



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
SH23PTB00149

型式认可证书  
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

上海圆舟电子科技有限公司  
Shanghai Yonzoe Electronics and Technology Co.,Ltd.

地址/Address

上海市普陀区同普路1130弄5号3楼  
3rd Floor, Block 5, Lane 1130, Tongpu Road, Putuo District, Shanghai, P.R. China

产品名称/Product

雷达设备  
Radar Equipment

认可标准/Approval Standard

1. 国际海事组织海安决议MSC.192(79)《经修订的〈关于雷达设备性能标准的建议案〉》  
IMO Resolution MSC.192(79) Adoption of the Revised Performance Standards for Radar Equipment
2. 国际海事组织大会决议Res. A. 823(19)《船用自动雷达标绘仪性能标准 (ARPAs)》  
IMO Res.A.823(19)Performance Standards for Automatic Radar Plotting Aids (ARPAs)
3. 国际海事组织大会决议Res. A. 278(VIII)《航海雷达设备控制符号》  
IMO Res.A.278(VIII) Control Symbol of Navigation Radar Equipment
4. 国际海事组织海安会决议MSC.191(79)《船载航行显示器有关航行信息显示的性能标准》  
IMO Resolution MSC.191(79) Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays
5. 国际海事组织海安决议MSC.302(87)《驾驶台报警管理的性能标准》  
IMO Res.MSC.302(87) Adoption of performance standards for Bridge Alert Management
6. 国际海事组织大会决议A.694(17)《作为全球海上遇险和安全系统(遇险和安全系统)组成部分的船载无线电设备和电子助航设备的一般要求》  
IMO Resolution A.694(17) General Requirements for Shipborne Radio Equipment Forming Part of The Global Maritime Distress and Safety System (GMDSS) and for Electronic Navigational Aids
7. 国际电讯联盟建议书ITU-R M.1177-4(04/2011)《对于雷达系统无用发射的测量技术》  
ITU-R M.1177-4(04/2011) Techniques for Measurement of Unwanted Emissions of Radar Systems
8. 中华人民共和国海事局《船舶与海上设施法定检验规则—国内航行海船法定检验技术规则》(2020)及其修改通报第4篇第5章附录3  
Annex 3, Chapter 5, Part Four of China MSA Regulation for Statutory Survey of Ships and Offshore Installations-Regulation for Statutory Survey of Sea-Going Ships Engaged in Domestic Voyages(2020)and its Amendments.
9. 中华人民共和国海事局《船舶与海上设施法定检验规则—内河船舶法定检验技术规则》(2019)及其修改通报第5篇第6章  
Chapter 6, Part Five of China MSA Regulation for Statutory Survey of Ships and Offshore Installations- Regulation for Statutory Survey of Ships Engaged in Inland Voyages (2019) and its Amendments.

证书有效期至/This Certificate is valid until

2027年11月29日/ Nov. 29,2027

发证机构 中国船级社上海分社  
Issued by CCS Shanghai Branch

签发日期 2023年08月31日  
Date Aug. 31,2023

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效。本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: T01.

联系方式/Contact Us. 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P023-30791493

10. IEC 60945:2002/COR1:2008 《船用航行和无线电通信设备及系统 - 通用要求 - 试验方法和试验结果的要求》  
IEC 60945:2002/COR1:2008 Maritime Navigation and Radiocommunication Equipment and Systems – General Requirements – Methods of Testing and Required Test Results
11. IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12) 《导航和无线电设备-船用雷达-性能要求、测试方法和要求的测试结果》  
IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12) Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results
12. IEC 62923: 2018 《海上和无线电通信设备及系统-船桥警报管理》  
IEC 62923:2018 Maritime navigation and radiocommunication equipment and systems – Bridge alert management

**用于/Intended for**

船舶（除国际航行高速船）/Ships (Except International sea-going high-speed ships)

**产品明细/Product Description****雷达设备/Radar Equipment (M0001)**

名称/Name	属性(值)/Value	单位/Unit
型号/Type	详见附页 See Additional Pages.	
系统组成/System Component	详见附页 See Additional Pages.	

