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**BABT**

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30<sup>th</sup> October, 2002

Gentlemen,

***FCC ID: PJ5MTX2-S3***

The Commission has already given a grant of type acceptance for the Raymarine 'Pathfinder' 2kW, 18" Radome Radar Scanner Unit (FCC ID: PJ5MTX2-8P), when used in combination with a range of specified Display Units. This application for authorization of a new grant has resulted from proposed changes to enhance performance, which affect the characteristics originally reported to the commission. The new Scanner Unit can be connected to any of the same Display Units that are currently in use, to form light marine radar systems (see Annex 1 below).

The primary changes are to the magnetron (transmitting device) and to the associated circulator, which now incorporates an isolator and low pass filter (LPF). The purpose of these changes is to improve the Spurious Emissions and Out of Band Emissions of the transmitter in accordance with the requirements of ITU-R M1177. The peak-radiated power remains the same at 2 kW, as do the Pulse Repetition Frequencies (PRF). Of the 8 available Pulse Widths, the two shortest have been increased in width. Removal of the unwanted emissions has been mainly achieved by filtering.

The new 2kW Scanner Unit has been fully tested to the appropriate parts of CFR 47 Part 2 and Part 80. The measurement taken data demonstrates that the scanner continues to be compliant with the rules and the performance is within the technical ratings specified by Raymarine (manufacturer).

The modifications will be introduced to all new scanner units of this type in production after the grant has been authorized.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Bird", with a stylized flourish at the end.

Chris Bird,  
Approvals Manager,  
Raymarine Limited.

## ANNEX 1

The following Raymarine Display Units are combined with the Raymarine **2D**, 2kW 18" Radome Scanner Unit to form operational light marine radar systems.

<i><b>Display Unit</b></i>	<i><b>Scanner Unit</b></i>	<i><b>Radar System</b></i>
<b>SL70 PLUS</b> – 7" mono LCD	<b>2D</b> – 2kW, 18" radome	<b>SL72 PLUS</b>
<b>SL70RC PLUS</b> – 7" mono LCD/Chart	<b>2D</b>	<b>SL72RC PLUS</b>
<b>SL70M PLUS</b> – 7" mono LCD	<b>2D</b>	<b>SL72M PLUS</b>
<b>SL70MRC PLUS</b> – 7" mono LCD/Chart	<b>2D</b>	<b>SL72MRC PLUS</b>
<b>RL70 PLUS</b> – 7" mono LCD/hsb <sup>2</sup>	<b>2D</b>	<b>RL72 PLUS</b>
<b>RL70RC PLUS</b> – 7" mono LCD/hsb <sup>2</sup> /Chart	<b>2D</b>	<b>RL72RC PLUS</b>
<b>R70 PLUS</b> – 7" CRT/hsb <sup>2</sup>	<b>2D</b>	<b>R72 PLUS</b>
<b>R70RC PLUS</b> – 7" CRT/hsb <sup>2</sup> /Chart	<b>2D</b>	<b>R72RC PLUS</b>
<b>R80 PLUS</b> – 10" CRT/hsb <sup>2</sup>	<b>2D</b>	<b>R82 PLUS</b>
<b>R80RC PLUS</b> – 10" CRT/hsb <sup>2</sup> /Chart	<b>2D</b>	<b>R82RC PLUS</b>
<b>SL70C PLUS</b> – 7" Colour LCD	<b>2D</b>	<b>SL72C PLUS</b>
<b>SL70CRC PLUS</b> – 7" Colour LCD/Chart	<b>2D</b>	<b>SL72CRC PLUS</b>
<b>RL70C PLUS</b> – 7" Colour LCD/hsb <sup>2</sup>	<b>2D</b>	<b>RL72C PLUS</b>
<b>RL70CRC PLUS</b> – 7" Colour LCD/hsb <sup>2</sup> /Chart	<b>2D</b>	<b>RL72CRC PLUS</b>
<b>RL80C PLUS</b> – 10" Colour LCD/hsb <sup>2</sup>	<b>2D</b>	<b>RL82C PLUS</b>
<b>RL80CRC PLUS</b> – 10" Colour LCD/hsb <sup>2</sup> /Chart	<b>2D</b>	<b>RL82CRC PLUS</b>

Key:

The allocated designation for each unit or system is shown in **bold**.

hsb<sup>2</sup> (high speed bus) – allows the connection of one or more repeater display unit

Chart – Chartplotter feature built-in