Description and Operation

The Flex-Tone Panel Hazardous Location Use Speaker/Amplifiers are intended for industrial applications where hazardous locations require highly audible signals and microcomputer reliability.

The ETH645 & ETH845 Series Speaker/Amplifiers are heavy-duty signaling appliances intended primarily for industrial signaling applications. Each unit operates from local power and sounds either a tone determined by the programming at the Central Tone Generator or from another audio source. Speaker direction and output level are easily adjustable.

The ETH645 & ETH845 Speaker/Amplifiers are UL listed for use in Class I, Groups B, C, and D atmospheres.

Mechanical Specifications

Speaker/Amplifier, ETH645 & ETH845 Series

Weight ............................................... 18.4 Pounds (8.4 kg)
Variable Ambient Temp. ............. 32F to 104F (0C to 40C)
Dimensions ............................................................ Figure 1

Electrical Specifications

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Typical Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Standby</td>
</tr>
<tr>
<td>ETH645/24</td>
<td>24V AC 50/60 Hz</td>
<td>0.250</td>
</tr>
<tr>
<td>ETH645/120</td>
<td>120V AC 50/60 Hz</td>
<td>0.088</td>
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<tr>
<td>ETH645/240</td>
<td>240V AC 50/60 Hz</td>
<td>0.091</td>
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<tr>
<td>ETH845/24</td>
<td>24V DC</td>
<td>0.061</td>
</tr>
<tr>
<td>ETH845/125</td>
<td>125V DC</td>
<td>0.031</td>
</tr>
<tr>
<td>ETH845/250</td>
<td>250V DC</td>
<td>0.091</td>
</tr>
</tbody>
</table>

Installation

Installation is to be completed in accordance with the latest edition of either the National Electrical Code or the Canadian Electrical Code, as applicable, and in accordance with the authorities having jurisdiction.

1. Mount Flex-Tone Speaker/Amplifier to any solid surface using its mounting bracket and (3) bolts (not supplied) (Figure 2).

   WARNING
   Keep mating surfaces of housing clean and undamaged to maintain the integrity of the Hazardous Location construction.

   CAUTION
   During installation, care must be taken not to damage the components on the printed circuit board.

   WARNINGS
   Do not apply power to the unit until installation is completed and housing cover and outlet box cover are secured.
   To prevent fire and shock, do not connect power to TS1 terminals.

2. Open Speaker/Amplifier by removing the (8) nuts and bolts and lifting off housing cover.

3. Wire Speaker/Amplifier as follows
   a. Speaker/Amplifier Wiring (Figure 3). Check the label for the correct operating voltage. Bring the power and tone output circuit wires to the Speaker/Amplifier through a 1/2" (13 mm) conduit attached to a conduit outlet box and nipple. The conduit
Outlet box, conduit and nipple must be suitable for the hazardous location application with 1/2" (13 mm)-14 NPT threading at the conduit openings. The conduit outlet box is not supplied.

Remove the cover from the conduit outlet box. Feed the Speaker/Amplifier's four numbered wires and the green ground wire through a 1/2" (13 mm)-14 NPT nipple (not supplied) and then into the conduit outlet box. Secure the outlet box to the Speaker/Amplifier.

Connect green ground wire to earth ground (Figure 3).

Connect the external wires to the Speaker/Amplifier wires using five wire nuts (not supplied) (Figure 3). Polarity must be observed when connecting both the tone signal and input power wires.

4. The sound level is factory set to maximum. Adjust volume, if desired, by turning potentiometer R72 (Figure 2).

5. Adjust Speaker/Amplifier direction by loosening two (2) nuts securing the mounting bracket to the Speaker/Amplifier and pivoting speaker to desired position (Figure 4). Tighten the two (2) nuts.

6. If loosened, secure the cover of the Speaker/Amplifier ensuring mating surfaces are clean and undamaged. Align the straight edge of the cover with the straight edge of the housing. Torque the housing nuts on the Speaker/Amplifiers evenly and in opposing pairs to 140 to 150 in-lb.

7. Verify operability of each unit.

**Maintenance and Test**

Examine the speaker/amplifiers semi-annually for external accumulation of dirt. Clean if necessary.

**WARNING**

Ensure that power is off prior to opening the unit.

Both the speaker/amplifier and central tone generator units should be tested annually to ensure continuous service.

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**Figure 2. Speaker/Amplifier Mounting and Printed Circuit Board**

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**NOTE:** FOR CLARITY, ONLY SELECTED COMPONENTS ARE SHOWN.
TO EARTH GROUND

INPUT BOARD

IN1 IN2 IN3 IN4 N +VS GND

NOTE: REFER TO INSTRUCTIONS PROVIDED WITH ETH SIGNAL TONE GENERATOR FOR CONNECTING TO THE INPUT BOARD

AUDIO OUTPUT

NOTE 1

CONDUIT OUTLET BOX* (NOT SUPPLIED) - ATTACH TO ADAPTATONE - AQ MODELS: 24V DC OR 24V AC 50/60 HZ
- Y6 MODELS: 120-240V AC 50/60 HZ OR 125-250V DC

1/2" (12.7 MM) CONDUIT* (NOT SUPPLIED) - ATTACH TO OUTLET BOX

1/2" (12.7 MM) NIPPLE* (NOT SUPPLIED)

GREEN WIRE FOR EARTH GROUND

*The conduit outlet box, conduit, and nipple must be suitable for the hazardous location application.

Figure 3. Wiring Diagram (Shown connected to ETH640 & ETH840 Series Panel Control Signal Generator)

Figure 4. Speaker Adjustment

HORN PIVOTS 180°

(2) NUTS, LOOSEN TO ADJUST SPEAKER DIRECTION
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OFFSET SPEC

INSTALLATION INSTRUCTIONS FOR ADAPTATONE FLEX-TONE SPEAKER/AMPLIFIERS

PART NUMBER ON THE OUTSIDE.

THREE TIMES TO DIMENSIONS SHOWN WITH FOLD BOTH SIDES. FOLD

5 1/2" X 11" SHEET PRINTED BOTH SIDES. FOLD

(1) 11" X 17" SHEET PRINTED BOTH SIDES. FOLD

PART NUMBER ON THE OUTSIDE.

THREE TIMES TO DIMENSIONS SHOWN WITH FOLD BOTH SIDES. FOLD

5 1/2" X 11" SHEET PRINTED BOTH SIDES. FOLD

P/N 3100882 OFFSET SPEC

P/N 3100882