# **KB-30A Electronic Horn System** (with CM-14 Control Module)

#### INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS

### 1.) GENERAL FUNCTION AND DESCRIPTION

- The function of the KB-30A Horn is that of a high powered marine duty speaker. As an Electronic Horn/Hailing system for marine use, the KB-30A horn signal produced is in excess of 130 dB (1/3 Octave Band) @ 1 Meter at 695 Hz, as required by IMO Regulations for vessels up to 75 meters in length. Horn signals can be controlled by simple push button (sold separately), or by any automated Kahlenberg Sound and Light signal control such as model M-512, M-522, or M-611 for automated control of signals in maneuvering, restricted visibility, and emergency situations.
- The KB-30A Horn system includes a speaker/microphone to serve as a voice amplifier (Hailer) providing two way communications between those on the exterior of the vessel and the interior helm station. Voice and auxiliary output from the horn ranges from 110 to 120 dB(A) at 1 meter depending on volume of input at the microphone.
- The KB-30A consists of two major components: the KB-30A Horn/Driver Unit, and the CM-14 Control Module which provides the amplified horn and voice signals to the horn. The CM-14 Control Module is to be installed in a protected area typically beneath the main console or helm station.

#### **Complete contents of the KB-30A Horn System Include:**

- (1) KB-30A Horn Assembly, including mounting bracket and cable per Drg. 3-6725
- (1) CM-14 Control Module and Accessories per Drg. 3-6907
- (1) P542-02 Spare Fuse, 250V 8AMP Fast Acting

#### Other Technical Details:

- **D.C. VOLTAGE REQUIREMENT:** 24 Volts D.C.
- SWITCHING CAPACITY OF CM-14 CONTROL MODULE: 6 Amps Maximum
- Operating Temperature Range KB-30A Horn/Driver Unit: -40 deg. F(-40 C) to 130 deg. F (54 C)
- Installation Environment KB-30A Horn/Driver Unit: Exposed, code B IEC60945
- **Installation Environment CM-14 Control Module:** Protected from weather, code C IEC60945.
- Safe Vicinity to Compass (CM-14): TBD

### 2.) INSTALLATION

WARNING: BE SURE TO SHUT OFF POWER, TAG OUT, AND VERIFY NO VOLTAGE IS PRESENT BEFORE INSTALLING OR ATTEMPTING TO SERVICE THIS UNIT. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS INJURY OR DEATH.

#### **CM-14 Control Module**

The CM-14 Control Module must be installed in a protected interior space, typically behind the control or helm station console. Be sure to mount the CM-14 within 6 feet of the desired location of the speaker/microphone. The mounting flange accepts ½" (6mm) diameter fasteners. See drawing 3-6907 for details.

The P541-06 Microphone extension cord is color coded, and includes ¼" insulated spade terminal connectors for connection to the CM-14 Module. See wiring diagram 3-6908 for connections. The other end of this extension cord includes a marine grade bulkhead fitting to be installed in the console for connection to the speaker/microphone. The bulkhead console fitting requires a 5/8" (15.5mm) hole, and will accept console thickness up to 1/8" (3.2mm). It should be mounted at a location that allows the microphone cord to easily extend to the operators position at the helm.

The P564-04 Mounting Bracket secures the speaker microphone to the console. It requires two .20" (5mm) holes and fasteners for mounting to the console. It should be located within easy reach of the operator at the helm.

#### **KB-30A Horn/Driver**

- The KB-30A Horn/Driver Unit should be installed facing forward on the vessel (required by IMO Rules) at a location as high as possible to avoid obstructions to sound output. Two fender washers, item #34, Dwg. 3-6730 are provided for use with 3/8" (10mm) fasteners (not supplied) to distribute load on the mounting bracket.
- Ideally, the horn should be installed in a location where it will not receive excessive amounts of saltwater spray.
- The horn should be installed level to the waterline to ensure proper drainage. Installing the horn at an angle facing up, or down toward the deck is not recommended.
- There is a drain hole on the bottom of the center cone on the KB-30A. This hole should always be located in a 6 o'clock position down toward the deck for drainage. If the horn is to be mounted upside down, loosen the mounting bracket fully, position it above the horn, and re-install. In all circumstances the drain hole should remain facing

DOWN toward deck.

