

Business & General Aviation Sales Bulletin

OIB 2024-52 Rev A

*ATTENTION HONEYWELL
COMMERCIAL HELICOPTER OPERATORS*

Primus® 70X/70XA/660 Series to RDR-7000 IntuVue™ Weather Radar Trade-In Program for Commercial Helicopters

This Operator Information Bulletin (OIB) announces a Trade-In offer and other financial incentives to any Commercial Helicopter (Comm Helo) Operator that purchases a RDR-7000 Weather Radar to replace their existing Honeywell Manufactured Primus® 70X/70XA/660 Series Weather Radar on Comm Helo aircraft.

Highlights of these incentives include:

- *Replaced radar (Primus® P70X/70XA/660 Series) trade-in credit (varies by radar type)*
- *MSP Avionics discount now available (\$30,000 discount for 1st year of a new contract and requires any software option purchase beyond retro mode)*
- *Introduces RDR-7000 in “retro-mode” for operators seeking to replace Primus® 70X/70XA/660 Series radars without enabling new functionality that RDR-7000 supports.*
- *Consult your Authorized Honeywell Dealer for further details and pricing.*

Please Note the P70X/P660 series includes P700/700A/701/701A/P660 weather radar systems.

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Quick Reference Table

Effective Dates:	1/1/2024 through 12/31/2024
PO Received By:	12/31/2024
Trade-in:	Any Honeywell Primus® 70X/70XA/660 Series Weather Radar currently installed (serviceable or not) on a helicopter.
Rev X	See Revision History Below

Revision History: (Since previous version)

2024-52 Rev a

1. Updated STC's available for S-92

2022-52 Rev C

2. Updated STC listing Table C1
3. Added MSP Avionics – MSP Legacy Radar Extended Support (old unit) & potential Credit explanation (Sections 5.3 & 6 and Appendix K)
4. Added notes to Table G3 that RDR-7000 replacing P660 can't do OAG/SAR options
5. Added MSP Legacy Radar Extended Support & Credit Information (Sect 5, 6 and Appendix K)
6. Added HAT Contact Info.

1 Introduction

In 2019, Honeywell issued an end-of-life (EOL) notice, Publication Number D201909000028 & D201909000029 for legacy magnetron-based Primus[®] 70X/70XA/660 Series weather radar product families and associated components, including the Primus[®] 70X/70XA/660 weather radar controllers. These notices included notification that repairs will no longer be supported after June 2023. This decision was driven primarily by increasing material shortages associated with aging magnetron technology. If not pro-actively addressed, these issues were expected to significantly risk the continuity of supply and supportability for weather radars to our global customer base.

In response to the increasing costs, lead times and unstable availability of parts and repairs associated with these magnetron-based radars, Honeywell has invested heavily in the development of our next-generation radar, the IntuVue[™] RDR-7000 3-D Automatic Weather Radar system, which has now achieved multiple TSOs and STCs and is planned for many more over the coming months and years. The RDR-7000 offers a step-change in technology over magnetron-based radars. It is solid-state and is based on our field-proven and widely deployed IntuVue[™] RDR-4000 family, which was first introduced in 2005 and primarily serves Air Transport applications. **Upgrading to RDR-7000 is Honeywell's primary long-term support plan for operators currently flying with legacy magnetron-based Primus[®] 70X/70XA/660 Series weather radar.**

In addition to being substantially more reliable, producible, and supportable than magnetron-based radars, the RDR-7000 is a fully automated 3D weather radar system which provides comprehensive views of a storm. It leverages advanced SW processing to identify hazards like hail, lightning and turbulence detection out to 60 nautical miles, with a roadmap for continued SW feature development including connectivity enhancements.

The RDR-7000 is designed to be the most intuitive weather radar on the market to operate. It's automatic scanning feature eliminates the need for active pilot adjustments of tilt and/or gain for operation, reducing workload in the cockpit through some of the most stressful periods of inclement weather. Its ground terrain mapping feature improves pilot situational awareness, automatically differentiating between ground and airborne returns and eliminating the need for manual interpretation by the pilot, again simplifying pilot workload through high-stress periods. Instead of focusing on how to manually operate the radar and interpret its returns, RDR-7000 enables pilots to focus on what is most important, which is flying the most comfortable, most efficient, most effective, and safest mission through or around all types of weather.

For decades and still today, Honeywell has maintained a leading position as a supplier of weather radars to Business Jet, Helicopter, Military, and Air Transportation customers all around the globe. The IntuVue[™] RDR-7000 is Honeywell's new flagship weather radar designed to replace all remaining magnetron-based radars still in production by Honeywell, including the Primus[®] P70X/70XA/660 Series. In addition to installation on commercial and military helicopter platforms, the IntuVue[™] RDR-7000 is planned for numerous business jet and regional fixed-wing platforms, which will give this product a very large installed base. Honeywell expects the IntuVue[™] RDR-7000 to be in production through at least 2045 and supported out to 2060 or longer.

Honeywell is offering multiple significant promotional incentives to operators who upgrade now to ease the transition to the IntuVue™ RDR-7000 system, maintain the path to a long-term support plan, and provide our customers with state-of-the-art technology for enhanced safety, passenger comfort, and operational efficiency. Rebates and incentives are available for operators who upgrade early, so don't wait to contact your Honeywell sales representative and get your upgrade to the IntuVue™ RDR-7000 scheduled today!

This Operator Information Bulletin (OIB) is intended to provide a quick reference guide on the RDR-7000 upgrade path.

For Reference purposes, the 70X/70XA/660 designations represent the following radars:

Table 1-1: Radar Models

Radar Model	Beacon Mode (Installed)	ARINC 453/708 Std Compatibility
P660	No	Both WXPB & ARINC 453/708
P700	No	WXPB, No ARINC
P700A	No	Both WXPB & ARINC 453/708
P701	Yes	WPPB, No ARINC
P701A	Yes	Both WXPB & ARINC 453/708

2 Program Description

The Operational Problem: Legacy Radar Is Very Intensive to Use

Legacy weather radar systems require constant input by the aircrew because it can only see one small slice of the total weather picture at any given time. This requires operators to continuously move the radar antenna up and down in elevation to depict enough reflectivity (green, amber, red) to understand the weather environment. This can be a very demanding exercise and relies on an operator's ability to conceptually weave together what they observe on a cockpit display to avoid hazardous weather.

Honeywell's Human Factors Performance Group's evaluation findings indicate that task saturated flight crews are poor to marginal in their ability to both properly adjust radar antenna elevation to detect dangerous weather and mentally conceptualize two-dimensional (2D) weather as it relates to real world three-dimensional (3D) hazards. Low-flying aircraft are in danger of under flying severe weather due to improper antenna aim.

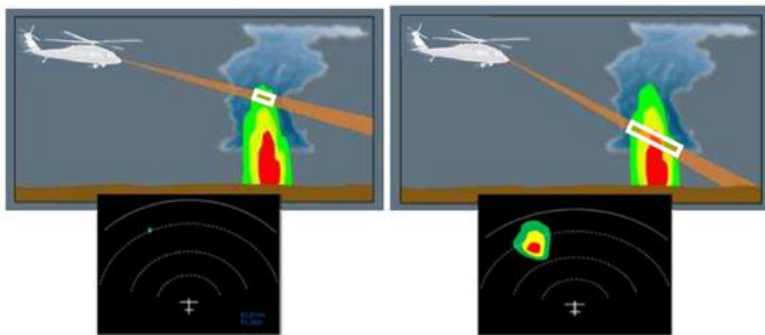


Figure 1. Limitations of Legacy 2D Radar Scans

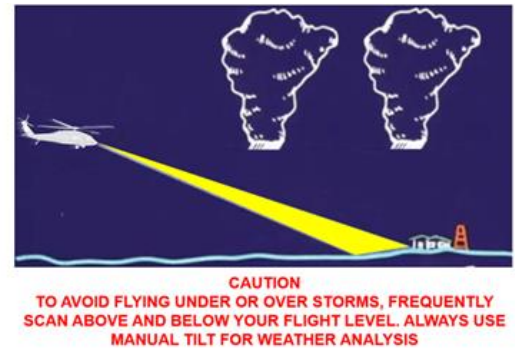


Figure 2. Legacy Radar Underflight Risk

2.1 Honeywell RDR-7000 IntuVue Weather Radar System

Upon its release in 2006, Honeywell's IntuVue RDR-4000 set a new standard for weather radars by providing fully automated weather at a glance. IntuVue's volumetric 3-D scanning and ground return elimination provide pilots a more complete view of the weather – a leap in technology over all other airborne weather radar systems.

Honeywell's IntuVue™ RDR-7000 is a state-of-the-art Solid-State Radar; it differs from previous generation weather radars in the magnetron elimination (a marginally reliable and technologically obsolete high-powered vacuum tube that works as a self-excited microwave oscillator) as well as the waveguide assembly. Additionally, the RDR-7000's antenna drive assembly was designed to enhance operational reliability and uses a direct drive, DC brushless mechanical drive with coaxial rotary joints—this is a technological leap over legacy geared mechanical drive systems.

With the introduction of the RDR-7000 and its small size and lower weight, Honeywell can offer all the latest technology and benefits that large commercial and top-end business jets have been taking advantage of for the last few years with the RDR-4000, to commercial helicopters as a retrofit solution with only minimal wiring changes and a modification of the legacy weather radar (WX) Controller faceplate(s).

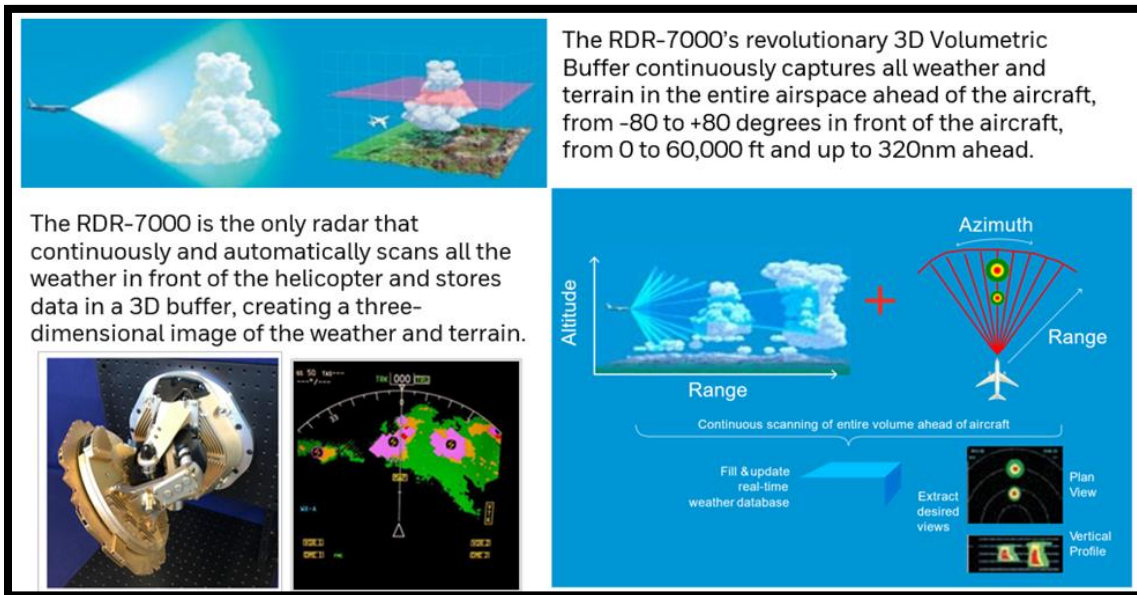


Figure 3. RDR-7000 Overview

The RDR-7000 scans all the weather in front of the aircraft out to 320NM and from the surface to 60,000 feet, filling a 3-dimensional buffer. The buffer is continuously updated and even maintains weather information that shows the weather as it passes behind the aircraft.