**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : SH23PPP20535

**产品认可试验报告/ Approval Test Report**

试验报告编号/ Test Report No. : JECZS20151127

试验报告日期/ Test Report Date : 2015-11-30

试验单位/ Laboratory: 中国电子科技集团公司第三十六所计量测试中心 Measure and Test Center of No.36 Research Institute of China Electronic Technology Group Corporation

试验单位地址/ Test Address: 浙江省嘉兴市洪兴路387号 No.387, Hongxing Road, Jiaying Zhejiang

试验报告编号/ Test Report No. : JECZ S201911002

试验报告日期/ Test Report Date : 2019-11-11

试验单位/ Laboratory: 中国电子科技集团公司第三十六所计量测试中心 Measure and Test Center of No.36 Research Institute of China Electronic Technology Group Corporation

试验单位地址/ Test Address: 浙江省嘉兴市洪兴路387号 No.387, Hongxing Road, Jiaying Zhejiang

试验报告编号/ Test Report No. : JECZS20221043-001

试验报告日期/ Test Report Date : 2022-12-01

试验单位/ Laboratory: 中国电子科技集团公司第三十六所计量测试中心 Measure and Test Center of No.36 Research Institute of China Electronic Technology Group Corporation

试验单位地址/ Test Address: 浙江省嘉兴市洪兴路387号 No.387, Hongxing Road, Jiaying Zhejiang

试验报告编号/ Test Report No. : JECZ S201911004

试验报告日期/ Test Report Date : 2019-11-11

试验单位/ Laboratory: 中国电子科技集团公司第三十六所计量测试中心 Measure and Test Center of No.36 Research Institute of China Electronic Technology Group Corporation

试验单位地址/ Test Address: 浙江省嘉兴市洪兴路387号 No.387, Hongxing Road, Jiaying Zhejiang

**认可后的产品检验方式/ Method of Product Inspection after Approval**

按规范认可后应进行产品检验的产品/The product should be inspected in term of the rules:

认可后的产品检验应由本社验船师根据本社规范规定按批准的产品检验计划进行检验，经检验合格后由本社颁发船用产品证书。

After approval, product inspection should be carried out by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

**认可保持条件/ Maintenance Requirements of Approval**

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 如果属于获得型式认可B 模式证书, 且无需颁发船用产品证书/等效证明文件的情况, 证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日。检查工作应在周年日的前后三个月内进行。

If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

## 备注/Remarks

本社已审核了产品厂无石棉声明, 但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。  
The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

本证书由原型式认可证书 (SH22PTB00120) 变更并替代原证书。

This Certificate is modified from and supersedes the previous Type Approval Certificate No. SH22PTB00120.

YAR28/27系列雷达具有小目标跟踪功能

YAR28/27 series radar has small target tracking function.

YAR28/27系列雷达、YAR15/17系列雷达适用于国际、国内航行

The YAR28/27 series and the YAR15/17 series radars are applicable to the domestic and international navigation.

YR19系列雷达适用于国内海船、内河船舶航行

The YR19 series radar is applicable to the domestic and inland navigation.

中国船级社上海分社  
CCS Shanghai Branch

注: 本证书含有附页, 共8页

Note: The certificate is attached with additional 8 page(s)

# 产品明细 Product List

## 一、YAR27 系列 Series

序号/Number	产品属性/Product Description
1	型号/Type: YAR27 系列/YAR27 Series
2	系统组成/System configuration: 天线/Antenna, 收发机/RF Scanner,性能监视器/PM,主处理机/Processor,显示器/Display,鼠键操控台/Trackball & Keyboard
3	额定电压/Rate voltage: 110/220VAC, 24VDC
4	软件版本号/Software revision: 2722101-10.xx
5	是否具有自动捕获目标功能/Whether includes auto acquisition of targets function: 是/YES
6	最少被捕获的雷达目标数/Minimum acquired radar targets capacity: 200
7	最少被激活的 AIS 目标数/Minimum acquired AIS targets capacity: 1000
8	最少休眠 AIS 目标数/Minimum sleeping AIS targets capacity: 1000
9	是否具有试操船功能/Whether includes trial manoeuvre function: 是/YES
10	罗经安全距离/Compass safe distance: 1.8m
11	性能监视器型号/Performance monitor TYPE: RPM-X
12	是否集成电子标会(EPA)功能/Whether Electric Plotting Aid function be integrated into the radar equipment: 是/YES
13	是否集成自动目标跟踪(ATA)功能/Whether Automatic Tracking Aid function be integrated into the radar equipment: 是/YES
14	是否集成自动雷达标会(ARPA)功能/Whether Automatic Radar Plotting Aid function be integrated into the radar equipment: 是/YES

