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NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

May 29, 2008

Mr. Frank Lacelle
JBL Professional
8500 Balboa Blvd
Northridge, CA 91329

E-mail: FLacelle@harman.com

Reference: File S7232 Project 07CA64933
Product: USL – UUMW Listing of new model 25AV-LS speaker

Dear Mr. Lacelle,

UL's investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Listing Mark only at the factory under UL's Follow-Up Service Program to the subject product, which is constructed as described below:

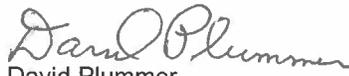
Identical to the subject model, which was submitted to UL for this investigation. The UL Records covering the product will be in the Follow-Up Services Procedure, File S7232, Volume 4.

This authorization applies only to the address on this letter.

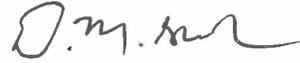
This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,


David Plummer
Project Engineer
Department: 3017ANBK
Tel: 847-664-1788
Email: David.Plummer@us.ul.com

Reviewed by:


Daniel M. Grosch
Lead Engineering Associate
Department: 3017ANBK
Tel: 847-664-2634
Email: Daniel.M.Grosch@us.ul.com

Attachments:

Red-lined Report for File S7232, Volume 4, Section 2

File S7232
Project 07CA64933

DATE

REPORT

on

SPEAKERS AND AMPLIFIERS FOR FIRE PROTECTIVE SIGNALING SYSTEMS
(UUMW)

* * * * *

Complimentary Product Category
SPEAKERS
(UEAY)

JBL Professional
Northridge, CA

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DESCRIPTIONPRODUCT COVERED:

USL - Model 25AV-LS Loudspeaker, suitable for indoor/damp use and for outdoor/wet use.

Accessory wall mount bracket, Model InvisiBall

Accessory weatherproof terminal cover, Model MTC-PC2

Products designated USL have been investigated to the requirements of UL Standard 1480, Standard for Safety for Speakers for Fire Alarm, Emergency, and Commercial and Professional Use, Fifth Edition.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

General - The speakers described in this Report are intended for fire alarm and emergency use, and also for general signaling use, and are intended for connection to a 70.7 V, 100 V, or 8 ohm, rated source. The wattage taps for the 70.7 V configuration are 7.5 W, 15 W, 30 W, and 60 W. The wattage taps for the 100 V configuration are 15 W, 30 W, and 60 W. The wattage tap for the 8 ohm configuration is 100 W. All tap settings are configurable by a rotary switch tap selector on the back of the enclosure.

Installation - The subject speakers are intended to be installed in conjunction with compatible Listed sound recording and reproducing equipment, the combination of which is intended to be installed in accordance with the applicable requirements of the National Electric Code, NFPA 70, the National Fire Alarm Code, NFPA 72, and the local authorities having jurisdiction.

Component Servicing - These products contain no user serviceable parts and are intended to be returned to the manufacturer or authorized service center for repair.

Intended Use - The Model 25AV-LS speaker has been evaluated for use as:

- A. General purpose commercial and professional speaker suitable for indoor/damp and outdoor/wet use.
- B. Fire Alarm and emergency speaker suitable for indoor/damp and outdoor/wet use with non-DC supervised control panels/amplifiers.

Refer to the following illustrations and associated descriptive pages. The general design, shape and arrangement shall be as illustrated unless otherwise specifically indicated.

RATINGS:

Model: 25AV-LS

Frequency Response: 70 Hz to 23 kHz -10dB

<u>Input Voltage</u>	<u>Wattage Tap</u>	<u>Sound Level at 10 ft (dBa)</u>
70.7 V rms	7.5	80
70.7 V rms	15	83
70.7 V rms	30	86
70.7 V rms	60	88
100 V rms	15	83
100 V rms	30	86
100 V rms	60	88
--	8Ω	90

MARKING:

The product shall be legibly and permanently marked with the following information:

- A. Listee's name or authorized company identification.
- B. Model number designation.
- C. Electrical Ratings: Maximum voltage, maximum power, and sound pressure level.
- D. Reference to the installation instructions by the specific part number and revision date or level.
- E. Date of manufacture by week, month or quarter and year (any of which may be abbreviated or in an established or otherwise traceable code or serial number).
- F. The following text:
 - "Not for use with DC supervised control panels/amplifiers."
 - "Suitable for use in indoor/damp and outdoor/wet locations."