- Decibel levels from the horn output should not exceed 110 dB(A) at manned crew positions.
- For wiring connections, see drawing 3-3908.

#### **ELECTRICAL CONNECTION DETAILS: IMPORTANT!!!**

THE ENTIRE 50 FT (15 METERS) OF SUPPLIED 16AWG (2 x 1.3mm) MARINE CABLE MUST BE INSTALLED BETWEEN THE KB-30A HORN AND CM-14 CONTROL MODULE.

USE OF WIRE LARGER IN DIAMETER OR SHORTER IN LENGTH CAN CAUSE PERMANENT DAMAGE TO THE HORN. USE OF WIRE SMALLER IN DIAMETER OR LONGER IN LENGTH WILL RESULT IN LOSS OF HORN OUTPUT.

FOR INSTALLATIONS WHERE MORE THAN 15 METERS OF CABLE ARE NEEDED, CONSULT KAHLENBERG INDUSTRIES FOR SPECIFIC WIRE DIAMETER REQUIRED.

\*\*NOTE: Once power is connected to the KB-30A, a low level white noise will be produced by the horn speaker. This is normal and is the sound of low level current at the horn used to heat the driver to prevent condensation.

#### *3.*) **OPERATION**

#### **ELECTRICAL SPECIFICATIONS:**

•	D.C. VOLTAGE REQUIREMENT:	24 Volts D.C.
•	<b>SWITCHING CAPACITY OF CM-14:</b>	6 Amps Maximun

WARNING: THE KB-30A HORN PRODUCES OUTPUT THAT CAN CAUSE TEMPORARY OR PERMANENT DAMAGE TO HEARING WITHIN 8 METERS OF THE HORN WHEN SOUNDING. PROPER EAR PROTECTION MUST BE USED TO PREVENT INJURY.

#### **Horn Signaling:**

The horn signal is activated by external push button or signal controller (supplied separately) connected as shown in wiring diagram 3-6908.

#### **Speaker/Microphone and "Talkback":**

#### To Talk:

Press and hold "Push to Talk" button as shown in drawing 3-6907 when speaking into the microphone. Release "Push to Talk" after speaking. If the "Listen" function is on (as described below) you will hear replies from the exterior of the vessel through the speaker in the microphone. If the "Listen" function is off, you will not hear replies through the speaker in the microphone.

To Activate "Listen" (Talkback) function: Press and release the "Listen" button located beneath the "Push to Talk" button per drawing 3-6907. You will now be able hear replies from the exterior of the vessel. NOTE: The listen button is a "maintained" button. You do not need to hold this button down while listening to replies. Once it is pressed and released, you will hear activity from the exterior of the vessel. To deactivate the "listen" function, simply press the "Listen" button again.

#### Volume Control:

A volume control is located at the top of the microphone to control "Listen" (Talkback) volume as heard through the microphone speaker.

The microphone also includes an orange button on the top which is unused in the KB-30A System.

#### Remote Speaker:

If desired, a remote speaker (available separately) can be installed in addition to the microphone speaker to hear "talkback". Connect this remote speaker to terminals 1 and 2 on the CM-14 Control Module.

<u>Auxiliary Input:</u> The CM-14 allows for input from external sources such as a radio, P.A. system, or other similar device. This signal will be broadcast over the KB-30A Horn Speaker, but will be overridden by the horn signal or voice commands from the microphone. See wiring diagram 3-6908 for connection location.

#### 4.) CARE AND MAINTENANCE

The KB-30A System is designed to provide many years of maintenance free operation. Included is a P542-02 Replacement Fuse for the CM-14 Control Module. There are no additional spare parts we suggest you keep on hand. However if any parts listed on the attached Parts List drawings are required for any reason, please refer to the associated part number when ordering. If the unit should fail to operate properly please contact Kahlenberg Industries for recommended action or return to Kahlenberg for prompt analysis and repair.

