



1.0 RESPONSIBLE PARTY

- 1.1 Any and all questions or correspondence regarding this document and specifications herein shall be directed to:

Code Blue Corporation
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616-392-8296
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2.0 SCOPE

- 2.1 This document is intended to provide complete and accurate specifications of the WM180 product offering by Code Blue Corporation for the purpose of inclusion in project specifications, requirements and recommendations required by potential users of Code Blue products and services.
- 2.2 The WM180 will be referred to as “unit” throughout this document.
- 2.3 Code Blue Corporation will be referred to as “manufacturer” throughout this document.

3.0 PRODUCT DESCRIPTION

- 3.1 The unit shall be an easily identifiable, vandal resistant communications endpoint device for use with the Blue Alert Mass Notification System or other audio or paging systems. This device shall provide a wall or pole mounted option for areas requiring audio coverage for emergency notifications or general announcements.

4.0 CONSTRUCTION

- 4.1 The sheet metal enclosure shall be 16 gauge carbon steel painted. The dimensions shall be 15.12” tall x 15.00” wide x 9.91” deep with four .44” mounting holes on the back surface. It also has three (3) 1.12” conduit holes, one located on the back surface and two on the bottom surface.
- 4.2 The three array speaker unit is made from ABS- Acrylonitrile Butadiene Styrene. It is approximately 11.45” tall x 14.05” wide x 7” deep. It mounts to the enclosure with six security screws.
- 4.3 The enclosure top cap shall be 16 gauge carbon steel painted. The dimensions shall be 1.55” tall x 15.25” wide x 9.72” deep and has one .88” hole for an optional beacon strobe.



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- 4.4 The unit shall be mounted to a wall using four (4) 3/8" x 3" lag bolts and 3" lag bolt anchors included with the unit. The lag bolts shall pass through (4) openings the back plate and be inaccessible without removing the speaker array.

5.0 ELECTRICAL

- 5.1 All electrical components shall have a modular plug for easy service and replacement. All electrical wiring shall be concealed within the bollard and shall not be visible from the outside of the unit.
- 5.2 All electrical components in the unit shall be equipped with a fuse for protection from transient voltage conditions.
- 5.3 The unit shall require 1 ampere at 24v AC standard.
- 5.4 The installer shall follow all NEC and local electrical codes when installing the unit power systems.

6.0 COMMUNICATIONS

- 6.1 The unit shall have three (3) options for communication:
 - 6.1.1 IP Control: The unit shall be equipped with an IP5000 communications device for VoIP communications configurations.
 - 6.1.2 Analog Control: The unit shall be equipped with an IA4100 communications device for analog communications configurations.
 - 6.1.3 No Control: The unit shall not be equipped with a communication device and will require connection to a local IP5000 or IA4100 or standard 600 Ohm line level audio input.
- 6.2 The unit shall be equipped with a PAS assembly for mass notification capabilities:
 - 6.2.1 The PAS assembly shall be equipped with an amplifier with the following specifications:

<u>Parameters</u>	<u>Symbols</u>	<u>Test Condition/ Comment</u>	<u>Min</u>	<u>Typ</u>	<u>Max</u>	<u>Unit</u>
Load Resistance:	RL		2.5	-	-	Ohms
Max Output Power:	Pmax	f=20Hz-20KHz (1% THD)		160	-	W
Output Power:	Po	f=20Hz-20kHz (0.1% THD)	-	150	-	W
Sensitivity:	Pmaxb	1% THD		500		W
Gain:						

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Mute Gain:	Vsen	Input Signal to Po	-	3.5	-	Vrms
Distortion:	A		21	22	23	dB
Freq. Response:	THD+N	10Hz < f < 20kHz,	-	0.03	0.05	%
Noise Floor:		100mW < Pout < Po				
Maximum Current:	f	20Hz-20kHz	-	+/- 0.5	-	dB
Damping Factor:	VNF	Input Shorted, A-weighted	-	25	35	uV
Power Bandwidth:	Imax		18	20	25	A
Small Signal Bandwidth:	lpk			27		A
Signal to Noise:	DF	RL = 4 ohms @ 100 Hz	-	375	-	Ohms