INSTALLATION INSTRUCTIONS:

Installation Instructions/Wiring Diagram - The installation instructions indicated below shall be shipped with the indicated speaker model.

<u>Speaker Model</u>	<u>ILL. No.</u>	<u>Installation Instructions</u>	
		<u>Part No.</u>	<u>Rev Level</u>
25AV-LS	2	365564-001	05/08

MODEL 25AV-LS SPEAKER
FIG. 1 through FIG. 5

General - Refer to ILL. 3 for an exploded view of the Model 25AV-LS speaker construction.

1. Baffle - R/C (QMFZ2) Constructed of polypropylene (PP) Type CP025AT, manufactured by Star One Industrial Co., Ltd., rated UL 94-HB. Approximate overall dimensions of 222 mm (8-3/4 in.) high by 168 mm (6-5/8 in.) wide by 5 mm (3/16 in) thick. Refer to ILL. 4 for details. The two ports in the baffle must be securely sealed, and airtight, by gluing the port caps, shown in ILL. 5, to the ends of both ports. Refer to ILL. 4 for details.
2. Enclosure - R/C (QMFZ2) Constructed of acrylate styrene acrylonitrile (ASA), Type HP8250, manufactured by Formosa Chemicals and Fibre Corp., Plastics Div., rated UL 94-HB. Approximate overall dimensions of 235 mm (9-1/4 in.) high by 168 mm (6-5/8 in.) wide by 159 mm (6-1/4 in.) deep by 10 mm (3/8 in.) thick. Refer to ILL. 6 for details.
3. Grille - Constructed of painted steel with multiple perforated holes, approximately 1.8 mm (1/16 in.) diameter. Press fit into Baffle. Approximate overall dimensions of 224 mm (8-7/8 in.) high by 172 mm (6-3/7 in.) wide by 0.6 mm (0.023 in.) thick. Refer to ILLS. 7 and 8 for details.
4. Terminal Cup - R/C (QMFZ2) Constructed of acrylonitrile butadiene styrene/styrene acrylonitrile (ABS/SAN), Type AG15A1, manufactured by Formosa Chemicals and Fibre Corp., Plastics Div., rated UL 94-HB. Provided with two No. 8-32 terminal screws, which must be captive and must not extend beyond the barriers on the terminal cup when fully loosened. Approximate overall dimensions of 57 mm (2-1/4 in.) square by 3 mm (1/8 in.) thick. Refer to ILL. 9 for details.
5. Gasket Material - R/C (QMFZ2) Constructed of polyethylene (PE), Type Softlon FR-ND, manufactured by Shanghai Sekisui-Holy Plastics Co., Ltd., rated UL 94-HF1. Approximated thickness of 2 mm (5/64 in.). Placed between the Enclosure and Baffle and also between the Enclosure and Terminal Cup to provide a weatherproof seal.
6. Sound Deadening Material - Acoustical grade cotton with a flame rating of 94V-0, various manufacturers. Placed inside of the Enclosure. Refer to ILL. 10 for details.
7. Plug - R/C (QMFZ2) Constructed of Silicone Rubber, Type CHR660, manufactured by Chang Horing Rubber Co., Ltd., rated UL 94-0. Approximate overall dimensions of 4 mm (5/32 in.) diameter by 7 mm (9/32 in.) long. Installed into the Tap Selector hole in the rear of the Enclosure to provide a weatherproof seal. Refer to ILL. 11 for details.

8. Claw - Not shown. Constructed or aluminum, painted or plated. Housed beneath the removable cover on the rear of the Enclosure and used to secure the accessory InvisiBall wall mount bracket to the rear of the speaker Enclosure. Claw is tightened onto the accessory Invisiball wall mount bracket by removing the JBL Logo pad from the Grille, and tightening the Claw screw with the supplied Allen wrench. Refer to ILLS. 12 and 13 for details.

MODEL 25AV-LS SPEAKER
FIG. 6 and FIG. 7

General - Refer to ILL. 3 for an exploded view of the Model 25AV-LS speaker construction.