# 5.) DRAWING REFERENCES

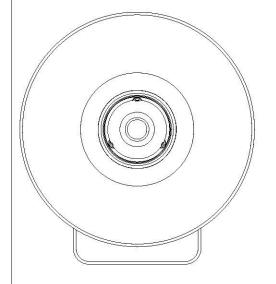
Outline Dimensions, KB-30A Horn Assembly:	3-6725
Parts List, KB-30A Horn Assembly:	3-6730
Outline Dimensions, CM-14 Control Module:	3-6907
General Wiring Diagram:	3-6908

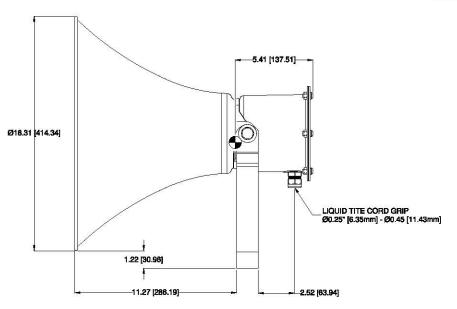
<sup>\*\*</sup>For custom installations other than those shown in the above wiring diagrams see custom wiring diagrams provided by Kahlenberg or contact Kahlenberg Industries with specific requirements.

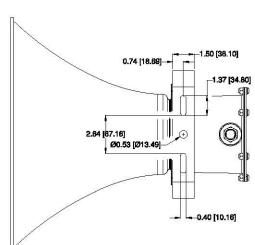
**Kahlenberg Industries, Inc.** 1700 12<sup>th</sup> St., P.O. Box 358

1700 12<sup>th</sup> St., P.O. Box 358 Two Rivers, WI, USA www.kahlenberg.com

#### Conforming to International Maritime Regulations For Vessels Less Than 75 Meters in Length



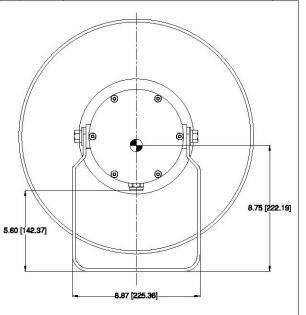




PARTS LIST: 3-6730 CAGE: 75214

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REV.	ВҮ	DATE	DESCRIPTION	APP'D.
Α	ZN	08/05/16	FLIPPED MOUNTING BRACKET	EMK
В	ZN	10/29/18	ADDED CENTER OF GRAVITY	EMK
С	ZN	03/15/19	MOUNTING SLOTS WERE 0.53 WIDE NOW 0.40	EMK



#### TECHNICAL DATA

Frequency: 695 Hz

Sound Pressure Level (dB(A) at 1 meter): 132dB Sound Pressure Level (1/3 octave at 1 meter): 133dB

Electric Power: 24 V.D.C. Power Consumption: 100 Watts Protection of Ingress: IP66

Temperature Range: -40°F (-40°C) to 130°f (54°C)

Material: Aluminum, 316 Stainless Steel

Finish: Matterhorn (Sky White) TGIC Powdercoat Net Weight: 13 Lbs. Shipping Weight: 21 Lbs.





KAHLENBERG INDUSTRIES INC.

TWO RIVERS, WI. U.S.A.

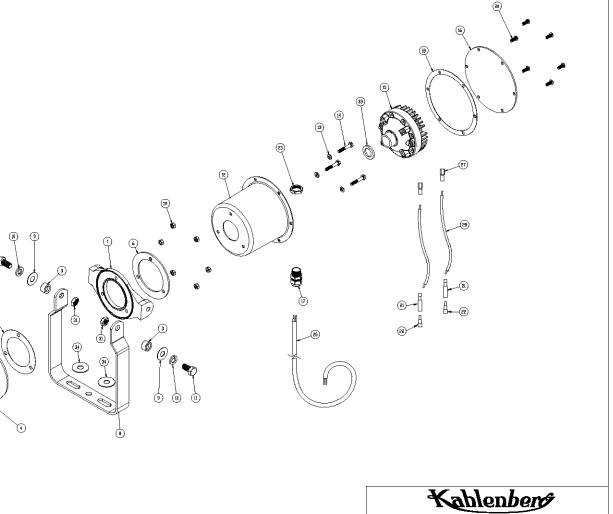
#### **OUTLINE DIMENSIONS KB-30A ELECTRONIC HORN**

