

# MOVIE SERIES

## DESCRIPTION

With the Movie Series, Outline introduces a complete line of cinema loudspeaker enclosures. The seven models in the range are designed to meet the numerous application requirements in the cinema theatre field. The key strong points of Outline's new cinema system consist in reducing to a minimum phase cancellation in the critical range of the spoken word and ensuring very accurate directivity control, optimised bearing in mind the problems caused by the fact that the enclosures are positioned behind the screen.

The main channels are 3-way and can be formed by using a 2-way mid-high unit (horn-loaded and available in two versions) along with two dedicated bass units. As far as the remaining channels are concerned, two subwoofer models are available and one enclosure for surround effects.

The most interesting product in the entire Movie Series is without doubt the exponential mid frequency horn, as it has features that make it outstandingly original compared with respect to comparable systems on the market.

This unit also incorporates a high frequency horn in a single element: in actual fact, the two horns expand independently until they meet and combine to form a common "acoustic loading".

This ground-breaking design has resulted in considerable benefits in terms of performance and its practical application was possible thanks to powerful proprietary simulation software developed and written in Outline's laboratories.

The loudspeakers fitted to this horn, manufactured in anti-resonant composite material with very high structural rigidity, vary according to the model (1x8" along with a 1.75" driver on the H081).

To meet the needs for greater sound pressure necessary for correct audio reproduction in cinemas, the range is completed by two types of low frequency units (2x15" and 1x15", respectively B215 and B115), two subwoofers (2x18" and 1x18" on S 218 and S 118 respectively) and two types of surround boxes (1x8" plus a 25 mm tweeter and 1x10" plus a 32mm. tweeter on the FX 81 and FX 101 models).

An extremely sturdy bracket with numerous regulation possibilities ("Staffa MV1") enables the H 081 or H 102 horns to be mounted on the bass units (fitted as standard with threaded nut screws) and the availability of passive crossovers, which enable to connect and use the main (front) channels in a bi-amped configuration, complete the Movie Series. The cabinets' finish - studied bearing in mind the fact that they must be as unobtrusive as possible for this type of application - is matt black and water resistant, in order to allow the Outline Movie systems to be also used in outdoor summer venues without any particular precautions being required.

## APPLICATIONS

Systems used for sound reinforcement in cinema theatres can range from a mono set-up to high-profile systems with Dolby Digital, DTS and SDDS digital audio which, in various configurations, can involve anything up to eight separate channels (between front, surround and subwoofers). The format chosen and the dimensions of the hall establish the channels and the number of enclosures to use. A typical system for an "average" cinema theatre (with a capacity of 4-500) would consist in three main front channels behind the screen (comprising three H 102 horns and three B 215 bass units), one or two S 218 subwoofers and a suitable number of FX81 surround cabinets mounted on the side walls (and possibly on those at the back of the hall). To ensure excellent end results, an



expert acoustical consultant must be contacted to decide firstly if there's any need for acoustic treatment as well as ensuring that the entire system is correctly designed. Regarding the enclosures for sound reproduction, manufacturers of the encoding systems for the abovementioned soundtracks set rather high "numerical" standards for official approval of cinema theatres. Outline's Movie Series loudspeaker systems meet these requirements and even exceed them.

## AMPLIFICATION

Outline's Movie Series horns can be fitted with an (optional) built-in passive filter (models CH-081 and CH-102 for the H081 and H102 respectively) and the front channels can therefore be installed as bi-amped or tri-amped set-ups, using an electronic crossover (some decoders already have the crossover for the front channels included in their functions: these are however basic settings which have to adapt to the majority of the equipment on the market; when preparing cutting edge systems, Outline suggests using an external DSP unit such as their Genius 24/26 or 412, which are very efficient). As far as the subwoofer channel is concerned, it's normally already filtered by the processor and subwoofers are connected directly to the amplifier output, without any need for an electronic crossover. The surround channels, which have an impedance of 8 Ω, are normally connected in groups in series/parallel, making certain that the amplifier is able to supply power which is least equal to the rated power of each cabinet multiplied by the total number of enclosures. Amplifiers used with the Movie Series enclosures must be chosen with sufficient power and with this in mind, reference must be made to the indicated maximum power and minimum impedance values: the amplifiers must be able to give at least this power, at the enclosure's minimum load. It's indispensable to use quality amplifiers with sufficient rated power to ensure adequate headroom, in order to exploit digital soundtracks' great dynamics and Movie Series enclosures' excellent acoustic performance to the utmost.

