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18th February, 2003

Gentlemen,

FCC ID: PJ5MTX9-S3

The Commission has already given a grant of type acceptance for the Raymarine 'Pathfinder' 10kW Open Array Radar Scanner Unit (FCC ID: PJ5MTX9), when used with either a 48" or 72" antenna and 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 either antenna and 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 10 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 10kW Scanner Unit has been fully tested to the appropriate parts of CFR 47 Part 2 and Part 80. The measurement data taken demonstrates that the scanner continues to be compliant with the Rules and its 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". The signature is fluid and cursive, with a long horizontal stroke at the end.

Chris Bird,
Approvals Manager,
Raymarine Limited.

ANNEX 1

The following Raymarine Display Units are combined with the Raymarine **9S** - 10kW, 48" or **11S** - 10kW, 72" Open Array Scanner Unit to form operational light marine radar systems.

<i>Display Unit</i>	<i>Scanner Unit</i>	<i>Radar System</i>
SL70M PLUS – 7" mono LCD	9S – 10kW, 48" O/A	SL79M PLUS
SL70MRC PLUS – 7" mono LCD/Chart	9S	SL79MRC PLUS
RL70 PLUS – 7" mono LCD/hsb ²	9S	RL79 PLUS
RL70RC PLUS – 7" mono LCD/hsb ² /Chart	9S	RL79RC PLUS
R70 PLUS – 7" CRT/hsb ²	9S	R79 PLUS
R70RC PLUS – 7" CRT/hsb ² /Chart	9S	R79RC PLUS
R80 PLUS – 10" CRT/hsb ²	9S	R89 PLUS
R80RC PLUS – 10" CRT/hsb ² /Chart	9S	R89RC PLUS
SL70C PLUS – 7" Colour LCD	9S	SL79C PLUS
SL70CRC PLUS – 7" Colour LCD/Chart	9S	SL79CRC PLUS
RL70C PLUS – 7" Colour LCD/hsb ²	9S	RL79C PLUS
RL70CRC PLUS – 7" Colour LCD/hsb ² /Chart	9S	RL79CRC PLUS
RL80C PLUS – 10" Colour LCD/hsb ²	9S	RL89C PLUS
RL80CRC PLUS – 10" Colour LCD/hsb ² /Chart	9S	RL89CRC PLUS

<i>Display Unit</i>	<i>Scanner Unit</i>	<i>Radar System</i>
SL70M PLUS – 7" mono LCD	11S – 10kW, 72" O/A	SL711M PLUS
SL70MRC PLUS – 7" mono LCD/Chart	11S	SL711MRC PLUS
RL70 PLUS – 7" mono LCD/hsb ²	11S	RL711PLUS
RL70RC PLUS – 7" mono LCD/hsb ² /Chart	11S	RL711C PLUS
R70 PLUS – 7" CRT/hsb ²	11S	R711PLUS
R70RC PLUS – 7" CRT/hsb ² /Chart	11S	R711RC PLUS
R80 PLUS – 10" CRT/hsb ²	11S	R811PLUS
R80RC PLUS – 10" CRT/hsb ² /Chart	11S	R811RC PLUS
SL70C PLUS – 7" Colour LCD	11S	SL711C PLUS
SL70CRC PLUS – 7" Colour LCD/Chart	11S	SL711CRC PLUS
RL70C PLUS – 7" Colour LCD/hsb ²	11S	RL711C PLUS
RL70CRC PLUS – 7" Colour LCD/hsb ² /Chart	11S	RL711CRC PLUS
RL80C PLUS – 10" Colour LCD/hsb ²	11S	RL811C PLUS
RL80CRC PLUS – 10" Colour LCD/hsb ² /Chart	11S	RL811CRC PLUS

Key:

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

hsb² (high speed bus) – allows the connection of one or more repeater display unit

Chart – Chartplotter feature built-in