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	11/26/12	EMK	N.T.S.	3-6725	C

# 3-6730

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	P564-09	BRACKET, PROJECTOR, KB-30A HORN	1
2	P025-92	Projector, Inverted, KB-30A Horn	1
3	P363-07	BUSHING, NYLON	2
4 5	P025-91 P025-93	Projector, KB-30A Horn Projector Cone, KB-30A Horn	1
5	PU25-93	Projector Lone, KB-3UA Horn	1
6	P051-11	GASKET, KB-3D HORN ENCLOSURE, 4.63" D.D. PER DRG. 3-6722	5
7	65198	SCREW, PAN HEAD, #10-24 X 3/B" 316 S.S.	3
8	P564-IB	BRACKET, KB-3DA HORN, 5083 ALUMINUM	1
9	85237	WASHER, FLAT, 1/2' 316 S.S.	2
10	W011-004SS	LOCKWASHER, 1/2 x .171 x .125 316 STAINLESS STEEL	2
11	W009-061SS	ScreW, Hex Hd 1/2-13 x 1-1/8, 316 STAINLESS STEEL	2
12	P367-08	HOUSING, DRIVER, KB-30A HORN, 6061 ALUMINUM PER DRG. 3-7040	1
13	22S00-110M	LOCKWASHER, 1/4", NORMAL TYPE 316 STAINLESS.	3
14	V009-007SS	SCREW, HEX HD 1/4"-20 x 1-1/2" 316 STAINLESS STEEL.	3
15	PT120-006	DRIVER, KB-30A HORN	1
16	P319-17	COVER, KB-30 HORN ENCLOSURE, 6061 ALUMINUM, PER DRG. 3-7041	1
17	87869	Connector, 1/2 Liquid tight straight—thru connector, 1/2"NPT hub. Cable size range: 0.45"-0.25" diameter	1
18	P051-14	GASKET, KB-30 HORN ENCLOSURE, 6.88" D.D., PER DRG. 3-7042	1
19	¥095-007AL	NUT, HEX NYLOCK, 1/4-20, 6061 ALUMINUM, ANDDIZED	6
20	V038-153AL	SCREW, RD HD, PHILLIPS, 1/4-20 X 3/4", 6061 ALUMINUM, ANDDIZED	6
21	PT16D-005	BULLET CONNECTOR, FEMALE, .156, 14-16 AVG	2
55	PT160-004	BULLET CONNECTOR, MALE DISCONNECT, 156, 14-16 AWG	2
53	87869-N	Lacknut, 1/2" NPT Black Nylon Locknut	1
24	P133-11	NAMEPLATE, KB-30A HORN	1
25	V100-008SS	SCREW, #4 PAN HD. SHEET METAL, 1/2" 316 STAINLESS STEEL	1
26	P557-04	CABLE, MARINE TYPE, 16AWG, 2 CONDUCTOR, 600V	50f1
27	PT160-003	FEMALE DISCONNECT, 14-16 AWG 1/4" X .032 TERMINAL CONNECTOR	2
28	10418	Wire, TEW #16 gauge red color	18ln
29	P527-01	COMPLETE HORN ASSEMBLY, ITEMS 1-28	1
30	P527-02	HORN ASSEMBLY PARTS 1.2,3,4,5	1
31	P499-15	Nut, Hex, Nylon-Insert Thin Hex Locknut, 1/2*-13	5
32	P051-13	GASKET, KB-30 HORN	1
33	P051-15	GASKET, KB-30 DRIVER UNIT	1
34	W078-046SS	WASHER, FENDER, % ID X 1-1/2 OD	2

