



Raymarine Limited
Anchorage Park
Portsmouth
Hampshire PO3 5TD
England
023 9269 3611
023 9269 4642 (Fax)

Raymarine Inc.
22 Cotton Road, Suite
280
Nashua
NH 03063 4219
U.S.A.
603 881-5200
800-539-5539 (Fax)

www.raymarine.com

BABT

Claremont House
34 Molesey Road
Hersham, Walton-on-Thames
Surrey KT12 4RQ

30th October, 2002

Gentlemen,

FCC ID: PJ5MTX5-S3

The Commission has already given a grant of type acceptance for the Raymarine 'Pathfinder' 4kW Open Array Radar Scanner Unit (FCC ID: PJ5MTX5), 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 4 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 4kW 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".

Chris Bird,
Approvals Manager,
Raymarine Limited.

ANNEX 1

The following Raymarine Display Units are combined with the Raymarine **5S**, 4kW 48" or **7S** 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	5S – 4kW, 48" open array	SL75M PLUS
SL70MRC PLUS – 7" mono LCD/Chart	5S	SL75MRC PLUS
RL70 PLUS – 7" mono LCD/hsb ²	5S	RL75 PLUS
RL70RC PLUS – 7" mono LCD/hsb ² /Chart	5S	RL75RC PLUS
R70 PLUS – 7" CRT/hsb ²	5S	R75 PLUS
R70RC PLUS – 7" CRT/hsb ² /Chart	5S	R75RC PLUS
R80 PLUS – 10" CRT/hsb ²	5S	R85 PLUS
R80RC PLUS – 10" CRT/hsb ² /Chart	5S	R85RC PLUS
SL70C PLUS – 7" Colour LCD	5S	SL75C PLUS
SL70CRC PLUS – 7" Colour LCD/Chart	5S	SL75CRC PLUS
RL70C PLUS – 7" Colour LCD/hsb ²	5S	RL75C PLUS
RL70CRC PLUS – 7" Colour LCD/hsb ² /Chart	5S	RL75CRC PLUS
RL80C PLUS – 10" Colour LCD/hsb ²	5S	RL85C PLUS
RL80CRC PLUS – 10" Colour LCD/hsb ² /Chart	5S	RL85CRC PLUS

<i>Display Unit</i>	<i>Scanner Unit</i>	<i>Radar System</i>
SL70M PLUS – 7" mono LCD	7S – 4kW, 72" open array	SL77M PLUS
SL70MRC PLUS – 7" mono LCD/Chart	7S	SL77MRC PLUS
RL70 PLUS – 7" mono LCD/hsb ²	7S	RL77 PLUS
RL70RC PLUS – 7" mono LCD/hsb ² /Chart	7S	RL77RC PLUS
R70 PLUS – 7" CRT/hsb ²	7S	R77 PLUS
R70RC PLUS – 7" CRT/hsb ² /Chart	7S	R77RC PLUS
R80 PLUS – 10" CRT/hsb ²	7S	R87 PLUS
R80RC PLUS – 10" CRT/hsb ² /Chart	7S	R87RC PLUS
SL70C PLUS – 7" Colour LCD	7S	SL77C PLUS
SL70CRC PLUS – 7" Colour LCD/Chart	7S	SL77CRC PLUS
RL70C PLUS – 7" Colour LCD/hsb ²	7S	RL77C PLUS
RL70CRC PLUS – 7" Colour LCD/hsb ² /Chart	7S	RL77CRC PLUS
RL80C PLUS – 10" Colour LCD/hsb ²	7S	RL87C PLUS
RL80CRC PLUS – 10" Colour LCD/hsb ² /Chart	7S	RL87CRC 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