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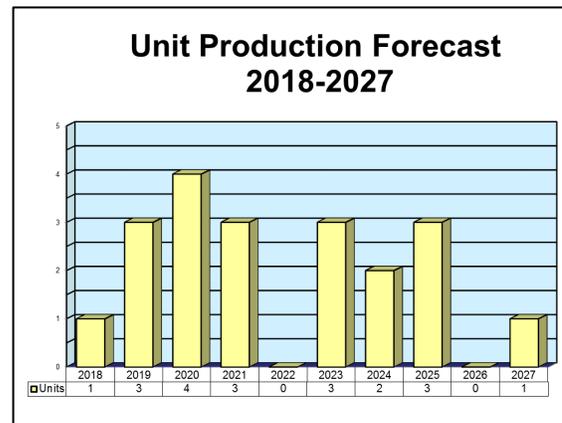
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Type 921-A ESM/RWR

Outlook

- Limited to China and possibly North Korea
- Installed on Chinese submarines, both active and those under development
- System's technology is considered very outdated compared to international counterparts currently in service



Orientation

Description. The Type 921-A electronic support measures (ESM)/radar warning receiver (RWR) is a Chinese-made wideband, pulse radar, direction-finding receiver. It is installed on submarines to detect emitters of airborne, shipborne, and land-based (shore) radars.

Sponsor

China National Electronics Import and Export Corp
Electronics Bldg
49 Fuxing Rd
Beijing 100036
China
Website: <http://www.ceiec.com>
(Designer and manufacturer)

Status. In production and operational use.

Application. Naval warfare, ESM.

Platform. Submarine.

Price Range. An estimated \$2-\$3 million per unit based upon the price of comparable systems.

Contractors

Prime

**China National Electronics
Import and Export Corp**

<http://www.ceiec.com.cn>, Electronics Bldg, 49 Fuxing Rd, Beijing, China,
Tel: + 86 861810910, Lead Contractor

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Type 921-A ESM/RWR

Technical Data

Design Features. The Type 921-A ESM/RWR provides a rough measurement of the azimuth, frequency, and operational status of emitters. The 921-A ESM/RWR is reportedly a derivative of the Russian-made Stop Light ESM system.

SPECIFICATIONS

Frequency	2-18 GHz in four bands
Sensitivity	1.5×10^{-3} to 10^{-4} W/M ²
Bearing Accuracy	Greater than +/- 30 degrees
Antenna	560 mm (diameter) x 515 mm (height), 80 kg
Receiver and Display	450 x 468 x 124 mm, 40 kg
Distribution Unit	145 x 214 x 291 mm, 6 kg



Project 092 Xia class SSBN of the Chinese PLAN uses the Type 921-A ESM/RWR.

Source: China, PLAN



Project 039 Song class SSK of the Chinese PLAN uses the Type 921-A ESM/RWR.

Source: China, PLAN

Type 921-A ESM/RWR

Project 033 Romeo class SSK of the Chinese PLAN and North Korean Navy is a derivative of the ex-Soviet Project 633 class.

Source: Tappman Collection

Program Review

China's various surface ships and submarines are equipped with three EW systems that have been developed by the nation. The BM/HZ-8610 ESM and the Type RW-23-1 RWR systems are installed on naval surface combatant ships, while the Type 921-A ESM/RWR is used aboard submarines.

All three systems are said to be derived from former Soviet systems developed back in the 1950s. The current systems have, of course, been upgraded with contemporary components from the original vacuum tubes. However, even with such enhancements, the designs are reportedly no better than Western systems used in the 1980s.

Funding

Development and production funded by the government of China through the China National Electronics Import and Export Corporation (CEIEC).

Contracts/Orders & Options

No recent contracts have been identified.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Jan	2016	Operation and maintenance support

Worldwide Distribution/Inventories

In service with **Chinese People's Liberation Army Navy (PLAN)** nuclear submarines. Also in service on **North Korea's** Romeo class submarines.

Type 921-A ESM/RWR

Forecast Rationale

The Type 921-A ESM/RWR is a Chinese-made system that is reportedly based upon a 1950s Soviet design and said to be decades behind its Western counterparts.

One naval analyst within the defense industry said, with obvious sarcasm, that the Type 921-A ESM/RWR is the best ESM/RWR system made by China for its submarines, as it is the only ESM/RWR made for its submarines. Much of the backhanded compliment stems from the general perception that, because the unit is

based on a 1950s Soviet design, it is decades behind its Western counterpart.

Still, while the system may be rather ancient technology-wise, it does technically work. Market opportunities will likely remain limited to China, which will acquire it for replacement purposes and for installation on new submarines. Elsewhere, North Korea might order a replacement when needed.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	High Confidence					Good Confidence			Speculative			Total
	Thru 2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	
China National Electronics Import and Export Corp (Prime)												
Type 921-A ESM/RWR <> China <> Navy <> Han Type 091 SSN												
	3	0	0	0	1	0	1	0	1	0	0	3
Type 921-A ESM/RWR <> China <> Navy <> Song Type 039 SSG												
	4	0	0	1	0	0	0	0	1	0	1	3
Type 921-A ESM/RWR <> China <> Navy <> Xia Type 092 SSBN												
	1	0	0	1	0	0	0	0	0	0	0	1
Type 921-A ESM/RWR <> Type 921-A ESM/RWR <> China <> Navy <> Jin Type 094 SSBN												
	5	0	1	0	1	0	1	1	0	0	0	4
Type 921-A ESM/RWR <> Type 921-A ESM/RWR <> China <> Navy <> Shang Type 093 SSN												
	2	1	1	1	0	0	0	0	0	0	0	3
Type 921-A ESM/RWR <> Type 921-A ESM/RWR <> China <> Navy <> Type 095 SSN												
	0	0	1	0	1	0	1	0	1	0	0	4
Type 921-A ESM/RWR <> Type 921-A ESM/RWR <> China <> Navy <> Type 097 SSBN												
	0	0	0	1	0	0	0	1	0	0	0	2
Subtotal	15	1	3	4	3	0	3	2	3	0	1	20
Total	15	1	3	4	3	0	3	2	3	0	1	20