# MOVIE M1

<b>TYPE</b>	Full range system comprising one B 115 bass unit with a H 081 horn mounted using a SMV1 bracket
<b>APPLICATION</b>	Small to medium size cinemas (see table). Can be used in bi-amped systems (with passive crossover between mid and high sections) or tri-amped systems
<b>FREQUENCY RESPONSE, (Hz):</b>	40 ÷ 19,000
<b>POWER HANDLING, AES (WATT):</b>	600 (2,400 peak)
<b>MAX SPL, HF (DBSPL/1m/4π):</b>	131.5 (137.5 peak)
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 114 x 49
<b>NET WEIGHT, (kg):</b>	38



# MOVIE SERIES

# MOVIE M2

<b>TYPE</b>	Full range system comprising one B 215 bass unit with a H 081 horn mounted using a SMV1 bracket
<b>APPLICATION</b>	<b>Medium</b> size cinemas (see table). Can be used in bi-amped systems (with passive crossover between mid and high sections) or tri-amped systems
<b>FREQUENCY RESPONSE, (Hz):</b>	35 ÷ 19,000
<b>POWER HANDLING, AES (WATT):</b>	950 (3,800 peak)
<b>MAX SPL, HF (DBSPL/1m/4π):</b>	131.5 (137.5 peak)
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 164.5 x 49
<b>NET WEIGHT, (kg):</b>	76



# MOVIE M3

<b>TYPE</b>	Full range system comprising one B 215 bass unit with a H 081 horn mounted using a SMV1 bracket
<b>APPLICATION</b>	<b>Medium to large</b> size cinemas (see table). Can be used in bi-amped systems (with passive crossover between mid and high sections) or tri-amped systems
<b>FREQUENCY RESPONSE, (Hz):</b>	35 ÷ 19,000
<b>POWER HANDLING, AES (WATT):</b>	1,150 (4,600 peak)
<b>MAX SPL, HF (DBSPL/1m/4π):</b>	134.5 (140.5 peak)
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 164.5 x 49
<b>NET WEIGHT, (kg):</b>	81



# MOVIE H 081

<b>TYPE</b>	Single mouth 2-way controlled coverage horn (comprising passive crossover)
<b>APPLICATION</b>	<b>Small to medium</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	200 ÷ 19,000
<b>POWER HANDLING, AES (WATT):</b>	250 (1,000 peak)
<b>SENSITIVITY (DBSPL/1W/4π):</b>	107.5
<b>MAX SPL (DBSPL/1m/4π):</b>	131.5 (137.5 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	1 x 8" + 1 x 1" (1.75" diaphragm compression driver), horn
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 63.5 x 49
<b>NET WEIGHT, (kg):</b>	17 (22)



# MOVIE H 102

<b>TYPE</b>	Single mouth 2-way controlled coverage horn (comprising passive crossover)
<b>APPLICATION</b>	<b>Medium to large</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	180 ÷ 19,000
<b>POWER HANDLING, AES (WATT):</b>	450 (1,800 peak)
<b>SENSITIVITY (DBSPL/1W/4π):</b>	108
<b>MAX SPL (DBSPL/1m/4π):</b>	134.5 (140.5 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	1 x 10" + 1 x 2" (3" diaphragm compression driver), horn
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 63.5 x 49
<b>NET WEIGHT, (kg):</b>	22 (27)



## MOVIE SERIES

# MOVIE B 115

<b>TYPE</b>	Vented bass unit
<b>APPLICATION</b>	<b>Small to medium</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	40 ÷ 1,200
<b>POWER HANDLING, AES (WATT):</b>	350 (1,400 peak)
<b>SENSITIVITY (DBSPL/1W/2<math>\pi</math>):</b>	102.3
<b>MAX SPL (DBSPL/1m/2<math>\pi</math>):</b>	127.7 (133.7 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	1 x 15", bass reflex
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 50.5 x 42
<b>NET WEIGHT, (kg):</b>	21 (27)