REV.	BY	DATE	DESCRIPTION	APP'D
А	ZN	01/24/13	ITEM 14 WAS W009-007SS	EMK
В	ZN	04/15/14	ITEM 21 WAS 18700-2 ITEM 22 WAS P591-01	ЕМК
С	ZN	05/12/16	ADDED ITEMS 33 & 34 ITEM 20 WAS 5/8" LONG, NOW 3/4" LONG	ЕМК
D	ZN	06/07/16	ALL FASTENERS NOW 316 STAINLESS STEEL	EMK
Е	ZN	08/03/16	ITEM 3 WAS PO51-13, ITEM 6 QUANTITY WAS (1) ITEM 14 WAS W009-006SS, ITEM 31 WAS W078-042 ELIMINATED ITEM 34	ЕМК
F	ZN	11/29/16	ITEM 6 QUANTITY WAS 1, ITEM 32 QUANTITY WAS 2	ЕМК
G	ZN	07/20/17	ADDED ITEM 33, ITEM 13 QUANTITY WAS 9, ITEM 19 WAS W018-002SS, ITEM 20 WAS W102-006SS	ЕМК
Н	ZN	03/19/18	ADDED ITEM 34	EMK



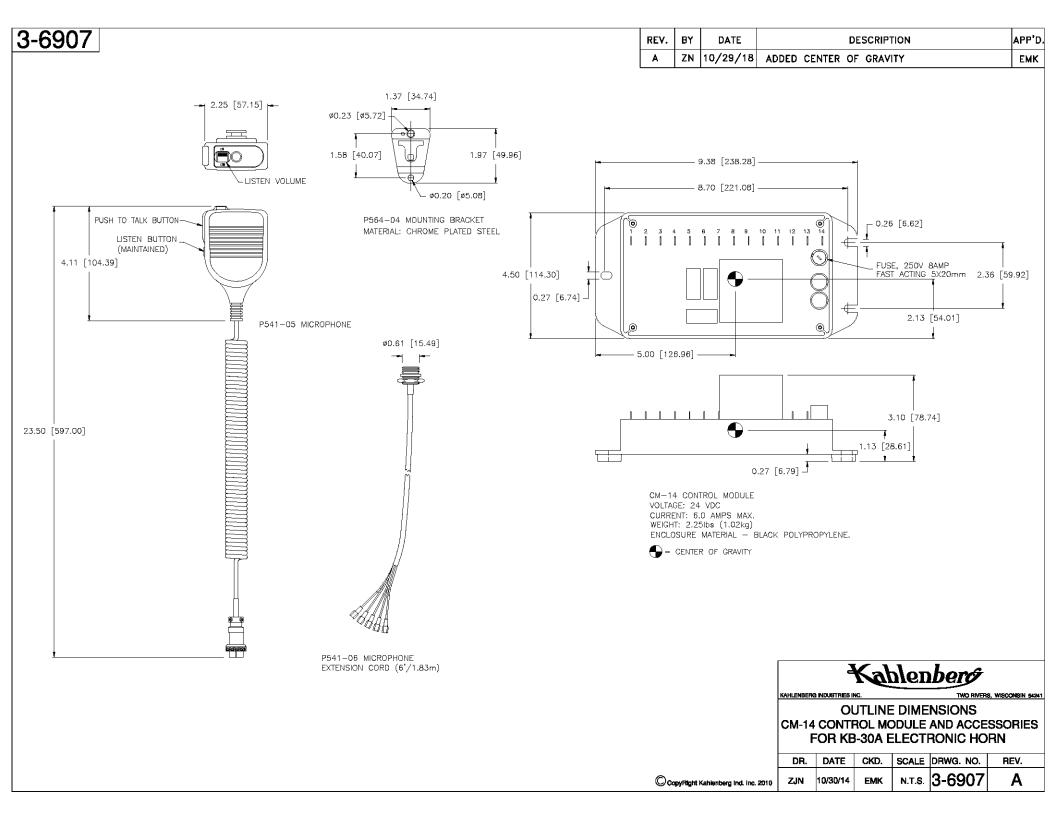
OUTLINE DIMENSIONS: 3-6725 CAGE: 75214