## 中国主要部件明细/Details of main components

### 显示器/display

型号/Type	最小操作显示区直径 /Minimum operation display area diameter	最小显示区域 /Minimum display area (mm X mm)	SOLAS 适用/Apply	备注/Remarks
RD19	290	376x301	CAT2&CAT3	五选一 Choose one of five
RD19A	290	376x301	CAT2&CAT3	
RD20	295	408x306	CAT2&CAT3	

RD23	340	470x352	CAT1&CAT2&CAT3
RD27W	323	600x340	CAT1&CAT2&CAT3

## 天线/Antenna

型号/Type	波段/Band	长度/Lengths	备注/Remarks
RAX12	X	4.0ft (1.2m)	三选一 Choose one of three
RAX20	X	6.5ft (2.0m)	
RAX24	X	8.0ft (2.4m)	

## 收发机/RF Scanner

型号/Type	峰值功率/Peak of output	工作频率/Frequency	标识/Identifying	备注/Remarks
	(kW)	(MHz)		二选一 Choose one of two
RTR12	12.5	9410 ±30	X-Band	
RTR25	25.0	9410 ±30	X-Band	

## 主处理机/Processor

型号/Type	电源/Power
RPA001	AC110V/220V, DC 24V

## 二、YAR28 系列 Series

序号/Number	产品属性/Product Description
1	型号/Type: YAR28 系列/YAR28 Series
2	系统组成/System configuration: 天线/Antenna, 收发机/RF Scanner, 性能监视器/PM, 主处理机/Processor, 显示器/Display, 鼠键操控台/Trackball & Keyboard
3	额定电压/Rate voltage: 110/220VAC, 24VDC
4	软件版本号/Software revision: 2822101-10.xx
5	是否具有自动捕获目标功能/Whether includes auto acquisition of targets function: 是/YES
6	最少被捕获的雷达目标数/Minimum acquired radar targets capacity: 200
7	最少被激活的 AIS 目标数/Minimum acquired AIS targets capacity: 1000
8	最少休眠 AIS 目标数/Minimum sleeping AIS targets capacity: 1000
9	是否具有试操船功能/Whether includes trial manoeuvre function: 是/YES



10	罗经安全距离/Compass safe distance: 1.8m
11	性能监视器型号/Performance monitor TYPE: RPM-X
12	是否集成电子标会(EPA)功能/Whether Electric Plotting Aid function be integrated into the radar equipment: 是/YES
13	是否集成自动目标跟踪(ATA)功能/Whether Automatic Tracking Aid function be integrated into the radar equipment: 是/YES
14	是否集成自动雷达标会(ARPA)功能/Whether Automatic Radar Plotting Aid function be integrated into the radar equipment: 是/YES

## 主要部件明细/Details of main components

## 显示器/Display

型号/Type	最小操作显示区直径 /Minimum operation display area diameter	最小显示区域 /Minimum display area (mm X mm)	SOLAS 适用/Apply	备注/Remarks
RD19	290	376x301	CAT2&CAT3	五选一 Choose one of five
RD19A	290	376x301	CAT2&CAT3	
RD20	295	408x306	CAT2&CAT3	
RD23	340	470x352	CAT1&CAT2&CAT3	
RD27W	323	600x340	CAT1&CAT2&CAT3	

## 天线/Antenna

型号/Type	波段/Band	长度/Lengths	备注/Remarks
RAX12	X	4.0ft (1.2m)	三选一 Choose one of three
RAX20	X	6.5ft (2.0m)	
RAX24	X	8.0ft (2.4m)	