The RDR-7000 continuously applies hazardous weather algorithms to identify, locate and classify

hazardous weather, thereby performing all the analysis and manual tasks for the crew. The RDR-7000 also alleviates the risk of inadvertent severe weather underflight for low flying helicopters.

The automated capability of the RDR-7000 radar virtually eliminates pilot interaction to manipulate the radar and interpret the data.

The RDR-7000's internal Terrain Database removes virtually all ground returns, the only radar on the market that offers this feature. This feature eliminates tilt-control/pilot interpretation issues and has significant information integrity advantages over radars that utilize algorithms to remove ground returns. To see a demonstration of IntuVue's capabilities and features, please go to:

<http://www.intuvue.com/demos.php>

The RDR-7000 will show weather "Off-path", differentiate it and it will show hazardous weather with very intuitive symbology. Please refer to Appendix E for Radar screenshots showing this capability.

The RDR-7000 also has the technical capability to show a vertical slice of weather "on-path" Note that while the RDR-7000 has this technical capability at entry into service, the Vertical Display will require an edge node to transmit weather data from the WX Controller to an iPad which does NOT exist as of the issuance of this OIB. Look for this as a future growth feature backwards compatible to already installed units.

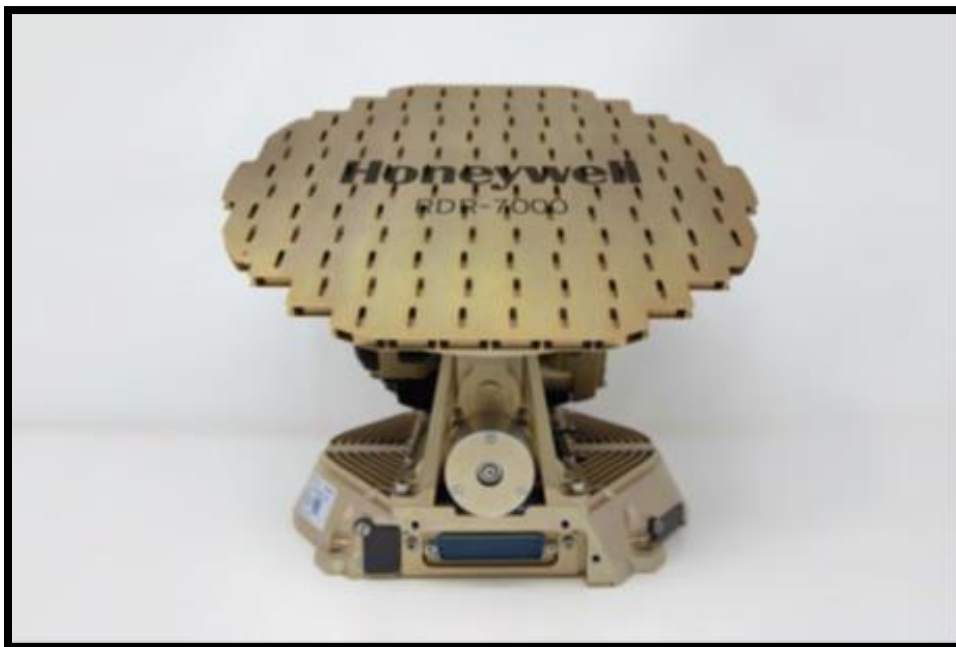


Figure 4. RDR-7000 Radar (12" Flat-Plate Antenna shown)

2.1.1 Features and Benefits

The RDR-7000 introduces several innovative technologies not found in previous-generation Radar Systems. Some major operational differences are highlighted here. Note that the availability of some features will depend on the installation configuration:

Operational Benefits

- Automatic control of antenna tilt for reduced pilot workload
 - No traditional tilt control required to operate.
- 3D Volumetric Memory
 - The entire area in front of aircraft is automatically scanned (out to 320 nautical miles (nm) and from the ground to 60,000 feet (feet)).
 - All weather information is stored and continuously updated.
 - Automatically corrects for curvature of the earth.
 - Pilots can choose among display options as desired.
- Predictive Hail and Lightning Icons (if installed)
 - Areas ahead of the aircraft that have a high probability of producing hail or lightning are indicated by the display of appropriate icons.
- REACT (Rain Echo Attenuation Compensation Technique)
 - Indicates areas where attenuation of the radar signal is severe enough to degrade the ability to display weather behind significant intervening weather.
- Vertical Display (if supported by display system)
 - Indicates reflectivity along the flight plan or a selected azimuth
- Weather/Turbulence Ahead Indication
 - Annunciates situations where significant weather or turbulence is detected ahead of the aircraft but is not selected for display.
- GMAP mode for identification of terrain features
 - Use GMAP mode for identifying prominent terrain features, such as coastlines, lakes, and large built-up urban areas.
- Internal Topographical Information
 - Used to remove ground clutter from weather displays and to remove weather returns from the GMAP display.
- More sensitive weather detection for more accurate weather depiction
 - Improved long-range performance.
 - 3D scanning detects more weather close to the aircraft as compared to other weather radar systems.
- Differentiation of weather in and out of path of the aircraft

- In WX ALL mode, weather that is far above or below the aircraft's flight path (Off Path) is displayed in a different pattern than On Path weather
- In WX PATH mode (if installed), the display of weather that is Off Path is suppressed. Only the weather that is relevant to the flight path is shown.
- In WX MAN (manual altitude) mode, view horizontal slices through the weather in 1,000-foot increments, from ground level to 60,000 feet.
- In MANUAL AZIMUTH mode, view the weather along a selected azimuth on the vertical display.

Performance Benefits

- Minimize pilot manipulation/interaction
- Increased range performance and higher resolution with Honeywell's patented pulse compression technology
- Solid state gallium arsenide transmitter providing direct amplification
- Improved turbulence detection
- Direct drive antenna provides greater pointing accuracy

Reduced life cycle costs

- Reduced size, weight & power (over comparable radar) – 1 LRU package
- Elimination of magnetrons with use of solid-state gallium arsenide transmitter
- Digital radio techniques eliminate tuning points providing improved repeatability, reliability and lower drift
- Elimination of gears in the antenna drive system
- On-board high-speed Ethernet software data loading
- Enhanced BITE and fault logging by flight leg
- Removable compact flash memory for software loading
- Greatly increased reliability
- No forced air cooling required

The RDR-7000 offers several unique technologies:

Ground Clutter Extraction

The RDR-7000 is the only weather radar on the market that utilizes an internal terrain database to extract virtually all ground clutter returns, displaying only weather to the pilot. Previous generation radars have either used active pilot management or have utilized filtering schemes/algorithms to remove ground clutter, with the limitation of poor performance at longer ranges and issues with reductions of actual weather returns (filtering out actual weather). IntuVue completely eliminates these shortcomings.

Advanced Operational Modes

The RDR-7000 provides the most advanced weather modes available for automatic weather detection and storm cell threat analysis. The automatic mode uses the aircraft flight path to automatically determine threats. Constant Altitude mode provides a full 120-degree view of weather at user selected altitudes.

Pulse Compression

Used on military radars for over 35 years, pulse compression is a method that increases both long range detection and resolution. Current systems sacrifice higher resolution information for long range weather detection. The RDR-7000 provides both high resolution and long-range detection.

Advanced Antenna Design

The RDR-7000 features an advanced antenna system design. The direct drive motor system removes all gearing, improving reliability and producing a quieter antenna system that provides faster scanning with greater pointing accuracy.

Correction for Earth's Curvature

Utilizing a unique buffer approach, IntuVue displays weather along flight level rather than in a straight line. At 100 nm other radars are looking at weather 6,600 feet above flight path, at 200 nm other radars are looking at weather 26,500 feet and at 300 nm other radars are looking at weather nearly 60,000 feet above their flight level.

REACT (Rain Echo Attenuation Compensation Technique)

REACT (Rain Echo Attenuation Compensation Technique) adds the indication of attenuated areas to the radar display. REACT has been incorporated in Honeywell Business Jet Radar Systems since the early 1980's and it provides the following benefits:

- Indicates range at which the out-of-calibration threshold is reached (not just an angular sector)
- Works with any gain position
- Has less false and missed alerts due to the 3D Buffer (no over- or under-scanning)
- Better Situational Awareness and Decision making



Figure 5. Radar Images of Weather Cells showing REACT, Predicted Lightning, and Hail Icons

Turbulence Detection

Turbulence detection is an automatic mode that is enabled when an operator selects the automatic weather mode. The system scans 60 nm (40 nm Standard, 60 nm optional) ahead of the aircraft and indicates presence of turbulence by superimposing over the weather image. While turbulence detection requires precipitation to function, the sensitivity of this mode is enhanced to detect turbulence at moisture levels below the green weather threshold.

Sea Clutter Reduction (SCR)

Reduces clutter in high sea-states for easy interpretation of returns.

Predictive Hail & Lightning

The RDR-7000 has the capability of presenting the flight crew with hail and lightning icons intended to quickly alert the flight crew when there are storm structures that are indicative of convective weather and have a likelihood of producing hail or lightning. Analysis of the data stored in the volumetric buffer at the end of each scan cycle (along with the in-situ measured static air temperature) allows the radar system to indicate if there are regions of the weather that contain an elevated risk for lightning and/or hail. The lightning risk method is a very similar algorithm based on the correlation of lightning flash rates in convective storms with radar echo heights above the freezing level evaluated on convective cloud clusters over a mix of tropical geographies around the world.