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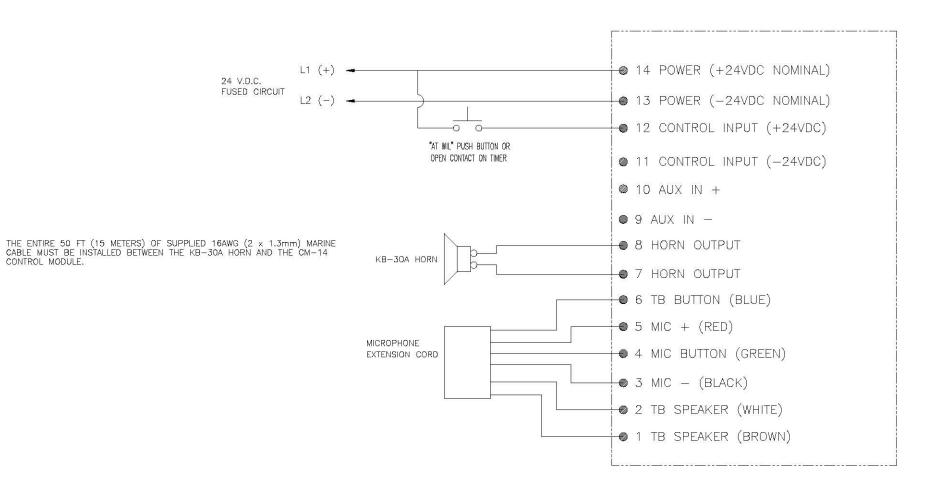
## PARTS LIST KB-30A ELECTRONIC HORN

DR. DATE CKD. SCALE DRWG. NO. REV.

ZJN 12/07/12 EMK N.T.S. 3-6730 H



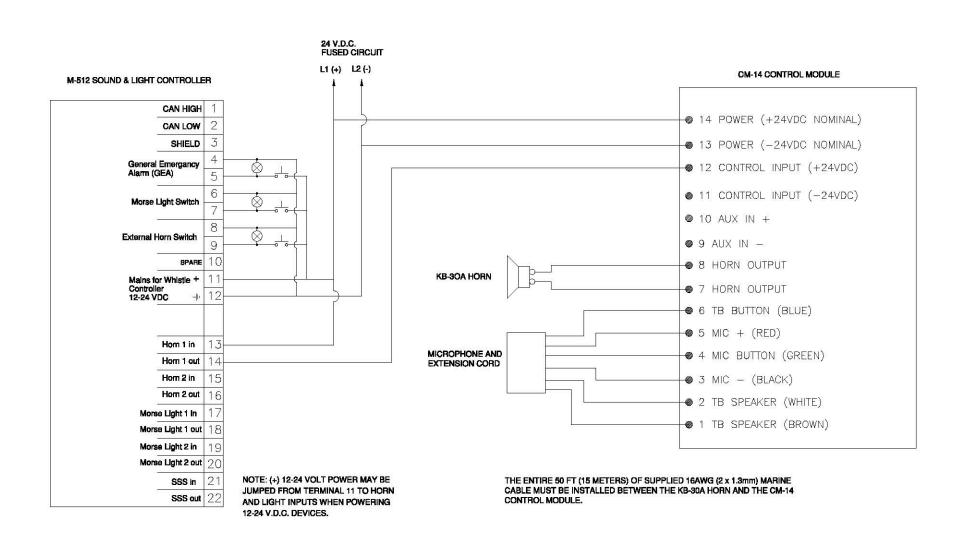
REV. BY DATE DESCRIPTION



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PROPERTY OF KAHLENBERG INDUSTRIES INC., IT IS TO BE USED SOLELY FOR THE PURPOSE PROVIDED, AND IT IS NOT TO BE DISCLOSED TO OTHERS WITHOUT THE PRIOR	WIRING DIAGRAM CM-14 CONTROLLER MODULE FOR KB-30A HORN					
WRITTEN CONSENT OF KAHLENBERG INDUSTRIES INCORPORATED.	DR.	DATE	ÇKD.	SCALE	DRWG. NO.	REV.
CopyRight Kahlenbarg Ind. Inc. 2016	ZJN	11/12/14	EMK	N.T.S.	3-6908	

APP'D.