# MOVIE B 215

<b>TYPE</b>	Vented bass unit
<b>APPLICATION</b>	<b>Medium to large</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	35 ÷ 1,200
<b>POWER HANDLING, AES (WATT):</b>	700 (2,800 peak)
<b>SENSITIVITY (DBSPL/1W/2<math>\pi</math>):</b>	105.3
<b>MAX SPL (DBSPL/1m/2<math>\pi</math>):</b>	133.7 (139.7 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	2 x 15", bass reflex
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 101 x 42
<b>NET WEIGHT, (kg):</b>	59 (67)



<b>TYPE</b>	Vented subwoofer unit
<b>APPLICATION</b>	<b>Small to medium</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	28 ÷ 250
<b>POWER HANDLING, AES (WATT):</b>	450 (1,800 peak)
<b>SENSITIVITY (DBSPL/1W/2<math>\pi</math>):</b>	96.5
<b>MAX SPL (DBSPL/1m/2<math>\pi</math>):</b>	123 (129 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	1 x 18", bass reflex
<b>DIMENSIONS, WxHxD, (cm):</b>	63.5 x 92 x 42
<b>NET WEIGHT, (kg):</b>	43 (49)



# MOVIE S 218

<b>TYPE</b>	Vented subwoofer unit
<b>APPLICATION</b>	<b>Medium to large</b> size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	25 ÷ 250
<b>POWER HANDLING, AES (WATT):</b>	900 (3,600 peak)
<b>SENSITIVITY (DBSPL/1W/2<math>\pi</math>):</b>	99.5
<b>MAX SPL (DBSPL/1m/2<math>\pi</math>):</b>	129 (135 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	2 x 18", bass reflex
<b>DIMENSIONS, WxHxD, (cm):</b>	79 x 125.5 x 52
<b>NET WEIGHT, (kg):</b>	85 (97)



## MOVIE SERIES

# MOVIE FX 81

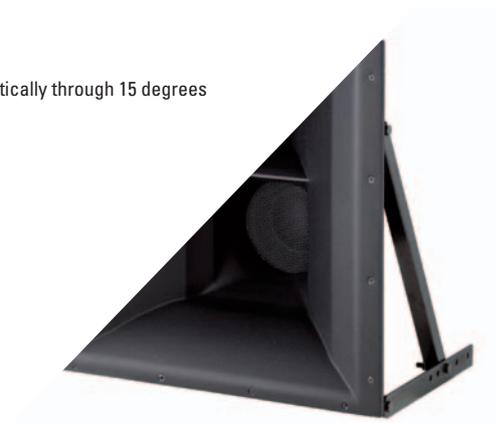
<b>TYPE</b>	Surround unit with 20° firing down front panel
<b>APPLICATION</b>	Small to medium size cinemas (see table)
<b>FREQUENCY RESPONSE, (Hz):</b>	55 ÷ 18,500
<b>POWER HANDLING, AES (WATT):</b>	80 (320 peak)
<b>SENSITIVITY (DBSPL/1W/2π):</b>	95.5
<b>MAX SPL (DBSPL/1m/2π):</b>	114.5 (120.5 peak)
<b>LOUDSPEAKERS AND LOADING:</b>	1 x 8", bass reflex + 1 x 25 mm, dome tweeter
<b>DIMENSIONS, WxHxD, (cm):</b>	45 x 50 x 29
<b>NET WEIGHT, (kg):</b>	11 (14)



# MOVIE STAFFA MV1

Heavy duty tilting bracket for fixing H 081 and H 102 horns to the bass box. Enabling the horn to be tilted vertically through 15 degrees (in 5° steps). Is fitted to the standard female threads on the top panel of B 115 and B 215 loudspeakers.

CINEMA SIZE DEFINITIONS	VOLUME (CUBIC METRES)	SEATS (NUMBER OF)
Small size less than 1,200 less than 200	Medium size from 1,200 to 4,900 from 200 to 350	Large size over 4,900 from 350 to 500



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