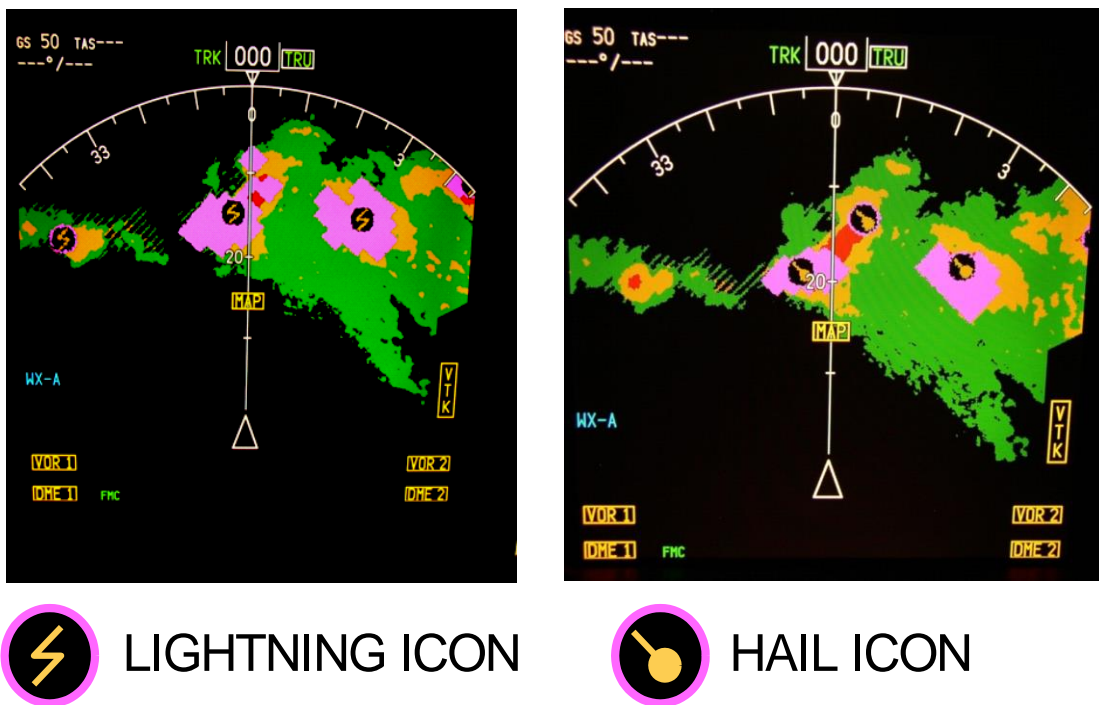


Figure 6. Radar Images of Weather Cells showing Predicted Lightning and Hail Icons

2.1.2 Operational Modes

The “3-D Volumetric Buffer” configuration takes advantage of latitude, longitude, heading, and other inputs, to access internal topographical information. In this configuration, the radar can use this topographical information to help distinguish between ground returns and weather. The radar scans the entire sky ahead of the aircraft and saves the resulting reflectivity in a 3-D, or volumetric, buffer. This data can then be accessed as desired to show many different views of the weather. This configuration includes several new modes for weather depiction and analysis. An appropriate WX Controller or control panel must be used with this configuration of the radar to access these modes.

AUTO (WX-ALL / WX-A)

Automatic Weather Presentation Mode provides display of windshear out to 5 nm (not on Helicopter installations), turbulence out to 40 nm (40 nm Standard, 60 nm optional) and weather out to 320 nm. Flight path weather (normal envelope of +/- 4,000 feet) and secondary weather (outside current flight path) are displayed. Automatic compensation for earth’s curvature and automatic elimination of virtually all ground returns.

MAN (WX-MAN)

Manual Altitude (Weather Analysis) mode provides a means to assess storm cell height and development by providing selectable altitude “slices”. These slices from the 3D Volumetric Buffer are corrected for the curvature of the earth, providing a view at a constant altitude level. The altitude control is used to select the desired altitude slice from 0 to 60,000 feet, in increments of 1,000 feet.

GROUND MAPPING (GMAP)

VB Map mode is a buffered mode that provides the flight crews with valuable information for navigational verification. It can be used to display distant shorelines, islands, lakes, mountains and large cities. At shorter ranges, smaller sized targets can be identified like small towns, industrial complexes, large rivers and smaller bodies of water. Using motion-compensated buffer technology, the entire ground can be illuminated with several sweeps of the antenna, then combined to form a reflectivity normalized ground map, including the area underneath the aircraft if that data has already been collected.

For commercial helicopter installations, a Real-Beam Map/Maritime mode is also available with the Volumetric Buffer configuration. To use this mode, it must be enabled in the configuration, and an appropriate WX Controller or control panel must also be installed. This mode operates in conjunction with the volumetric buffer weather and map modes. Any installed mode can be selected independently on either display. This mode provides Sea Clutter Rejection, Sector Scan, and Target Overlay indications for either Oil and Gas or Search and Rescue operations. In this mode, the pilot must manage the tilt control, or use the auto-tilt capability.

Full Coverage Ground Map (GMAP 1)

The full coverage Ground Map (GMAP1) provides several benefits including:

- No crew tilt adjustment required
- “Normalized radar cross-section” display
- Detection of prominent terrain features, coastlines and large bodies of water
- Optimized for longer ranges
- Suppressed weather returns

Refer to Figures 9 & 10 to see what the return looks like compared to the actual surface area.

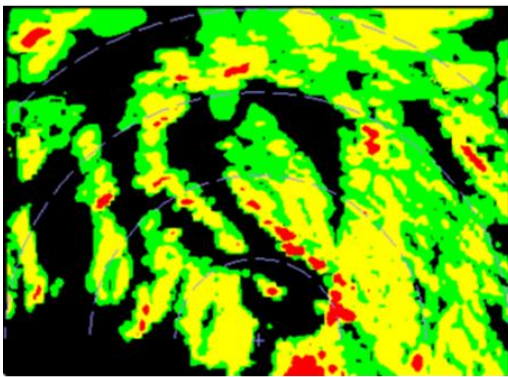


Figure 9 – Radar Return



Figure 10 – Actual Surface

RDR-7000 Maritime Mode and Target Detection (GMAP 2)

The RDR-7000 provides a special Maritime mode (GMAP2). Highly efficient solid-state radars lack required power to activate a radar beacon. The RDR-7000 overcomes limitation by detecting seaborne objects directly. The system is configurable for small vessels or large objects (e.g. oil rigs). There is a selectable TGT mode that displays target symbol on detected objects. Additionally, this mode offers Sea Clutter Reduction (SCR) that reduces clutter in high sea-states for easy interpretation and sector scan reduces scan angles to increase detection time.

Real-Beam Only Mode

The “Real-Beam Weather” configuration is a near direct drop-in replacement for the Honeywell Primus® 880/660/440 (Primus® 864) radars. For the purposes of this OIB, only the P660 version of the radar would be seen on the Helicopter platform. This Real-Beam configuration is also known as “Retro Mode”. No additional external inputs are required.

The Real Beam/Retro mode with the RDR-7000 operates without knowledge of the terrain around the aircraft, similar to the P-864. However, it does not work with the P660 WX Controller. That unit would need to be replaced with a P880 series WX Controller. See section 3.3 for further information.

It is called a Real-Beam radar because the display directly shows the reflectivity from the current scan. In this configuration, the pilot must manage the tilt control, in the same way as for the 864 Series radars.

Real-Beam modes are traditional radar modes where the tilt knob controls the antenna position. There are **no** software enhancement features in Real-Beam mode.

The modes discussed prior to the Real-Beam mode were all “Volumetric Buffer” modes where the antenna scans autonomously to collect data. The Real-Beam mode available on the RDR-7000 includes Ground Mapping with Maritime target detection and MTI target detection overlay.

Real-Beam Ground Mapping with the RDR-7000 provides manual and automatic tilt feature where, in the case of automatic tilting, the radar calculates the best tilt for illuminating the display based on scenario geometry (based on range and altitude). The following map modes have display ranges from 0.5 nm to 320 nm, and a minimum detection range of less than 450 feet.

2.2 RDR-7000 Equipment Description

2.2.1 ART-7000 Antenna Receiver Transmitter

The Antenna Receiver Transmitter (ART) is the main unit. It contains the electronics that transmit, receive, and process the radar pulses used to detect turbulence, weather, and terrain targets. It also contains system integrity monitoring and self-test electronics. It controls the modes of the radar and formats the radar data for display. The ART-7000 is located within the radome. The integrated antenna drive scans a 120° sector in azimuth and $\pm 15^\circ$ in elevation (tilt).

2.2.2 Flat Plat (FP-7000) Antenna

The RDR-7000 has available 12-inch and 18-inch antenna options as of the writing of this OIB. Note most Commercial Helicopter platforms will utilize a 12" antenna configuration.

2.2.3 Control Panels and Displays

The RDR-7000 can be used with many varieties of controllers, control panels, and displays. The WX Controllers and displays used will vary with the aircraft and the installation. Although the location and appearance of the controls may vary, the functionality is the same. Some examples of typical control panels are shown in the following figures. The RDR-7000 has the ability to show two different radar display views simultaneously. The flight crew can operate each side independently without impacting radar performance, thus achieving maximum weather information display. Refer to Figures 12 & 13 below.

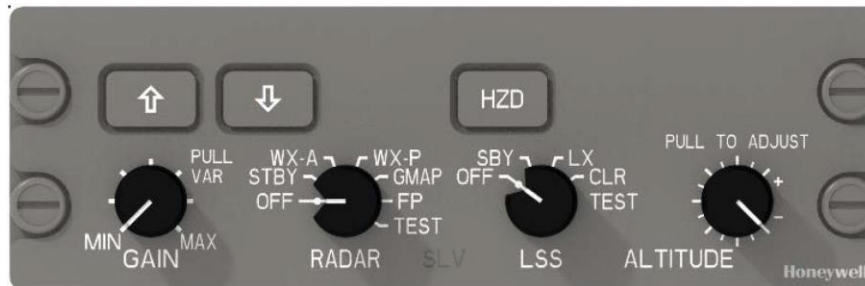


Figure 12. RDR-7000 Controller Retrofit (Std)



Figure 13. RDR-7000 Controller Retrofit (Maritime Mode)

2.2.4 RDR-7000 System Specifications

The following Table list key RDR-7000 System Specifications.

Table 1: RDR-7000 Specifications

CERTIFICATION LEVEL	
TSO	TSO-C63f Equipment Classes A, B, C, D
RDR-7000 SPECIFICATIONS	
Weight	13 lbs. (5.9 kg) (Without Antenna)
Input Power	28 VDC
Power Dissipated	70 W (LRU Consumption) 32.4 W transmitted
Environmental	DO-160G (-55°C to +70°C)
Software	RTCA DO-178C
TRANSMITTER/RECEIVER	
Transmitter Type	Solid State Gallium Nitride (GaN)
Transmitter Method	Pulse Compression
ANTENNA SYSTEM	
Flat Plate	12"
SYSTEM SPECIFICATIONS	
Max Detection Ranges	320 nm - Weather and Ground Map 60 nm – Turbulence
Azimuth Coverage	+/- 60 degs - Weather and Ground Map
Elevation Coverage	0 to 60,000 feet

Policy Notice: In keeping with Honeywell's goal of constant product improvement, product specifications and design features may be altered

Additional reference material including short product videos and key contacts can be found in Appendix B.

2.3 RDR-7000 Interface Comparison to Legacy Honeywell Radars

2.3.1 Waveguide Elimination

The figure below shows the comparison of the legacy systems to the RDR-7000 highlighting elimination of the waveguide, thereby simplifying installation and improving performance.