## 收发机/RF Scanner

型号/Type	峰值功率/Peak of output (kW)	工作频率/Frequency (MHz)	标识/Identifying	备注/Remarks
RTR12	12.5	9410 ±30	X-Band	二选一 Choose one of two
RTR25	25.0	9410 ±30	X-Band	

## 主处理机/Processor

型号/Type	电源/Power
RPA001	AC110V/220V, DC 24V



## 三、YAR17 系列 Series

序号/Number	产品属性/Product Description
1	型号/Type: YAR17 系列/YAR17 Series
2	系统组成/System configuration: 天线/Antenna, 收发机/RF Scanner,性能监视器/PM,主处理机/Processor,显示器/Display,鼠键操控台/Trackball & Keyboard
3	额定电压/Rate voltage: 110/220VAC, 24VDC
4	软件版本号/Software revision: 1722101-10.xx
5	是否具有自动捕获目标功能/Whether includes auto acquisition of targets function: 是/YES
6	最少被捕获的雷达目标数/Minimum acquired radar targets capacity: 200
7	最少被激活的 AIS 目标数/Minimum acquired AIS targets capacity: 1000
8	最少休眠 AIS 目标数/Minimum sleeping AIS targets capacity: 1000
9	是否具有试操船功能/Whether includes trial manoeuvre function: 是/YES
10	罗经安全距离/Compass safe distance: 1.8m
11	性能监视器型号/Performance monitor TYPE: RPM-X
12	是否集成电子标会(EPA)功能/Whether Electric Plotting Aid function be integrated into the radar equipment: 是/YES
13	是否集成自动目标跟踪(ATA)功能/Whether Automatic Tracking Aid function be integrated into the radar equipment: 是/YES
14	是否集成自动雷达标会(ARPA)功能/Whether Automatic Radar Plotting Aid function be integrated into the radar equipment: 是/YES

## 主要部件明细/Details of main components

## 显示器/display

型号/Type	最小操作显示区直径 /Minimum operation display area diameter	最小显示区域 /Minimum display area (mm X mm)	SOLAS 适用/Apply	备注/Remarks
RD19	290	376x301	CAT2&CAT3	三选一 Choose one of three
RD20	295	408x306	CAT2&CAT3	
RD23	340	470x352	CAT1&CAT2&CAT3	



## 天线/Antenna

型号/Type	波段/Band	长度/Lengths	备注/Remarks
RAX12	X	4.0ft (1.2m)	三选一 Choose one of three
RAX20	X	6.5ft (2.0m)	
RAX24	X	8.0ft (2.4m)	

## 收发机/RF Scanner

型号/Type	峰值功率/Peak of output	工作频率/Frequency	标识/Identifying	备注/Remarks
	(kW)	(MHz)		二选一 Choose one of two
RTR12	12.5	9410 ±30	X-Band	
RTR25	25.0	9410 ±30	X-Band	

## 主处理机/Processor

型号/Type	电源/Power
RPA001	AC110V/220V, DC 24V

## 四、YAR15 系列 Series

序号/Number	产品属性/Product Description
1	型号/Type: YAR15 系列/YAR15 Series
2	系统组成/System configuration: 天线/Antenna, 收发机/RF Scanner, 性能监视器/PM, 主处理机/Processor, 显示器/Display, 鼠键操控台/Trackball & Keyboard
3	额定电压/Rate voltage: 24VDC
4	软件版本号/Software revision: 1517118-10.xx
5	是否具有自动捕获目标功能/Whether includes auto acquisition of targets function: 是/YES
6	最少被捕获的雷达目标数/Minimum acquired radar targets capacity: 80
7	最少被激活的 AIS 目标数/Minimum acquired AIS targets capacity: 1000
8	最少休眠 AIS 目标数/Minimum sleeping AIS targets capacity: 1000
9	是否具有试操船功能/Whether includes trial manoeuvre function: 是/YES
10	罗经安全距离/Compass safe distance: 1.8m <sup>15</sup>
11	性能监视器型号/Performance monitor TYPE: RPM-X/RPM-XW





