This manual contains information that is proprietary to Ultra Electronics – USI. It is intended solely for the education and use of parties operating and maintaining the equipment described herein.
1.0 INTRODUCTION

The TCPA-10 family consists of the TCPA-10 4 Ohm, TCPA-10 8 Ohm, and the TCPA-10 Distributed Audio. The TCPA-10 4 Ohm and TCPA-10 8 Ohm are Direct Drive systems, useful for public address applications. The TCPA-10 Distributed Audio system is meant for use with fire alarm systems.

All TCPA-10 series speaker systems are designed for indoor or outdoor wet applications. The TCPA-10 produces 90 degrees of acoustic energy and excels in high ambient noise environments. It has an operating temperature range of -40°C to 60°C.

1.1. TCPA-10 Direct Drive Speaker

The TCPA-10 can be configured as an 8 ohm or 4 ohm nominal speaker.

Models:

- 90219A-801-01 8 Ohm Black Direct Drive TCPA-10
- 90219A-801-04 8 Ohm Gray Direct Drive TCPA-10
- 90219A-801-05 8 Ohm Red Direct Drive TCPA-10
- 90219A-801-06 8 Ohm White Direct Drive TCPA-10
- 90219A-802-01 4 Ohm Black Direct Drive TCPA-10
- 90219A-802-04 4 Ohm Gray Direct Drive TCPA-10
- 90219A-802-05 4 Ohm Red Direct Drive TCPA-10
- 90219A-802-06 4 Ohm White Direct Drive TCPA-10

TCPA Direct Drive Specifications:

<table>
<thead>
<tr>
<th>Input Voltage</th>
<th>Impedance</th>
<th>dB SPL (Peak @ 1m)</th>
<th>dB SPL (Max @ 1m)</th>
<th>dB SPL (Reverb @ 10ft)</th>
<th>Usable Range (Feet @ 80dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>8 Ohm</td>
<td>139</td>
<td>134</td>
<td>118</td>
<td>1,640</td>
</tr>
<tr>
<td>22</td>
<td>4 Ohm</td>
<td>142</td>
<td>137</td>
<td>121</td>
<td>2,320</td>
</tr>
</tbody>
</table>

Frequency Response: 400Hz – 7000Hz
Directionality: ±30 degrees
Weight: 9lbs
Dimensions: 10.1” H X 10.1” W X 11.3” L
Suitable for Outdoor Use (Utilisable à l’extérieur)
1.2. TCPA-10 Distributed Audio Speaker

The TCPA-10 Distributed Audio speaker has five field-selectable power taps that run off of 25V, 70V, and 100V RMS audio systems. The taps can easily be changed by turning a knob. The speaker has an integrated DC blocking capacitor that allows the fire alarm control panel to conduct circuit supervision.

Models:

- 90215A-801-01 Black Distributed Audio TCPA-10
- 90215A-801-04 Grey Distributed Audio TCPA-10
- 90215A-801-05 Red Distributed Audio TCPA-10
- 90215A-801-06 White Distributed Audio TCPA-10

TCPA-10 Distributed Audio Specifications:

<table>
<thead>
<tr>
<th>Input Voltage</th>
<th>Watts</th>
<th>dB SPL (Peak @ 1m)</th>
<th>dB SPL (Max @ 1m)</th>
<th>dB SPL (Reverb @ 10ft)</th>
<th>Usable Range (Feet @ 80dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.5</td>
<td>119</td>
<td>114</td>
<td>99</td>
<td>160</td>
</tr>
<tr>
<td>25</td>
<td>1</td>
<td>122</td>
<td>117</td>
<td>102</td>
<td>230</td>
</tr>
<tr>
<td>25</td>
<td>1.5</td>
<td>124</td>
<td>119</td>
<td>104</td>
<td>290</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
<td>126</td>
<td>121</td>
<td>106</td>
<td>360</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>128</td>
<td>123</td>
<td>107</td>
<td>460</td>
</tr>
<tr>
<td>70</td>
<td>4</td>
<td>129</td>
<td>124</td>
<td>108</td>
<td>520</td>
</tr>
<tr>
<td>70/100</td>
<td>6</td>
<td>131</td>
<td>126</td>
<td>110</td>
<td>650</td>
</tr>
<tr>
<td>70</td>
<td>12</td>
<td>133</td>
<td>128</td>
<td>112</td>
<td>820</td>
</tr>
<tr>
<td>70/100</td>
<td>16</td>
<td>134</td>
<td>129</td>
<td>113</td>
<td>920</td>
</tr>
<tr>
<td>70/100</td>
<td>24</td>
<td>136</td>
<td>131</td>
<td>115</td>
<td>1,160</td>
</tr>
<tr>
<td>100</td>
<td>32</td>
<td>137</td>
<td>132</td>
<td>116</td>
<td>1,300</td>
</tr>
<tr>
<td>100</td>
<td>45</td>
<td>139</td>
<td>134</td>
<td>118</td>
<td>1,640</td>
</tr>
</tbody>
</table>

Max Supervisory Voltage: 50VDC
Frequency Response: 400Hz – 7000Hz
Directionality: ±30 degrees
Weight: 9lbs
Dimensions: 10.1” H X 10.1” W X 11.3” L
Suitable for Outdoor Use (Utilisable à l’extérieur)

⚠️ CAUTION: EXCEEDING THE MAXIMUM RATINGS OF THE SPEAKER WILL CAUSE EXCESSIVE DISTORTION AND MAY CAUSE PERMANENT DAMAGE TO THE SPEAKER AND ITS INTERNAL COMPONENTS.