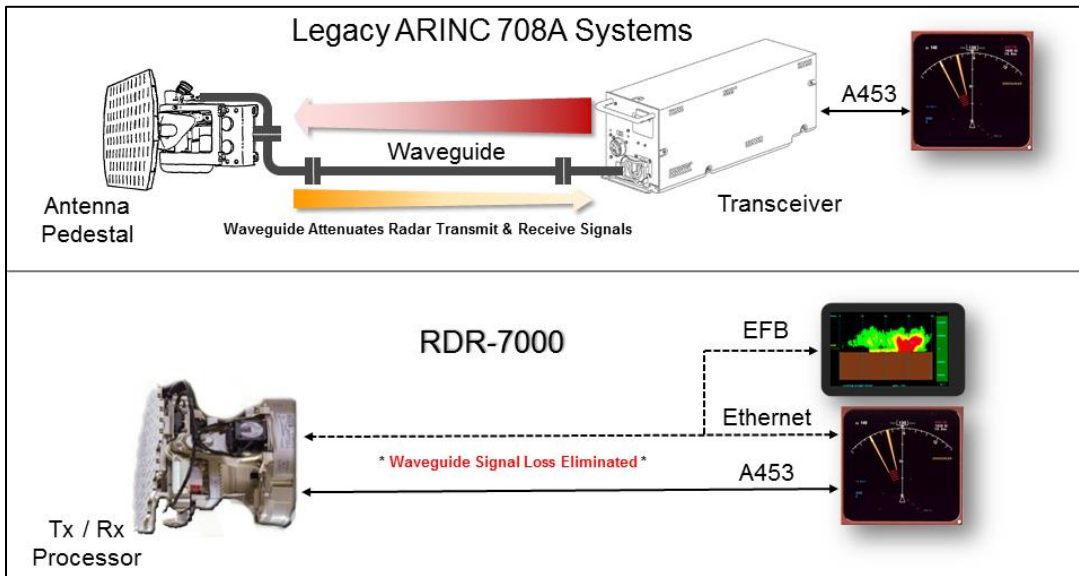


Figure 14. Waveguide Eliminated = Improved Performance and Reduced Maintenance

2.3.2 Interface Comparison of Primus® 660 to RDR-7000

The figure below shows the interface comparison of the Primus® 660 to the RDR-7000.

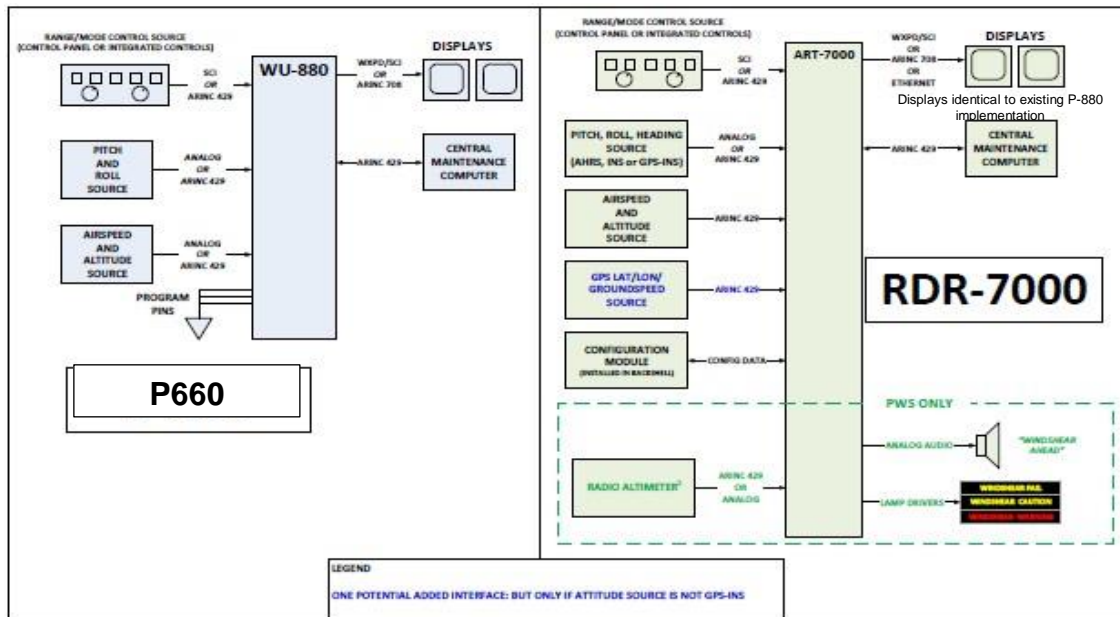


Figure 15. Interface Comparison of P660 to RDR-7000

2.3.3 Interface Comparison of Primus® 700/701 to RDR-7000

The figure below shows the interface comparison of the Primus® 700/701 to the RDR-7000.

TBD- to be provided in later OIB revision.

2.3.4 RDR-7000 Near Plug and Play Retrofit

The RDR-7000 has less LRUs than previous generation weather radars. Available installation kits were designed to permit near plug and play capability for legacy Honeywell Primus® Weather Radars. The bolt patterns mirror the P660. An adapter plate will be developed if required for 70X/70XA (depending on platform).

2.3.5 System & Installation Manuals

RDR-7000 system installation information is available by reference to the relevant Maintenance Manual available by request at the tech pubs portal on myaerospace.com. Available publications are listed below:

Publication Number	Document Name
D202003000583, (current revision on portal)	RDR-7000 Installation Design Guide and Line Maintenance Manual (LMM)
PDS69003810-501	Installation Manual for the RDR-7000 Weather Radar System (IMM)
D201911000095, (current revision on portal)	IntuVue™ 3-D RDR-7000 Automatic Weather Radar System for Rotorcraft Pilot's Guide
SYS69003810-700, (Current revision on portal) <i>Available upon request</i>	Interface Control Document for the RDR-7000 Weather Radar System

Additionally, the RDR-7000 interface requirements are available upon request to Honeywell engineering.

3 Value Proposition

3.1 Value Proposition

For operators of existing Primus® 70X/70XA/660 series systems that need improved passenger comfort and safety as well as reduced operational costs, Honeywell's RDR-7000 provides best-in-class weather sensing technology with industry-leading reliability relative to maintaining legacy Primus® 70X/70XA/660 series radars.

Honeywell's RDR-7000 advanced weather radars system provides...

The right information...

- Most accurate display of weather hazards available
- Most complete display of weather from ground to 60,000 feet

...at the right time...

- Fully Automatic: No tilt and gain management required
- Scanning all the weather all the time
- Longer detection range enables more time to react

...to make the right decisions...

- Intuitive analysis tools to enable optimum routing decisions
- Vertical view and horizontal view show where you are and where you are going

...and get the right results.

- Enhances safety and comfort by helping to avoid turbulence
- Reduced cockpit workload
- Optimum routing translates to better on time performance and less fuel consumption

Unlike current radars on the market, the RDR-7000 provides comprehensive weather awareness including turbulence, hail and lightning detection.

We achieve this by having the first clean sheet design weather radar in over 20 years that is fully automatic, contains the most advanced technology, and is easy to use and learn.

Customer value provided includes...

- Reduce Hail and Lightning related incidents by enabling a 26% improvement in weather avoidance decision-making – maximizing passenger comfort and safety, while minimizing fuel consumption
- Reduce turbulence-related incidents by over 45%
- System reliability increased by 50%
- Maintenance costs reduced by 30%
- Minimum modifications to current systems (minor wiring and WX Controller face plate changes)
- Weight reduced by ~10%

A simplified “conversational type” Value Proposition is as follows:

“Significant aircraft incidents are caused by weather. Want to reduce weather-related risks and costs by as much as 50%?”

Unlike your current radar or any competing systems on the market, the IntuVue RDR-7000 is a fully automated 3D weather radar system, which provides comprehensive views (0 to 60,000-foot vertical view) of a storm -- including hazards like hail, lightning and turbulence detection up to 60 nautical miles.

Honeywell’s RDR-7000 is fully automatic and does not require active pilot adjustments of tilt and/or gain for operation, reducing workload in the cockpit. Instead, pilots can focus on flying the most comfortable and safest route through or around all types of weather. Earlier turbulence detection provides pilots/crew up to 10 mins (60% more) to prepare a cabin for turbulence -- or avoid it altogether, improving passenger comfort. Weather hazards like hail and lightning can cost up to \$150,000 in damage repair, so knowing when an aircraft can fly through weather saves in repair, fuel and block time costs and productivity.

For helicopter owners and operators who want enhanced safety & search/rescue capabilities, more comfortable passengers and better on-time performance, the IntuVue RDR-7000 weather radar system is the most technically advanced solution for weather detection, analysis and avoidance.”

Customer Success story for the RDR-7000 is located in [Appendix A](#). There are two current testimonial brochures with interview/comments from Operators that can be provided for reference. As the RDR-7000 is incorporated into the field, this section will be updated.

Links to additional information such as the Pilots Guide site and key videos are also included in [Appendix B](#). Screenshots showing a comparison between the weather displayed by the old radar (P70X/70XA/660 series) vs the new RDR-700- can be found in [Appendix E](#).

3.2 RDR-7000 Components/Options

As of the initial RDR-7000 OIB release for 2022, there has been a substantial change in the format of the Components/Options section.

These changes are intended to simplify the program structure and help minimize confusion regarding components that need to be ordered for the various configurations by platform.

Refer to Appendix G for the items to complete an RDR-7000 installation **by platform type.**

For AW139 Operators with P660 weather radar and WC-660 WX Controller(s) installed prior to upgrade to RDR7000, incorporation of the RDR7000 utilizing the Real-Beam only mode (no volumetric buffer or advanced software features incorporated) **MUST** replace their WC-660 WX Controller(s) with WC-880 WX Controller(s). Part numbers are 7008471-416 with LSS knob or 7088471-418 without LSS knob.

If Operators with P660 weather radar choose the volumetric buffer mode (and any software options capable with that mode) they will need to incorporate WX Controller(s) 7008471-7416 with LSS knob or 7088471-7418 without LSS knob.

AW139 aircraft with P700/701 weather radar and WC-700 WX Controller(s) that choose to incorporate the RDR7000 get the volumetric buffer basic software (and any software options chosen) and will need to upgrade/exchange their WC-700 from 7008471-712 to 7008471-7712 configuration.

The aforementioned scenarios may vary by STC for other helicopters.

Other Notes:

The Letter-of-Authorization (LOA) abbreviation may be seen on some documents as Right-to-Use (RTU).

The WX Controllers will need to be returned to Honeywell Olathe facility for exchange. See ordering instructions for location address.

3.3 Warranty for RDR-7000

Honeywell will provide a 3-year warranty on the RDR-7000 ART and flat plate antenna (12" or 18") as part of this retrofit program.

3.4 MSP Avionics Incentive or Honeywell Operator Direct Rebate When Installing New RDR7000

Customers that have the RDR7000 Weather Radar retrofitted onto their aircraft are eligible for a \$30,000 discount on the 1st year of their MSP Avionics contract after installation has been complete when signing a new three-year contract with Honeywell.

This \$30,000 discount requires the purchase of any software option beyond the basic retro mode installation (e.g., Volumetric buffer, Predictive Hail, Predictive Lightning, Enhanced Turbulence.)

This MSP incentive applies to Operators enrolling for the first time as well as Operators currently enrolled that sign a new three-year agreement at the next billing cycle (MSP-Avionics is pre-paid subscription hence the discount will not be provided for the current coverage period. It will be applied at the next billing cycle).

Important Note: *In lieu of signing a new MSP Avionics contract (not renewing or no new enrollment) to receive the \$30,000 discount, Honeywell may have rebates available direct from Honeywell to the Operator. Operators should involve their local Honeywell Area Sales Manager (ASM) or Customer Business Manager (CBM) in the discussion to determine available rebates, if any, in each specific case. Note the MSP Avionics discount and rebates referenced if available are **NOT** additive. They are one or the other if available!*

4 Maintenance Service Plan (MSP) Avionics

MSP – Avionics (formerly HAPP) is a maintenance service plan that offers coverage for your Honeywell Avionics. Choose the plan that best meets your needs. Specially priced plans are also available for fleet operators. Take the uncertainty out of repair and maintenance costs. A fixed-price MSP - Avionics contract guarantees that your repair bills will not exceed your budget. For more information about MSP - Avionics, please contact Honeywell at MSPAvionicsSales@Honeywell.com.