12	是否集成电子标会(EPA)功能/Whether Electric Plotting Aid function be integrated into the radar equipment: 是/YES
13	是否集成自动目标跟踪(ATA)功能/Whether Automatic Tracking Aid function be integrated into the radar equipment: 是/YES
14	是否集成自动雷达标会(ARPA)功能/Whether Automatic Radar Plotting Aid function be integrated into the radar equipment: 是/YES

## 主要部件明细/Details of main components

## 显示器/Display

型号/Type	最小操作显示区直径/Minimum operation display area diameter (mm)	最小显示区域 /Minimum display area (mm X mm)	SOLAS 适用 /Apply	备注/Remarks
RD15B	220	304x228	CAT3	三选一
RD17B	260	337x270	CAT2&CAT3	Choose one of three
RD19B	290	376x301	CAT2&CAT3	

## 天线/Antenna

型号/Type	波段/Band	长度/Lengths	备注/Remarks
RAX12B	X	4.0ft (1.2m)	二选一 Choose one of two
RAX18B	X	6.0ft (1.8m)	

## 收发机/RF Scanner

型号/Type	峰值功率/Peak of output (kW)	工作频率/Frequency (MHz)	标识/Identifying	备注/Remarks
RTR12B	12.5	9410 ±30	X-Band	二选一 Choose one of two
RTR25B	25.0	9410 ±30	X-Band	

## 主处理机/Processor

型号/Type	电源/Power
RPA001B	DC 24V

## 五、YR19 系列 Series

序号/Number	产品属性/Product Description
1	型号/Type: YR19 系列/YR19 Series
2	系统组成/System configuration: 天线/Antenna, 收发机/RF Scanner, 性能监视器/PM, 显示与控制/Display & Control, 鼠键操控台/Trackball & Keyboard

3	额定电压/Rate voltage: 12VDC, 24VDC
4	软件版本号/Software revision: 1933000-00.xx
5	是否具有自动捕获目标功能/Whether includes auto acquisition of targets function: 是/YES
6	最少被捕获的雷达目标数/Minimum acquired radar targets capacity: 30
7	最少被激活的 AIS 目标数/Minimum acquired AIS targets capacity: 500
8	最少休眠 AIS 目标数/Minimum sleeping AIS targets capacity: 500
9	是否具有试操船功能/Whether includes trial manoeuvre function: 否/NO
10	罗经安全距离/Compass safe distance: 1.0m
11	性能监视器型号/Performance monitor TYPE: RPM-XW
12	是否集成电子标会(EPA)功能/Whether Electric Plotting Aid function be integrated into the radar equipment: 是/YES
13	是否集成自动目标跟踪(ATA)功能/Whether Automatic Tracking Aid function be integrated into the radar equipment: 是/YES
14	是否集成自动雷达标会(ARPA)功能/Whether Automatic Radar Plotting Aid function be integrated into the radar equipment: 是/YES

## 主要部件明细/Details of main components

## 显示器/Display

型号/Type	最小操作显示区直径 /Minimum operation display area diameter ( mm)	最小显示区域 /Minimum display area (mm X mm)	SOLAS 适用/Apply	备注/Remarks
RDS12	183	246x184	CAT3	四选一 Choose one of four
RDS15	228	304x228	CAT3	
RDS17	263	337x270	CAT2&CAT3	
RDS19	290	376x301	CAT2&CAT3	

## 天线/Antenna

型号/Type	波段/Band	长度/Lengths	备注/Remarks
RAX12C	X	4.0ft (1.2m)	二选一 Choose one of two
RAX18C	X	6.0ft (1.8m)	



## 收发机/RF Scanner

型号/Type	峰值功率/Peak of output (kW)	工作频率/Frequency (MHz)	标识	备注/Remarks
RTR04C	4.0	9410 ±30	X-Band	四选一 Choose one of four
RTR06C	6.0	9410 ±30	X-Band	
RTR12B	12.5	9410 ±30	X-Band	
RTR25B	25.0	9410 ±30	X-Band	