3-7070 REV. BY DATE DESCRIPTION

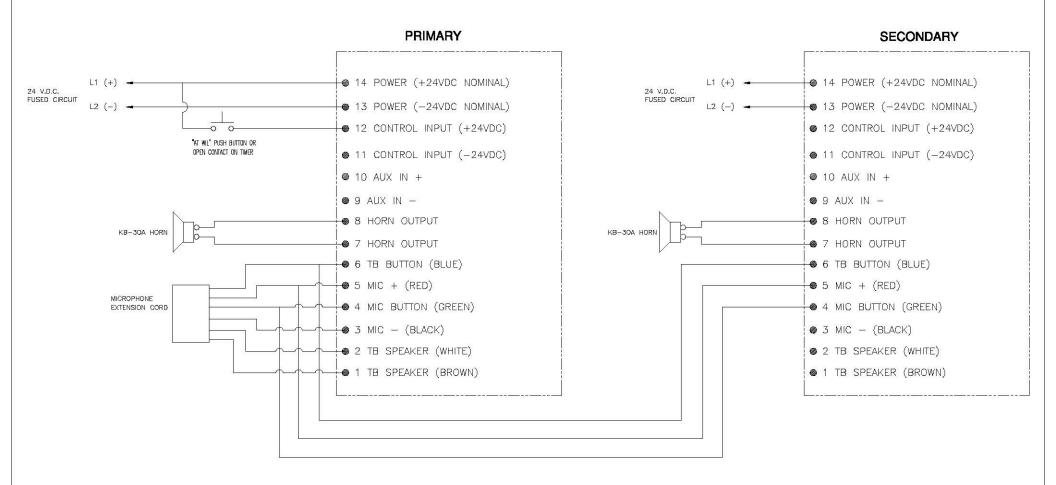


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IS CONFLERING, IT IS THE PROPERTY OF KANLEMBERG INDUSTRIES INC., IT IS TO BE USED SOLELY FOR THE PURPOSE PROVIDED, AND IT IS NOT TO BE DISCLOSED TO OTHERS WITHOUT THE PRIOR	WIRING DIAGRAM CM-14 CONTROL MODULE KB-30A HORN & M-512 CONTROLLER						
WRITTEN CONSENT OF KAHLENBERG INDUSTRIES INCORPORATED.	DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.	
CopyRight Kahlenbarg Ind. Inc. 2010	ZJN	12/05/16	EMK	N.T.S.	3-7070		

APP'D.

3-6927

REV.	BY	DATE	DESCRIPTION	APP'D.



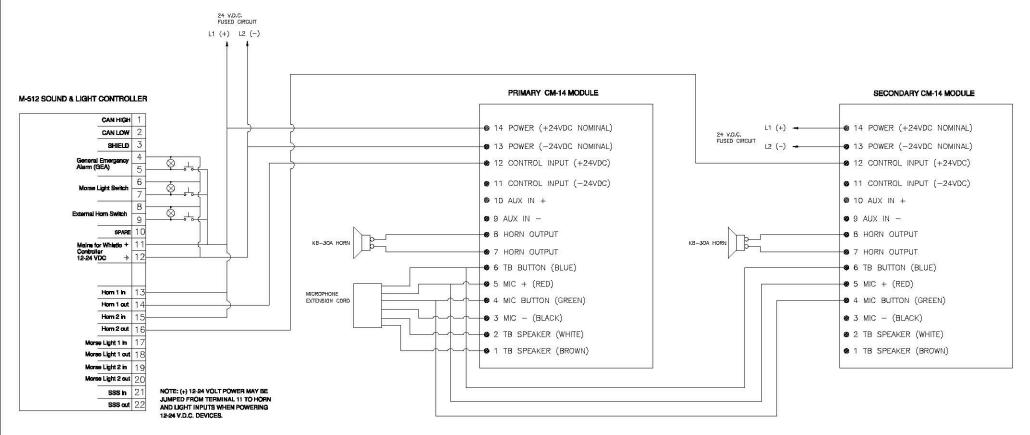
THE ENTIRE 50 FT (15 METERS) OF SUPPLIED 16AWG (2  $\times$  1.3mm) MARINE CABLE MUST BE INSTALLED BETWEEN THE  $\rm KB-30A$  HORN AND THE CM-14 CONTROL MODULE.