5 Terms and Conditions

Honeywell reserves the right to rescind or revise this sales bulletin at any time, or through future sales bulletins.

6 Contact Information

Find your nearest sales contact by visiting our [Rep Locator Tool](#). Search by company name, region, or product group.

Technical Assistance

US & Canada: 1-800-601-3099

All other countries: 1-602-365-6500

Aerospace Portal Technical Request Webform : [Aerotech Support Webform](#)

For questions regarding this OIB, please contact your Honeywell Authorized Dealer or

Steven Gomez
Honeywell Sr. Mgr, BGA Technical Sales
Email: steven.gomez@honeywell.com
Office: 602-333-8790
Cell Phone: 602-432-3250

Appendix A Customer Success Stories (Corporate Operator)

There are no current testimonials from helicopter operators flying with the RDR-7000 as of the writing of this OIB except for the Honeywell AW139 test aircraft.

In the interim, the following RDR-7000 testimonies have been included. (Both radars share the same technology but are packaged differently.)

From a Business Aviation pilot of a Global XRS aircraft equipped with RDR-7000:

“Of course, we want to steer clear of any weather that would threaten the safety or comfort of our passengers or damage the aircraft. So we need the most up-to-date weather information possible. The RDR-7000 is hands-down better than conventional weather radar systems I've flown. It does everything it's supposed to do, so I think pilots are going to really want this radar. It's sort of a 'no-brainer'.”

- STEPHEN HARTLEY, PILOT

But “accurate and reliable” aren’t words Hartley usually associates with conventional weather radar systems...

“In my experience, ‘old school’ weather radar isn’t particularly helpful because it has trouble distinguishing weather returns from ground clutter. Once, I was flying in Florida at night and the radar was painting almost nothing. Suddenly I found myself entering an active storm cell, getting rained on and beat up by turbulence. Fortunately, everything came out okay, but it obviously would have been better to have a weather radar system that provided real-time warning that I was approaching a storm front.”

From a Business Aviation pilot of a Falcon 900EX aircraft equipped with RDR-7000:

“For me, those storm-chaser flights were the real clincher because they demonstrated, in the most dramatic way, the difference between this new-generation radar system and conventional onboard weather radar,” Skoog said. *“Flying the RDR-7000 during the testing phase was a real treat and I can’t wait to take it on our next major coast-to-coast or transoceanic trip.”*

“It’s mind-boggling to me that the RDR-7000 can paint weather 320 miles out and 60,000 feet up, and even show me if there’s another storm system behind the first cell,” he added. *“The system is extremely intuitive and easy to fly because it’s fully automatic, which dramatically reduces pilot workload.”*

– STEVEN SKOOG, PILOT

Please refer to the following two RDR-7000 Customer brochures for the entire articles.

<https://aerospace.honeywell.com/en/learn/about-us/customer-success-stories/2020/11/honeywell-rdr7000-no-brainer-global-xrs-pilot>

<https://aerospace.honeywell.com/en/learn/about-us/customer-success-stories/2020/10/rdr-7000-weather-radar-makes-falcon-900ex-pilot-believer>

Appendix B Additional Reference Information

For related brochures, documents and videos, please refer to the following Honeywell Aerospace portal web page for RDR-7000 Product Overview:

<https://aerospace.honeywell.com/en/learn/products/weather-radar/rdr-7000>

Training/Pilot's Guide material is available on the Honeywell Pilot Gateway site (You must register)

<https://pilots.honeywell.com>

Look for RDR-7000 Section

<https://pilots.honeywell.com/#/myac/aircraft/%7BEED5F812-5482-42B3-AF8F-C1D3A367854C%7D/%7BA7FA2D41-6854-4F55-B4B6-91DEC3817ECF%7D/true/>

Or go to YouTube.com for key videos

- [NBAA TV, Oct 22, 2019](https://www.youtube.com/watch?time_continue=165&v=5Uej5frspTc&feature=emb_title)
https://www.youtube.com/watch?time_continue=165&v=5Uej5frspTc&feature=emb_title
- [RDR-7000 Product Video](https://www.youtube.com/watch?time_continue=76&v=arRj6DMI0XU&feature=emb_title)
https://www.youtube.com/watch?time_continue=76&v=arRj6DMI0XU&feature=emb_title
- [RDR-7000 3D Volumetric Buffer and how it works](https://youtu.be/ciN7lg9KjXQ)
<https://youtu.be/ciN7lg9KjXQ>
- [RDR-7000 Constant Altitude Slices](https://youtu.be/XtDtqqW8_zg)
https://youtu.be/XtDtqqW8_zg

Program & Technical Support

- [Steven Gomez, BGA Tech Sales 602-432-3205, steven.gomez@honeywell.com](mailto:steven.gomez@honeywell.com)
- [Stephen Hammack, Test Pilot, 602-436-2489, stephen.hammack@Honeywell.com](mailto:stephen.hammack@Honeywell.com)

New Portal Ordering Process Training Guide

<https://aerospace.honeywell.com/en/learn/about-us/training/topics/rdr7000-configure-buy-user-guide>

Appendix C STC, Installation Kit & SW Options Information

The initial TSO for the RDR-7000 was received on June 17th, 2020. As of the writing of this OIB, a number of STCs are available or in process for the RDR-7000 IntuVue Radar System on helicopters.

These include the following platforms:

- AW 139 (P70x/70XA)
- AW 139 (P660)
- S-92 - Planned
- Additional helicopters – As required

Honeywell will develop additional STCs as required and will also look at partnering with Channel Partners to develop new ones.

Note that the initial STCs include 3D Volumetric scanning (eliminates tilt management), Convective Weather Discrimination, Constant Altitude Weather, Ground Clutter Removal as Standard Features. Optional features for these STC will include Predictive Hail, Predictive Lightning and Turb@60NM.

The future Advanced Options will be covered by amendments to the original STCs.

The following Table C1 contains a helicopter STC matrix for various certifying countries to simplify understanding the status of the aircraft platform STC programs. It will be updated as OIB updates are released to the field. Operators should also refer to the platforms Tables in Appendix G for which aircraft have STCs, which aren't currently being sold and any significant details.

Table C1 – STC Status

Aircraft Model	Platform Type	STC Package	RDR7000 STC Status (General)	Predictive Hail & Lightning, Ext Turbulence	Predictive Windshear Capability	FAA STC Status	EASA STC Status	TCCA STC Status	ANAC STC Status	CASA STC Status ^{*1}
AW139 (P701)	Helicopter	N/A	●	●	■	●	●	○	●	●
AW139 (Short nose, P701)	Helicopter	N/A	●	●	■	●	●	○	●	●
AW139 (Short nose, P660)	Helicopter	N/A	■	■	■	■	■	■	■	■
AW139 (Long nose, P701)	Helicopter	N/A	●	●	■	●	●	●	●	●
AW139 (Long nose, P660)	Helicopter	N/A	●	●	■	●	●	●	●	●
S-76	Helicopter	N/A	■	■	■	■	■	■	■	■
S-92A	Helicopter	N/A	●	●	■	●	●	●	●	○

Status as of April 11, 2024

- Legend
- Available
 - In Development
 - Planned
 - Not Capable/Applicable (Doesn't Exist)
 - Not Planned (will require Customer LOI)

^{*1} CASA (Australia) automatically recognizes EASA & FAA STCs per CASA Advisory Circular 21-15 R3, section 2.13, and Australian Civil Aviation Safety Regulations, CAR 21.114.

Foreign certifications through EASA, TCCA (Canada) and ANAC (Brazil) are also planned for several platforms. Exact platforms and certifying authorities have not been determined as of the writing of this version of the OIB but will be included in a matrix form in this Appendix C when the plan is defined.

Please note the CASA (Australia) automatically recognizes EASA & FAA STCs as per 1) CASA AC 21-15 R3 Advisory Circular, section 2.13, and 2) the Australian Civil Aviation Safety Regulations CAR 21.114.”

Table C2 contains the Installation Kit Part Numbers, STC RTU/LoA Letter Part Numbers and the Software Part Numbers eligible for each aircraft type.

As of the release of this OIB, some Part Numbers for Install Kit parts have not been finalized (loaded in red). Refer to the Honeywell portal for final part numbers applicable for each aircraft platform. The Installation Kit for a given aircraft platform will be available for purchase only upon STC approval.

If no Installation kit part number is listed, that capability is not available for the STC on that platform.

Table – C2 Reference part numbers

Platform & Variant	Installation Kit Part Number (RDR-7000 Configuration)	STC RTU Letter Part No. (STC/Validation #)	Upgradeable Software Features Part Numbers (Not Applicable to “Real-Beam” Configurations)
AW139 [P70x Replacement] AW139 (Short-Nose) [P70x Replacement]	ATEC-077-241-0011-1 (3D Buffer w/ Maritime Map)	RTU60007976-014 (FAA SR04472CH) (EASA 10079045) (ANAC 2021S08-16)	OPT69003850-001 - HAIL ICON ENABLE OPT69003850-002 - LIGHTNING ICON ENABLE OPT69003850-003 - ON PATH DISPLAY MODE OPT69003850-004 - REACT DISPLAY ENABLE OPT69003850-012 - EXTENDED RANGE TURBULENCE ENABLE One of the following: OPT69003850-010 - RB TARGET OVERLAY [Oil/Gas] OPT69003850-011 - RBM TARGET OVERLAY - SEARCH & RESCUE
AW139 (Long-Nose) [P701 Replacement] ScanAv STC	ScanAv STC Refer to Table G4 (Appendix G)	ScanAv STC STC10078041 (EASA 10078041) (FAA SR04718NY) (ANAC 2022S07-02) (TCCA A-22-0088)	OPT69003850-001 - HAIL ICON ENABLE OPT69003850-002 - LIGHTNING ICON ENABLE OPT69003850-003 - ON PATH DISPLAY MODE OPT69003850-004 - REACT DISPLAY ENABLE OPT69003850-012 - EXTENDED RANGE TURBULENCE ENABLE One of the following: OPT69003850-010 - RB TARGET OVERLAY [Oil/Gas] OPT69003850-011 - RBM TARGET OVERLAY - SEARCH & RESCUE
AW139 (Long-Nose) [P660 Replacement]	ATEC-077-241-0012-1 (3D Buffer) ATEC-077-241-0012-2 (Real-Beam)	RTU60007976-014 (FAA SR04472CH) RTU60007976-014 (FAA SR04472CH)	OPT69003850-001 - HAIL ICON ENABLE OPT69003850-002 - LIGHTNING ICON ENABLE OPT69003850-003 - ON PATH DISPLAY MODE OPT69003850-004 - REACT DISPLAY ENABLE OPT69003850-012 - EXTENDED RANGE TURBULENCE ENABLE No Upgrades Available

Note: Depending on which RDR-7000 installation type is chosen, Volumetric Buffer (VB) mode or Real-Beam-only (RB) “Retro” mode, the Dealer will need to select the appropriate installation kit and WX Controller part numbers. The VB installation includes new software functionality. In contrast, the Retro installation is a “no new functionality” mode intended to duplicate the functionality of legacy Primus® 660 radar installations. If either installation type is unavailable under an STC, it will be indicated in **Red** text.

