,NUT,M5*4	6
3	HDW,BRKT-1,305.7*15*16mm,black,PP	1
4	HDW,SCREW,M5*20	9
5	HDW,BRKT-2,310*201.75*133mm,black,PP	1
6	HDW,SHLD,Rear shade,201*201*108mm,ABS+SPCC	1
7	ENCL,PORT,BDPT-,14.5mm,ABS	1
8	ENCL,PORT,BDPT+,14.5mm,ABS	1
9	HDW,SCREW,3.5*12	6
10	AUD,LS,mid-range mediant,6.5 inch,8Ohm	1
11	AUD,LS,TWEETER,36mm,8Ohm	1
12	HDW, GSKT,206*201*T1mm,EVA	1
13	HDW,BRKT,126*126*7mm,black,PP	1
14	HDW,BRKT-4,139*48*41mm,black,PP	1
15	HDW,SCREW,M5*10	15
16	HDW,BRKT-3,225.5*235*32mm,black,PP	1
17	HDW,GSKT,201.5*201.5*T1mm,EVA	1
18	HDW,CONNECTING LINE,4 PIN,UL1015,EVA	1
19	HDW,SCREW,PM5*16.5,SPCC	1

Bill of Materials(8102)		
Ref ID	Description	Qty
1	HDW,NPL,LOGO,50*40.8*9.8mm	1
2	HDW,FR,SCRN FR,369.6*469.6*30.7mm	1
3	AUD,LS,WOOFER,10 inches	1
4	HDW,SPONGE,COTTON	1
5	AUD,LS,TWEETER,25mm	1
6	SPKRSYS,HORN,147.8*153*43.2mm	1
7	HDW,BUBBER PLUG	9
8	PCB,ASY,requency divider,Cinema 8102	1
9	MDF,8102 BOX	1
10	ENCL,PORT,BDPT,80*80*30mm	1
11	HDW,SCREW,3*10,SPCC	7
12	HDW,HEAT CONDUCTION SILICONE,28*1mm	1
13	HDW,HEAT SINK,64*35*9mm,ALUMINUM	1
14	HDW,SCREW,M4*20,SPCC	22
15	HDW,SCREW,M6*16,SPCC	4

Bill of Materials(4281F)		
Ref ID	Description	Qty
1	ENCL,PORT,BDPT,4 pin,103*145*43mm,ABS	1
2	HDW,SCREW,M4*20,SPCC	4
3	HDW,ANGEL IRON,3mm,41*41*30	4
4	HDW,SCREW,M10*30,SPCC	8
5	HDW,CBL,Connecting CBL A ,1300mm 18AWG	2
6	HDW,SPONGE,COTTON	2
7	AUD,LS,WOOFER,18 inch, 8Ohm,SPCC	2
8	HDW,SCREW,M5*20,SPCC	16

Bill of Materials()		
Ref ID	Description	Qty
1	HDW,SCREW,M5*20	16
2	AUD,LS,WOOFER,15 inch,8 Ohm	2
3	HDW,SPONGE,COTTON,	2
4	MDF,4253 WOODEN BOX	1
5	HDW,SCREW,M4*20	10
6	ENCL,Junction box,4 PIN,103*145*43mm	1
7	PCB,ASY,frequency divider ,165*130mm,4253	1
8	HDW,SCREW,M4*15	2

Bill of Materials()		
Ref ID	Description	Qty
1	HDW,SCREW,M5*20	8
2	AUD,LS,WOOFER,15 inch,4Ohm	1
3	MDF.3153 BOX	1
4	HDW,SCREW,M4*20	10
5	ENCL,Junction box,4 pin,103*145*43mm	1
6	HDW,SCREW,M4*15	2
7	PCB,ASY,Frequency divider,165*120	1
8	HDW,SPONGE,COTTON,530*409*20mm	1

Bill of Materials(3181F)		
Ref ID	Description	Qty
1	MDF,3181F BOX,	1
2	ENCL,PORT,BDPT,80*80*30mm,ABS	1
3	HDW,SCREW,M4*20,SPCC	4
4	HDW,ANGEL IRON,3mm,41*41*30	4
5	HDW,SCREW,M10*30,SPCC	8
6	HDW,CBL,Connecting CBL,1300mm 18AWG	1
7	HDW,SPONGE,COTTON	1
8	AUD,LS,WOOFER,18 inch,4Ohm	1
9	HDW,SCREW,M5*20,SPCC	6