1. Woofer -The assembly employs a polypropylene coated paper cone with a butyl rubber surround and a stamped steel basket. Voice coil has a Polyimide bobbin with 100 turns of copper wire. For reference use only, refer to ILL. 14 for details on the voice coil. Approximate overall dimensions of 133 mm (5-1/4 in.) diameter by 79 mm (3-1/8 in.) deep.
2. Tweeter - The assembly employs a Titanium coated polycarbonate diaphragm with an ABS plastic face plate. Voice coil has a Kapton bobbin with 34 turns of copper wire. For reference use only, refer to ILL. 15 for details on the voice coil. Approximate overall dimensions of 70 mm (2-3/4 in.) square by 25 mm (1 in.) deep.
3. Printed Wiring Board - R/C (ZPMV2), approximate overall dimensions of 75 mm (2-15/16 in.) long by 43 mm (1-11/16 in.) wide by 2 mm (5/64 in.) thick, minimum flame rating 94V-0. Soldered to Terminal Cup. Refer to ILL. 16 for parts list. Refer to ILL. 17 for component layout. Refer to ILL. 18 for schematic.
4. Transformer - R/C (FPOT2) Manufactured by Unicond Technology Co., Ltd., Part No. C-28T. Transformer is mechanically secured to the inside of the Enclosure by means of two screws. Refer to File E204657, Volume 1, Section 1, for a description of this component.
5. Rotary Switch - Five position rotary switch manufactured by Alpha Electronic Co., Ltd., Part No. SR2921-0205-10SOA-C9-S, rated 0.3 A, 125 Vac. Refer to ILL. 19 for details.
6. Internal Wiring - R/C labeled appliance wiring, minimum 1/32 in. insulation. No. 18 AWG used to connect the Crossover PCB to the Rotary Switch. No. 22 AWG used to connect the Crossover PCB to the Woofer and Tweeter.

MODEL INVISIBALL Accessory Wall Mount BracketFIG. 8

General - One Model InvisiBall wall mount bracket is supplied with each Model 25AV-LS speaker.

1. Base - R/C (QMFZ2) Constructed of aluminum, painted or plated. Approximate overall dimensions of 89 mm (3-1/2 in.) wide by 69 mm (2-3/4 in.) high. Refer to ILL. 20 for details.
2. Ball and Shaft - Constructed of aluminum or steel, painted or plated. Secured to Base with two nuts. Approximate ball dimensions of 34.5 mm (1-3/6 in.) diameter. Refer to ILL. 20 for details.

MODEL MTC-PC2 Accessory Weatherproof Terminal Cover
FIG. 9

General - One Model MTC-PC2 weatherproof terminal cover is supplied with each model 25AV-LS speaker.

1. Cover - R/C (QMFZ2) Constructed of acrylonitrile butadiene styrene/styrene acrylonitrile (ABS/SAN), Type AG15A1, manufactured by Formosa Chemicals and Fibre Corp., Plastics Div., rated UL 94-HB. Approximate overall dimensions of 62 mm (2-7/16 in.) wide by 62 mm (2-7/16 in.) long by 59 mm (2-3/8 in.) high by 4 mm (5/32 in.) thick. Refer to ILL. 21 for details.
2. Gasket Material - R/C (QMFZ2) Constructed of polyethylene (PE), Type Softlon FR-ND, manufactured by Shanghai Sekisui-Holy Plastica Co., ltd., rated UL 94-HF1, approximate thickness of 2 mm (5/64 in.). Secured to bottom flange of Cover.

ILLUSTRATION INDEX
(File in front of first Illustration)

<u>ILL.</u>	<u>DOCUMENT TITLE</u>	<u>DRAWING NO.</u>	<u>REV.</u>
1	Reserved	-	-
2	Installation Instructions	365564-001	05/08
3	Exploded construction view of speaker	Control 25AV-LS	0
4	Baffle	P180425AVBC0	0
5	Port caps	PH04115L01	0
6	Enclosure	P181725AVBC0	0
7	Grille	M070725AVBC0	0
8	JBL Logo Plate	H110025AVBC0	0
9	Terminal Cup	P2302C030BC0	0
10	Sound deadening material	C01020110WC0	0
11	Plug	R0601C030BC0	0
12	Claw Cover	P0617C28TBC0	0
13	Claw	M0401CO28BC0	0
14	Woofers voice coil details	VVC25C25WYC0	0
15	Tweeter voice coil details	VVC2025AVCC0	0
16	Crossover, parts list	ET-01-21-2816	02
17	Crossover, component layout	-	-
18	Crossover, schematic	ET-01-21-2816	02
19	Rotary Switch	-	-
20	InvisiBall wall mount bracket drawing	H0100CO28BC0	0
21	MTC-PC2 weatherproof terminal cover drawing	F0400CO30BC0	0