The following Table C3 shows packages for the various software options when all are purchased at the same time. It shows various functionality and software packages/bundles but is not specific to any aircraft type/ Refer to actual specific aircraft platform to determine exactly what functionality is standard or optional.

Table C3 – Commercial Helicopter RDR-7000 Software Options

Bundle Part Number	Description	Qty
Ref Table G2	P-660 Retro mode available. Equivalent P-660 drop-in replacement (must order config file part number from STC/SB)	1
69006060-112	3-D Buffer Basic Package (P-700/-701 Replacement) Standard Features: <ul style="list-style-type: none"> - Turbulence @ 40 nm - Volumetric Buffer - WX Ahead Alert Enable - Real-Beam Maritime Map Mode (GMAP2) Options Included: <ul style="list-style-type: none"> - Volumetric Buffer Enable 	1
69006060-113	3-D Buffer Basic Package (P-660 Replacement) Standard Features: <ul style="list-style-type: none"> - Turbulence @ 40 nm - Volumetric Buffer - WX Ahead Alert Enable Options Included: <ul style="list-style-type: none"> - Volumetric Buffer Enable 	1
69006060-106	Weather Package - Add-On Bundle Options Included: <ul style="list-style-type: none"> - VB Ground Mapping Mode (GMAP1) - REACT Display Enable - Weather Ahead Alert Enable - On Path Display Mode Enable 	1
69006060-107	Advanced Weather Package - Add-On Bundle Options Included: <ul style="list-style-type: none"> - Ext Range Turbulence (to 60 nm) - Hail & Lightning Enable 	1
69006060-108	Oil & Gas Mission Package - Add-On Bundle (Maritime Helo models Only) Options Included: <ul style="list-style-type: none"> - Real-Beam Maritime Map Mode (GMAP2) - Oil & Gas Target Overlays 	1

Bundle Part Number	Description	Qty
69006060-109	SAR Mission Package - Add-On Bundle (Maritime Helo models Only) Options Included: - Real-Beam Maritime Map Mode (GMAP2) - Search & Rescue Target Overlays w/ Tracking	1
69006060-110	All Features Package w/ OAG Overlays - Standalone (Maritime Helo models Only) Options Included: - REACT Display Enable - On Path Display Mode Enable - Weather Ahead Alert Enable - Ext Range Turbulence (to 60 nm) - Hail & Lightning Enable - Real-Beam Maritime Map Mode - Oil & Gas Target Overlays	1
69006060-111	All Features Package w/ SAR Overlays - Standalone (Maritime Helo models Only) Options Included: - REACT Display Enable - On Path Display Mode Enable - Weather Ahead Alert Enable - Ext Range Turbulence (to 60 nm) - Hail & Lightning Enable - Real-Beam Maritime Map Mode - Search & Rescue Target Overlays w/ Tracking	1

Refer to applicable aircraft platform STC for weather radar controller part number(s) that match configuration to Software Options and indicate which can/should be ordered on the Purchase Order (P.O.).

In order to use the Bundle part numbers, an STC or aircraft S/B must exist with a known approved Base Configuration PN (i.e. CF69003862-XXX where -XXX is specific to a platform and Type Certificate/ Supplemental Type Certificate/Service Bulletin (TC/STC/SB).

The following Table C4 contains those base part numbers and will be updated as new Helicopter STCs are developed.

Table C4 – Commercial Helicopter Base Configuration Part Numbers

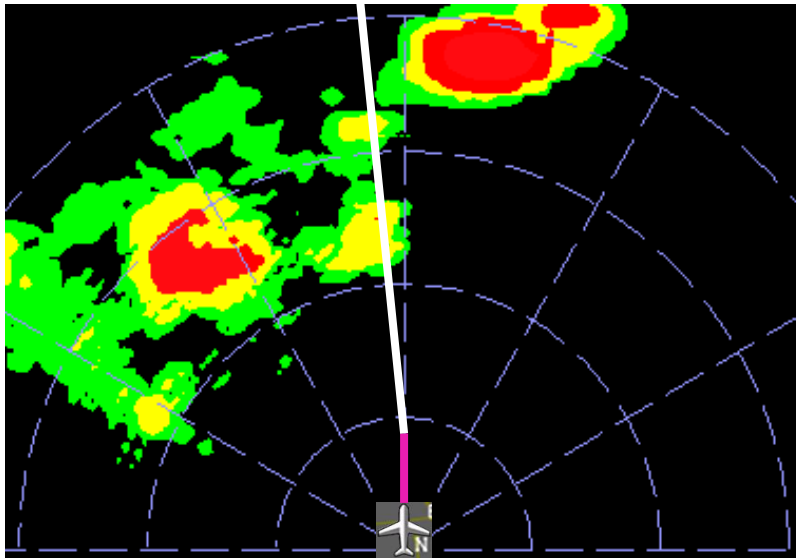
Make/Model	STC	RDR-7000 Install Mode	Base Config PDI PN	User Config PDI PN
Leonardo Model AW139 [Long-Nose]	FAA SR04472CH	3D Buffer	CF69003862-050	CU69003862-102
	FAA SR04472CH	Real-Beam Only	CF69003862-051	CU69003862-102
	EASA 10078041	3D Buffer with Maritime Map	CF69003862-052	CU69003862-103
Leonardo Model AW139 [Short-Nose]	TBD	3D Buffer	CF69003862-050	CU69003862-102
	TBD	Real-Beam Only	CF69003862-051	CU69003862-102
	FAA SR04472CH	3D Buffer with Maritime Map	CF69003862-052	CU69003862-103

Appendix E Radar Screenshot Examples

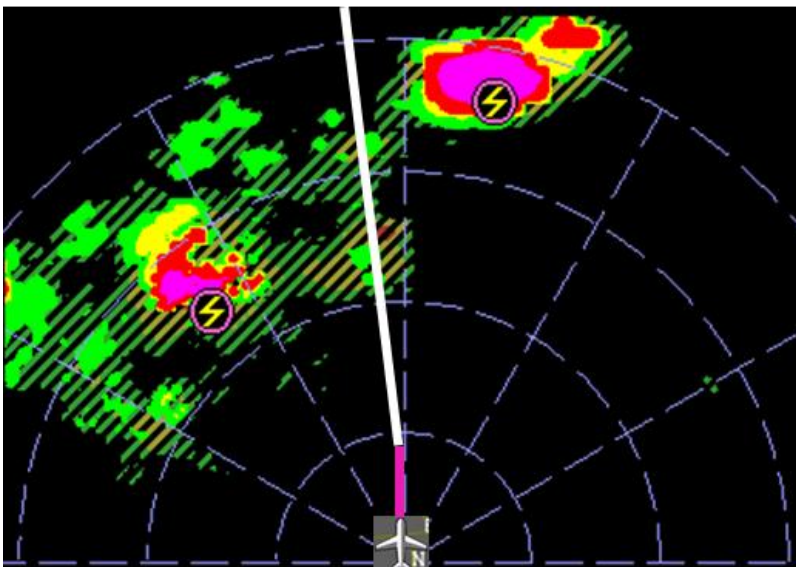
The following examples are included as reference for the new RDR-7000 Radar Capability.

Example #1 – RDR-7000 Shows weather “Off-path” and differentiates it, shows vertical slice of weather “on-path” and shows hazardous weather using symbology.

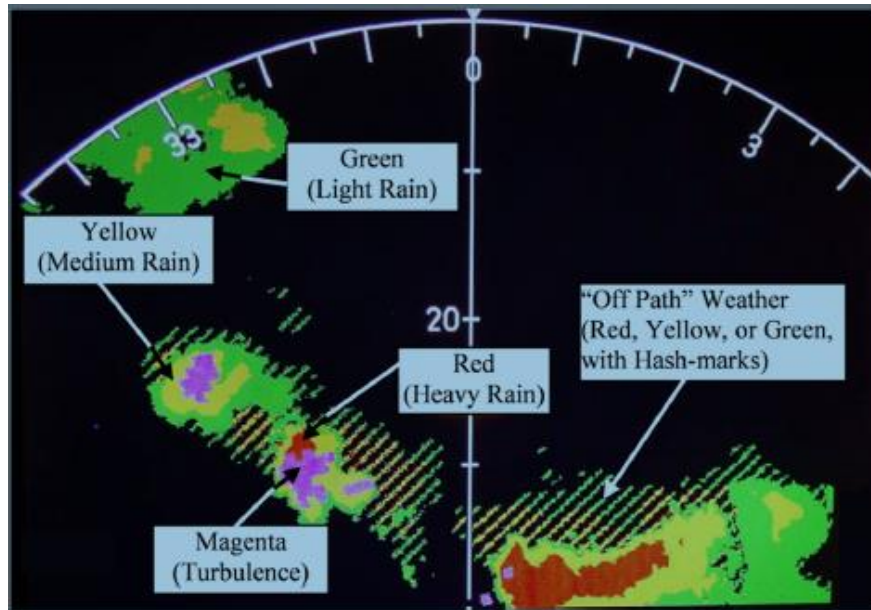
Picture #1 – Old Weather Radar Display



Picture #2 – RDR-7000 with hazard features and off-path weather (hatched area)



Picture #3 – Color Identification of Hazards



Appendix G Hardware Order Requirements and Software Options by Aircraft Platform

The Tables below are intended as overview guides – specific to aircraft platform and STC – regarding what hardware is required, which ancillary items such as installation kits are required and which software options are available.

These tables can be used to order the appropriate line items for each aircraft platform/STC combination available. They will be updated when new STCs become available or when new part numbers are required.

In this updated OIB, Honeywell has introduced significant changes to the RDR-7000 Hardware/Options structure. Our intent is to provide a more attractive options for price-sensitive operators seeking the most economical path to address obsolescence of legacy radars without adding all the functionality RDR-7000 can support.

UFR pricing for legacy Primus® 880/660/440 radar systems, PNs 7021450-601 (Receiver/Transmitter Antenna), was \$40,062, and SPEX exchange pricing was \$43,000 at the beginning of 2022. They will both continue to escalate. This should be considered when evaluating the RDR-7000 radar replacement.

Also note that in Tables G1 through G3, the **green/bolded** part numbers are what is delivered for the configuration ordered by Aircraft Platform as line items in P.O. (e.g. 3D Buffer Package, 3D Buffer w/ Maritime Map Package, Retro Package, etc.).

The “grayed” SW items are included in the major **green** SW part number.

The SW items listed under Optional RDR-7000 Features can be order as a package or individual item(s) if not all SW options contained in the package are desired.

Please note that in Tables G1 through G3 below, the ? symbol in the QTY column for the WX Controller is used for Honeywell-internal bookkeeping purposes only. Refer to each platform’s notes section for the quantity of WX Controllers required for a given installation and choose that quantity for the purchase order. Where an LSS-capable WX Controller is already installed on the aircraft, select the appropriate upgraded WX Controller type (LSS or non-LSS). Also, note the STC for each platform will define the quantity of WX Controllers required.



Once an LoA/RTU Letter from Honeywell is ordered with a P.O., Dealers will normally be advised by Honeywell SWOH to download the following “STC & Right-To-Use Letter Request” form from <https://ads.honeywell.com>. If this notification for some reason is not provided go to <https://aerospace.honeywell.com/en/secure/contact-us/forms/stc-rtu-form> for the form. (See exception under **Important Note** below.)