6.2.2 The PAS assembly shall be equipped with a 180 degree speaker array with the following specifications:

<u>Parameters</u>	<u>Unit</u>
Impedance:	5.3 Ohms
Frequency Range:	450 Hz to 7000 Hz
Power Capacity:	210 Watts Continuous Program

6.2.3 The amplifier shall have the following additional features:

- Patented One-Cycle Sound™ Control
- Synchronized Switching Frequencies
- Output Feedback
- THD+N < 0.05%, 0.1W to 150W per channel
- Full range 20 to 20kHz Bandwidth
- Efficiency: Amp > 95%
- Damping Factor > 375 @ 100Hz 4 Ohms
- DC offset < 25mV
- Remote Disable
- Silent Turn-On
- Full Protection:
 - Over Current Speaker Short
 - Over Current Short to Chassis Ground
 - Over Temperature Protection
 - Power Supply Under Voltage Lockout



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- Monitor Outputs:
 - Output Current Monitor
 - Temperature Monitor
 - Protect and Power On
 - Internal and remote volume adjustment
- 6.2.4 IP Control and Analog Control Units:
- 6.2.4.1 The amplifier and speaker shall not be powered on during non-active states.
- 6.2.5 No Control Units:
- 6.2.5.1 The amplifier and speaker shall not be powered on during non-active states when connected to a local IP5000 or IA4100.
- 6.2.5.2 The amplifier shall be powered on continuously when not connected to a Code Blue system.
- 6.2.6 IP Control, Analog Control and No Control units connected to a local IP5000 or IA4100:
- 6.2.6.1 The amplifier shall be monitored for the following fault conditions:
- Speaker Array Open
 - Speaker Array Short
 - Excessive Clipping
 - Over Current Protection
 - High Temperature
- 6.3 EIA/TIA, ANSI, CSA and BICSI cabling or similar standards shall be adhered to for proper operation of Code Blue communication devices connected to copper or fiber infrastructure.

7.0 FINISH

- 7.1 Stainless Steel: The unit housing shall be fabricated of stainless steel, and shall be brushed to a number 4B finish after fabrication. The finish shall be uniform and free of visible defects. The unit shall be finished with a highly graffiti and UV resistant coating process.
- 7.2 Painted: Substrate preparation shall be as required to comply with applicable ASTM impact and adhesion standards:
- D2794 Direct and Reverse Impact
 - D523 Gloss @ 60 Degrees
 - D3359B Cross hatch Adhesion
 - D1654 Corrosion Creep



Architectural & Engineering Specifications

- D714 Scribe Blisters
- D714 Field Blisters

7.2.1 The polyurethane finish shall be a multi coat system available in 10 standard colors:

- Safety Blue
- Safety Red
- Safety Yellow
- Midnight Blue
- Gloss White
- Gloss Black
- Medium Bronze
- Dark Bronze
- British Racing Green
- Cardinal Red

7.2.2 Custom colors shall be available as specified by the user and approved by the manufacturer.

7.2.3 The primer coat and finish coat shall each have a minimum coverage thickness of 2.0 mils.

7.2.4 No other types of finishes are acceptable.

8.0 GRAPHICS

8.1 The graphics shall be a durable Nikkalite engineering grade reflective vinyl for high visibility and legibility.

8.2 Standard 20" inch length graphics text offering shall be:

- EMERGENCY
- ASSISTANCE
- SECURITY
- POLICE
- COURTESY

8.3 Standard graphics color offering shall be:

- Reflective White
- Reflective Blue
- Reflective Black
- Reflective Green
- Reflective Red



- Reflective Yellow

8.4 Custom graphics text, length and color shall be available by the manufacturer.

9.0 GENERAL OPTIONS

9.1 The following optional equipment shall be available for the unit by the manufacturer. Please refer to the associated Architect and Engineering Specification:

- Beacon/Strobe assembly

10.0 WARRANTY

10.1 The unit shall be warranted for a period of two (2) years. Reference manufacturer's warranty for further details.

11.0 MANUFACTURER

11.1 The manufacturer shall be Code Blue Corporation of Holland, Michigan. There are no known equivalents.

11.2 Code Blue Corporation manufactures its products according to the most recent revision of our product specifications and shall not be held responsible for obsolete or outdated specifications. For the latest revision please refer to www.codeblue.com or contact Code Blue Corporation directly.