⚠️ ATTENTION: DÉPASSER LES COTES DE MAXIUM DES ENCEINTES ENTRAINE UNE DISTORSION EXCESIVES ET PEUVENT CAUSER DES DOMMAGES PERMANENTS AU ORATEUR ET SES COMPOSANTS INTERNES.
5.0 WARRANTY
Ultra Electronics – USSI warrants its products to be free from defects in material and workmanship for a period of one (1) year from the date of shipment from USSI's facility. This warranty is extended to the original purchaser and all subsequent owners, provided a copy of the original dated bill of sale is presented when service is requested under warranty.

If your product should require service, write, phone, fax or e-mail Ultra Electronics – USSI at:

Ultra Electronics – USSI
4868 East Park 30 Drive
Columbia City, IN 46725
Phone: 260-248-3665
Fax: 260-248-3510
E-mail: ServiceDepartment@ultra-ussi.com
URL: www.ultra-HyperSpike.com

We will either direct you to a local service agency or provide you with a Return Material Authorization (RMA) number so that you can ship the product to our factory. Do not ship the product to us without first obtaining an RMA number. Place the RMA number on all boxes returned to the factory to prevent equipment from being lost or mishandled. Merchandise returned to us for service under warranty must be accompanied by a copy of the original bill of sale, and shipped prepaid. You are responsible for transporting your product to our factory. We will pay the return shipping charges on all products repaired under warranty.

5.1. Failures Not Covered by This Warranty
This warranty covers manufacturing defects. The warranty DOES NOT cover:

1) Damage caused by accident, misuse, abuse, product modification or neglect.
2) Damage incurred during shipment (you must claim these damages from the carrier).
3) Damage resulting from failure to operate the product in accordance with the instruction manual.
4) Damage resulting from attempted repairs by unauthorized personnel.
5) Claims based on any perceived agreement not explicitly stated in this warranty such as conversations with service personnel or sales representatives.

5.2. Limitation of Implied Warranties
All implied warranties, including warranties of merchantability, are limited in duration to a period of one (1) year from the date of shipment from Ultra Electronics – USSI.

5.3. Exclusion of Certain Damages
Ultra’s liability is limited to the repair or replacement, at our option, of any defective product, and shall in no event include incidental or consequential commercial damages of any kind. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the preceding limitation or exclusion may not apply to you.

For further information regarding this warranty, parts, or service, please contact Ultra Electronics – USSI through one of the methods listed at the beginning of this warranty section.

1.3. Optional Accessories

<table>
<thead>
<tr>
<th>ITEM</th>
<th>OPTIONAL ACCESSORY LIST</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WALL MOUNT BRACKET</td>
<td>72377B-801</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>DUAL UNIT MOUNTING ADAPTER</td>
<td>72378B-801</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>POLE MOUNT ADAPTER</td>
<td>72379B-801</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>AMPLIFIER KIT</td>
<td>90172A-807</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Optional Accessory Kits
2.0 TCPA-10 MOUNTING

**WARNING:** WHEN MOUNTING OUTSIDE MAKE SURE THAT THE SUPPORT SYSTEM USED HAS THE PROPER WIND LOAD RATING AND COMPLIES WITH LOCAL STANDARDS AND CODES.

**AVERTISSEMENT:** LORS DU MONTAGE DEHORS ASSURER QUE LE SYSTÈME DE SUPPORT UTILISE À LA BONNE CÔTE CHARGE AU VENT ET CONFORME AUX NORMES ET CODES LOCAUX.

The TCPA-10 comes standard with a mounting bracket from which to mount the unit. The TCPA-10 is provided with three feet of electrical leads in a ¼ Trade Size flexible conduit exiting the back of the unit (¼ Trade Size Conduit has a nominal Ø.39” ID / Ø.57” OD).

4.0 FIELD WIREFING

4.1. Cable Routing

All TCPA-10 systems come with a three-foot long weather-proof ¼ Trade Size flexible conduit and 42” leads.

Route the conduit to a junction box approved by local electrical codes and standards.

Follow your integrator’s instructions for installing into an appropriate junction system.

4.2. Wiring Diagrams

The 4 ohm (Direct Drive) and Distributed Audio systems have four lead wires. The 4 and 8 ohm should be wired as shown below. The duplicate wires on the Distributed Audio is for placing multiple units in series (i.e. multiple TCPA-10s on the same Distributed Audio line).
2.1. Single Mount

The TCPA-10 is intended to be hung from the mounting bracket. A typical mount will use a wall bracket. A double mounting bracket is available for hanging two speakers together for 180° of broadcast coverage (see section 2.2).

1) To mount a single TCPA-10, attach the mounting bracket to the wall bracket (optional accessory or customer supplied) with three ¼-20 bolts (Figure 3).

2) Attach the mounting bracket to the wall or pole with appropriate hardware according to local codes and safety practices.

3.0 CHANGING THE POWER LEVEL – Distributed Audio version only

1) Change the power level by rotating the power selection knob to the desired choice (Figure 7).
2.2. Dual Mount

1) To mount two TCPA-10 systems to the same wall mounting bracket, use an optional Dual Unit Mounting Adapter. Attach the dual mount plate to the TCPA-10 mounting brackets with the hardware provided in the kit (Figure 4).

![Figure 4: Attaching a Dual Mount Plate](image)

2) Attach the wall mount bracket to the middle holes of the dual mount plate with three ¼-20 bolts (Figure 5).

![Figure 5: Attaching Dual Speaker System to a Wall Mounting Bracket](image)

2.3. Tether Attachment

1) A tether cable may be attached to all speakers by looping the cable through the large hole in the TCPA-10 mounting bracket (Figure 6).

![Figure 6: Tether Attachment Point](image)

3) Attach the mounting bracket to the wall or pole with appropriate hardware according to local codes and safety practices.