This online form is used to capture information critical to fulfilling customer access to the applicable Honeywell STC Data package and Right-To-Use, which are required to install and operate the purchase equipment on the intended aircraft.

The standard lead time for processing an LoA/RTU Letter from Honeywell is ten (10) business days. *On an exception basis, the RTU Letter can be processed in as few as five (5) business days for an additional fee.*

Important Note: Please see each specific platform’s shipset ordering table (including notes) in Appendix G to determine where the RTU Letter/STC Package and Installation kits must be ordered from for platform in question.

Additionally, the P701 Long Nose STC/RTU and Installation kit can be procured from Honeywell or ScanAv (Appendix G - Table G4). Please contact your regional HAT sales Team or STC Holder for turn time information on the RTU/STC package and installation kits.

Table G1 – Leonardo AW139 Long-Nose (existing Primus® 660 Radars)

Honeywell STC: SR04472CH (FAA/ CASA ¹)

Real-Beam/Retro Package ^{2,3}					
Part Type	Part Number	Part Name	QTY		
STC Data	RTU60007976-014	STC RTU LETTER, RDR-7000, LEONARDO AW139	1		
Hardware	69003810-101	TOP ASSEMBLY, ART-7000	1		
	69003831-001	FLAT PLATE ANTENNA, 12 INCH, FP-7000	1		
	7008471-422 ⁴	CONTROLLER, WEATHER RADAR, WC-880	?		
	7008471-424 ⁴	CONTROLLER, WEATHER RADAR, WC-880 (NVIS)	?		
	ATEC-077-241-0012-2	INSTALLATION KIT, REAL-BEAM RDR-7000, AW139 LONG-NOSE	1		
Software	SW69003810-504	OBJECT MEDIA, RDR-7000 APPLICATION SOFTWARE	1		
	CF69003862-051	BASE CONFIGURATION, REAL-BEAM RDR-7000, LEONARDO AW139	1		
	OPT69003850-004	REACT DISPLAY ENABLE			

Honeywell no longer offers the 3D Buffer package using STC SR0447CH. Please use STC 10078041 table below.

ScanAv STC: 10078041 (EASA/ CASA ¹ / TCCA/ ANAC), SR04718NY (FAA/ CASA ¹)

3D Buffer Package ^{2,3}					
Part Type	Part Number	Part Name	QTY		
STC Data	STC10078041 ⁶	STC RTU LETTER, RDR-7000, LEONARDO AW139 (ScanAv)	1		
Hardware	69003810-101	TOP ASSEMBLY, ART-7000	1		
	69003831-001	FLAT PLATE ANTENNA, 12 INCH, FP-7000	1		
	7008471-7418 ⁵	CONTROLLER, WEATHER RADAR, WC-7880	?		
	7008471-7422 ⁵	CONTROLLER, WEATHER RADAR, WC-7880 (2.5 NM range)	?		
	7008471-7424 ⁵	CONTROLLER, WEATHER RADAR, WC-7880 (NVIS)	?		
	3000035-023 ⁶	INSTALLATION KIT, P-660 REPLACEMENT, AW139 LONG-NOSE	1		
Software	SW69003810-504	OBJECT MEDIA, RDR-7000 APPLICATION SOFTWARE	1		
	SWM69003869-502	OBJECT MEDIA, MAGVAR COEFFICIENT PDI, RDR-7000	1		
	CF69003862-050 ⁸	BASE CONFIGURATION, 3D BUFFER RDR-7000, LEONARDO AW139	1		
	OPT69003850-014	VOLUMETRIC BUFFER ENABLE			
	OPT69003850-008	WX AHEAD ALERT ENABLE			
Optional Features ^{7,8}	69006060-114	BUNDLE, AW139 (BASIC WEATHER PACKAGE)	1		
	OPT69003850-003	ON PATH DISPLAY MODE			
	OPT69003850-004	REACT DISPLAY ENABLE			
	69006060-107	BUNDLE, HELO (ADVANCED WEATHER PACKAGE)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE			

Notes:

1. CASA (Australia) automatically recognizes EASA & FAA STCs per CASA Advisory Circular 21-15 R3, section 2.13, and Australian Civil Aviation Safety Regulations, CAR 21.114.
2. This shipset package is for replacement of the Honeywell Primus® 660 Series radar on the AW139 helicopter, S/N's (Long-Nose configuration): 31201 and higher; 41201 and higher.
3. The RDR-7000 cannot support maritime mode with OAG/SAR features when replacing a Primus® 660 Series radar. This is due to limitations of the existing WXPDP and controller interfaces.
4. The Real Beam/Retro package requires an update to the WC-880 WX Controller. Choose quantity one (1) of the controller PNs listed. Please specify as "Unlike Part Number Exchange" for the WX controllers requested, along with returned WX controller PN and S/N, as well as quantity required. Return removed WX controllers to the Honeywell Olathe Repair facility.
5. The 3D Buffer package requires an update to the WC-7880 WX Controller. Choose quantity one (1) of the controller PNs listed. Please specify as "Unlike Part Number Exchange" for the WX controllers requested, along with returned WX controller PN and S/N, as well as quantity required. Return removed WX controllers to the Honeywell Olathe Repair facility.
6. The STC, RTU letter, and data package are owned by ScanAv. Additionally, the RDR-7000 installation and wiring kits are manufactured and sold by ScanAv.

Channel Partners interested in installing the RDR-7000 should contact their regional HAT sales team, or ScanAv directly, for current pricing and availability of the Installation kit(s), wiring, STC package and RTU letter and instructions how to order as well as turn time.

HAT Contact Information:
Hotline: 1-866-825-5428
Email: DL-AEROHATTeam@Honeywell.com

ScanAv Contact Information:
Mads Dam, Part 21 Sales Manager
Phone: +45 5360 0696
Email: msd@scanav.com

The remaining items listed in the table are ordered through Honeywell.

7. Bundle PNs 69006060-107 and 69006060-114 are feature add-ons and can be ordered together.
Individual hazard features **can** be specified using the OPT PNs.
8. All software feature PNs, identified with an OPT prefix in the above table, are combined into a single digital media download by the ASDS portal and are delivered as a ZIP archive containing the Base config PDI, PN CF69003862-050, and User config PDI, PN CU69003862-101. The Base Config PDI contents include the software feature PNs listed in the "Package" tables. The User Config PDI contents include any purchased software feature PNs listed in the "Optional RDR-7000 Features" table (only applicable for installations using the "3D Buffer Package"). Note that these are still packaged as separate digital media, and each PDI will require field-loading via SD card.

Table G2 – Leonardo AW139 Long-Nose (existing Primus® 701 Radars)

ScanAv STC: 10078041 (EASA/ CASA ¹/ TCCA/ ANAC), SR04718NY (FAA/ CASA ¹)

3D Buffer W/ Maritime Map Package ²					
Part Type	Part Number	Part Name	QTY		
STC Data	STC10078041 ³	STC RTU LETTER, RDR-7000, LEONARDO AW139 (ScanAv)	1		
Hardware	69003810-101	TOP ASSEMBLY, ART-7000	1		
	69003831-001	FLAT PLATE ANTENNA, 12 INCH, FP-7000	1		
	7008471-7712 ⁵	CONTROLLER, WEATHER RADAR, WC-7700	?		
	7008471-7710 ^{4,5}	CONTROLLER, WEATHER RADAR, WC-7700 NVIS (Option)	?		
	3000035-012 ³	INSTALLATION KIT, P-701 REPLACEMENT, AW139 LONG-NOSE	1		
Software	SW69003810-504	OBJECT MEDIA, RDR-7000 APPLICATION SOFTWARE	1		
	SWM69003869-502	OBJECT MEDIA, MAGVAR COEFFICIENT PDI, RDR-7000	1		
	SWM69003870-501 ⁶	OBJECT MEDIA, SAR LIBRARY PDI, RDR-7000	1		
	CF69003862-052 ⁸	BASE CONFIGURATION, MARITIME RDR-7000, LEONARDO AW139	1		
	OPT69003850-014	VOLUMETRIC BUFFER ENABLE			
	OPT69003850-008	WX AHEAD ALERT ENABLE			
	OPT69003850-009	RB MAP/MARITIME ENABLE			
Optional Features ^{7,8}	69006060-114	BUNDLE, AW139 (BASIC WEATHER PACKAGE)	1		
	OPT69003850-003	ON PATH DISPLAY MODE			
	OPT69003850-004	REACT DISPLAY ENABLE			
	69006060-107	BUNDLE, HELO (ADVANCED WEATHER PACKAGE)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE			
	OPT69003850-010	RB TARGET OVERLAY = OIL AND GAS	1		
	OPT69003850-013	RBM TARGET OVERLAY = SEARCH AND RESCUE	1		
	69006060-115	BUNDLE, AW139 (ALL FEATURES PACKAGE WITH OAG TARGETS)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-003	ON PATH DISPLAY MODE			
	OPT69003850-004	REACT DISPLAY ENABLE			
	OPT69003850-010	RB TARGET OVERLAY = OIL AND GAS			
	OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE			
	69006060-116	BUNDLE, AW139 (ALL FEATURES PACKAGE WITH SAR TARGETS)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-003	ON PATH DISPLAY MODE			
OPT69003850-004	REACT DISPLAY ENABLE				
OPT69003850-013	RBM TARGET OVERLAY = SEARCH AND RESCUE				
OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE				

Notes:

1. CASA (Australia) automatically recognizes EASA & FAA STCs per CASA Advisory Circular 21-15 R3, section 2.13, and Australian Civil Aviation Safety Regulations, CAR 21.114.
2. This shipset package is for replacement of the Primus® 701 series radar on the AW139 helicopter, S/N's (Long-Nose configuration): 31201 and higher; 41201 and higher.
3. The STC, RTU letter, and data package are owned by ScanAv. Additionally, the RDR-7000 installation and wiring kits are manufactured and sold by ScanAv.

Channel Partners interested in installing the RDR-7000 should contact their regional HAT sales team, or ScanAv directly, for current pricing and availability of the Installation kit(s), wiring, STC package and RTU letter and instructions how to order as well as turn time.

HAT Contact Information:

Hotline: 1-866-825-5428

Email: DL-AEROHATTeam@Honeywell.com

ScanAv Contact Information:

Mads Dam, Part 21 Sales Manager

Phone: +45 5360 0696

Email: msd@scanav.com

The remaining items listed in the table are ordered through Honeywell.