THIS DIAGRAM ALLOWS FOR PUSH TO TALK OVER BOTH HORNS USING THE PRIMARY'S MICROPHONE.

HORN SIGNALLING AND TALK BACK ARE ACHIEVED OVER THE PRIMARY HORN ONLY, WHEN WIRED ACCORDING TO THIS DOCUMENT.

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REV. BY DATE DESCRIPTION APP'D. ZN 04/10/15 CHANGED SO THAT M-512 HORN 2 OUTPUT IS CONNECTED TO SECONDAY CM-14 MODULE



THE ENTIRE 50 FT (15 METERS) OF SUPPLIED 18AWG (2  $\times$  1.3mm) MARINE CABLE MUST BE INSTALLED BETWEEN THE kB-30A HORN AND THE CM-14 CONTROL MODULE.

THIS DIAGRAM ALLOWS FOR PUSH TO TALK OVER BOTH HORNS USING THE PRIMARY'S MICROPHONE.

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# Kahlenberg

TWO RIVERS, WI. U.S.A.

WIRING DIAGRAM **DUAL CM-14 CONTROLLER MODULES DUAL KB-30A HORNS & M-512 CONTROLLER** 

DR.	DATE	CKD.	SCALE	DRWG. NO.	REV.
ZJN	03/27/15	EMK	N.T.S.	3-6942	Α

Certificate Number: 14-HS1271677-PDA 24/NOV/2014



# Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 30/SEP/2019. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 12/NOV/2019 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Ship Sound Signal, Horn Model Name(s): KB-30A

#### Presented to:

KAHLENBERG INDUSTRIES, INC. 1700 12TH STREET P.O. BOX 358 TWO RIVERS United States

Intended Service: Marine & Offshore Application - For use Onboard Marine Vessels of all Types 20 m

(65 ft) to 75 m (246 ft) LOA.

**Description:** Marine Electronic Horn.

Tier: 3

Ratings: Frequency: 250-700 Hz; Sound Pressure Level: (1/3) octave at 1m): >130 dB; See

attached "pdf" Technical Data.

Service Restrictions: Marine Vessels of all Types 20 m (65 ft) to 75 m (246 ft). Unit Certification is not

required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments: The Manufacturer has provided a declaration about the control of, or the lack of

Asbestos in this product. Satisfies the International Regulations for Preventing Collisions at Sea, 1972, Rules 32, including Annex III paragraphs a through d.

Notes / Documentation: Supporting Data: Dwg No. 3-6725, Rev. -, Outline Dimensions Model KB-30A

Electric Horn; Dwg No. 3-6730, Rev. -, Parts List Model KB-30A Electric Horn; Kahlenberg Sound Signal Test and Certification Form dated 13 February 2013;

**Term of Validity:** This Product Design Assessment (PDA) Certificate 14-HS1271677-PDA, dated

Certificate Number: 14-HS1271677-PDA

13/Nov/2014 remains valid until 12/Nov/2019 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules: Rules for Conditions of Classification, Part 1 2014 Steel Vessels Rules 1-1-4/7.7,

1-1-A3, 1-1-A4, which covers the following: Steel Vessels: 4-8-3/Table 1B & 2; Steel Vessels Under 90 Meters (295 feet) in Length: 4-6-3/Table 1; Offshore Support Vessels (OSV Rules): 4-8-3/Table 1B & 2; Rules for Conditions of Classification, Part 1 - 2014 Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following: Mobile Offshore Drilling Units: 4-3-3/Table 1;

Offshore Installations: 3-6/5.1:

National Standards:

International Standards: International Regulations for Preventing Collisions at Sea, 1972, (Consolidated

2002)

Government Authority: UK Maritime and Coastguard Agency (MCA)

EUMED: Others:

Model CertificateModel Certificate NoIssue DateExpiry DatePDA14-HS1271677-PDA13/NOV/201412/NOV/2019

**ABS Programs** 

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.