4. The PN 7008471-7710 controller is NVIS-compatible, but has been not certified for NVIS operations by this STC. ScanAv and Honeywell plan to have full NVIS capability available by Q4 2022.
5. This package requires an update to the WC-7700 WX Controller. Choose quantity one (1) of the controller PNs listed. Please specify as "Unlike Part Number Exchange" for the WX controllers requested, along with returned WX controller PN and S/N, as well as quantity required. Return removed WX controllers to the Honeywell Olathe Repair facility.
6. The SAR Library PDI, PN SWM69003870-501, is required if the SAR Target Overlay option is enabled. This PDI is subject to Export Control licensing requirements (ECCN 6D001). A TSR License exception may be applied for specific countries and channel partners with properly signed LoA.
7. Bundle PNs 69006060-114 and 69006060-107, as well as "Oil & Gas target overlay", OPT69003850-010, and "Search & Rescue target overlay", OPT69003850-013, are feature add-ons and can be ordered together. However, only one of the Target Overlay features can be enabled for a given installation. Alternatively, bundle PN 69006060-115 or PN 69006060-116 can be purchased as standalone upgrades. Individual hazard features **can** be specified using OPT part number.
8. All software feature PNs, identified with an OPT prefix in the above table, are combined into a single digital media download by the ASDS portal and are delivered as a ZIP archive containing the Base config PDI, PN CF69003862-04x, and User config PDI, PN CU69003862-101. The Base Config PDI contents include the software feature PNs listed in the "Package" tables. The User Config PDI contents include any purchased software feature PNs listed in the "Optional RDR-7000 Features" table (only applicable for installations using the "3D Buffer Package"). Note that these are still packaged as separate digital media, and each PDI will require field-loading via SD card.

Table G3 – Leonardo AB139 / AW139 Short-Nose (existing Primus® 701 Radars)

Honeywell STC: SR04472CH (FAA/ CASA ¹)

3D Buffer W/ Maritime Map Package ²					
Part Type	Part Number	Part Name	QTY		
Hardware	69003810-101	TOP ASSEMBLY, ART-7000	1		
	69003831-001	FLAT PLATE ANTENNA, 12 INCH, FP-7000	1		
	7008471-7712 ³	CONTROLLER, WEATHER RADAR, WC-7700	1		
	ATEC-077-241-0011-1	INSTALLATION KIT, MARITIME RDR-7000, AW139 SHORT-NOSE	1		
Docs	RTU60007976-014	STC RTU LETTER, RDR-7000, LEONARDO AW139	1		
Software	SW69003810-504	OBJECT MEDIA, RDR-7000 APPLICATION SOFTWARE	1		
	SWM69003869-502	OBJECT MEDIA, MAGVAR COEFFICIENT PDI, RDR-7000	1		
	SWM69003870-501 ⁴	OBJECT MEDIA, SAR LIBRARY PDI, RDR-7000	1		
	CF69003862-052 ⁶	BASE CONFIGURATION, MARITIME RDR-7000, LEONARDO AW139	1		
	OPT69003850-014	VOLUMETRIC BUFFER ENABLE			
	OPT69003850-008	WX AHEAD ALERT ENABLE			
	OPT69003850-009	RB MAP/MARITIME ENABLE			
Optional Features ^{5, 6}	69006060-114	BUNDLE, AW139 (BASIC WEATHER PACKAGE)	1		
	OPT69003850-003	ON PATH DISPLAY MODE			
	OPT69003850-004	REACT DISPLAY ENABLE			
	69006060-107	BUNDLE, HELO (ADVANCED WEATHER PACKAGE)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE			
	OPT69003850-010	RB TARGET OVERLAY = OIL AND GAS	1		
	OPT69003850-013	RBM TARGET OVERLAY = SEARCH AND RESCUE	1		
	69006060-115	BUNDLE, AW139 (ALL FEATURES PACKAGE WITH OAG TARGETS)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-003	ON PATH DISPLAY MODE			
	OPT69003850-004	REACT DISPLAY ENABLE			
	OPT69003850-010	RB TARGET OVERLAY = OIL AND GAS			
	OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE			
	69006060-116	BUNDLE, AW139 (ALL FEATURES PACKAGE WITH SAR TARGETS)	1		
	OPT69003850-001	HAIL ICON ENABLE			
	OPT69003850-002	LIGHTNING ICON ENABLE			
	OPT69003850-003	ON PATH DISPLAY MODE			
OPT69003850-004	REACT DISPLAY ENABLE				
OPT69003850-013	RBM TARGET OVERLAY = SEARCH AND RESCUE				
OPT69003850-012	EXTENDED RANGE TURBULENCE ENABLE				

Notes:

1. CASA (Australia) automatically recognizes EASA & FAA STCs per CASA Advisory Circular 21-15 R3, section 2.13, and Australian Civil Aviation Safety Regulations, CAR 21.114.
2. This shipset package is for replacement of the Primus® 701 series radar on the AB139/AW139 helicopter, S/N's (Short-Nose configuration): 31001 thru 31157; 41001 thru 41023.
3. This package requires quantity one (1) of the WC-7700 WX Controller. Please specify as "Unlike Part Number Exchange" for the WX controllers requested, along with returned WX controller PN and S/N, as well as quantity required. Return removed WX controllers to the Honeywell Olathe Repair facility.
4. The SAR Library PDI, PN SWM69003870-501, is required if the SAR Target Overlay option is enabled. This PDI is subject to Export Control licensing requirements (ECCN 6D001). A TSR License exception may be applied for specific countries and channel partners with properly signed LoA.
5. Bundle PNs 69006060-114 and 69006060-107, as well as "Oil & Gas target overlay", OPT69003850-010, and "Search & Rescue target overlay", OPT69003850-013, are feature add-ons and can be ordered together. However, only one of the Target Overlay features can be enabled for a given installation. Alternatively, bundle PN 69006060-115 or PN 69006060-116 can be purchased as standalone upgrades. Individual hazard features **can** be specified using OPT part number.
6. All software feature PNs, identified with an OPT prefix in the above table, are combined into a single digital media download by the ASDS portal and are delivered as a ZIP archive containing the Base config PDI, PN CF69003862-04x, and User config PDI, PN CU69003862-101. The Base Config PDI contents include the software feature PNs listed in the "Package" tables. The User Config PDI contents include any purchased software feature PNs listed in the "Optional RDR-7000 Features" table (only applicable for installations using the "3D Buffer Package"). Note that these are still packaged as separate digital media, and each PDI will require field-loading via SD card.

Appendix J Frequently Asked Questions (FAQs)

This section contains commonly asked questions from Operators. The list will grow at each revision, but questions received will not specifically drive a revision to the OIB.

Question #1

Does an operator need to have the new DUs (875/885) to receive ALL the features and benefits of RDR-7000?

Answer to Question #1

The new Primus® Elite displays are NOT required to get the radar automation or optional hazard features such as Predictive hail and lightning that we are selling. The radar will display properly with the SPZ, P1000 and P2000 legacy displays.

For future reference, There will eventually (probably in 2021) be enhanced features such as vertical weather display (VWD) that will be able to display the vertical slice in the direction the aircraft is traveling from ground to 60K feet and out a few hundred nautical miles that will display on an iPad after incorporation of an edge node into the flight deck (the edge node will wirelessly transmit the weather radar detail to the iPad).

Question #2

Are aircraft with Garmin cockpits eligible for the upgrade?

Answer to Question #2

We are not pursuing any aircraft types/platforms now that do not have Honeywell Primus® P660/70X/70XA radars currently installed.

Question #3

Do aircraft with 12" antennas have the option to buy Predictive (forward looking) windshear?

Answer to Question #3

Aircraft equipped with 12" antennas DO NOT have the option to purchase Predictive Windshear.

Question #4

I have another aircraft with a Honeywell Primus® radar on it. Will that aircraft be eligible to retrofit to the RDR-7000 also?

Answer to Question #4

We are developing STCs for a variety of aircraft. They will be offered to the field in groups, so your other aircraft may be on a follow on STC program.

Question #5

Where can I find the RDR-7000 installation manual and other documentation?

Answer #5

Access Honeywell technical publications at...
aerospace2.honeywell.com/wps/myportal/tech-pubs

Question #6

Where can I purchase upgraded software features for the RDR-7000?

Answer #6

Visit our RDR-7000 product page for more information purchasing additional features at...
aerospace.honeywell.com/en/learn/products/weather-radar/rdr-7000

Question #7

Do I need to purchase all the software options now with the original installation or can I wait till a later point in time?

Answer #7

The software optional features such as Predicted Hail/Lightning, extended range turbulence do NOT needed to be purchased at original installation. You will receive the benefits of the newer technology included the automated operation of the radar and 3D volumetric buffer, but you will not have the additional safety comfort features mentioned above. For this reason, Honeywell recommends purchasing all the software features to gain maximum benefit of the new radar.

Question #8

I have a LSZ-860 Lightning Sensor installed, why do I need the Hazard feature for lightning?

Answer #8

The LSZ-860 is great for establishing where actual lightning strikes are occurring. The Hazard Lightning feature on the RDR-7000 will help predict where lightning is going to happen with very high accuracy. It therefore helps the pilots steer clear of potentially dangerous area.

Question #9

I have a Lightning Sensor installed Do I need to remove it to install the RDR-7000?

Answer #9

No, the Lightning will work with the RDR-7000. All that needs to happen is the correct WX Controller PN needs to be ordered when upgrading the WX Controller. The Lightning Sensor is great for establishing where actual lightning strikes are occurring. The Hazard Lightning feature on the RDR-7000 will help predict where lightning is going to happen with very high accuracy.

Question #10

What happens if my customers aircraft doesn't have a RDR-7000 STC?

Answer #10

Honeywell and other channel members are constantly developing STCs and validating them in different geographic regions. Additionally, there may be a lag in when the STC is developed versus when the OIB is updated informing the field of the update.

Please contact Honeywell (author of this OIB) if you run into this situation or there are any questions regarding STC applicability or availability.

Appendix K MSP Extended Support Program Explanation

For current MSP Operators that require additional time to upgrade their current Honeywell Primus® Weather Radar to the Honeywell's RDR-7000 System, the MSP Legacy Radars Extended Support has been developed. The MSP Operators that decide to enroll under this program will be charged an incremental fee on top of their current MSP Avionics Standard Rate which will enable them to continue to receive like-for-like exchanges and/or repair services for their Primus® Weather Radar thru December 2024. The Program also comes with the option to convert a portion of the total fees paid for the coverage as credits towards the purchase of a RDR-7000 System. Program enrollment must happen by December 31st, 2022.

The sole intent of credit provision in the MSP Legacy Radar Extended Support is that it be passed through to the operator upgrading their aircraft as an added pricing incentive to purchase the RDR-7000 Radar System. The Credit Request must be submitted per the instructions in Section 5 of this Sales Bulletin and must be submitted within twenty (20) days of final delivery to the operator of the upgraded aircraft on which the radar system was originally installed.

Benefits of the MSP Legacy Radar Extended Support program:

- Like for like Exchanges or Repairs support for Legacy Primus Radars thru December 2024
- Program convertible towards credits for the purchase of the RDR 7000 system. (See amounts below)

RDR-7000 Installation	Event Type	Applicable Credit Toward RDR-7000 Purchase
By December 31, 2022	Proactive Upgrade	80% of the Net Total Price Paid
In the 1 st Year of Coverage	Proactive Upgrade	65% of the Net Total Price Paid
In the 1 st Year of Coverage	At Failure	30% of the Net Total Price Paid
In the 2 nd Year of Coverage	Proactive Upgrade	30% of the Net Total Price Paid (Year 1&2)
In the 2 nd Year of Coverage	At Failure	12.5% of the Net Total Price Paid (Year 1&2)

- For RDR-7000 system upgrades at failure, access to Legacy Radars FOC loaner for up to 30 days (subject to availability)
- Increased financial predictability of your maintenance budget requirements
- 1 year commitment
- Transferable program

MSP Legacy Radar Extended Support program conversion to credits

The Operator should contact their Honeywell Authorized Dealer or MSPAvionics@Honeywell.com should this situation arise to verify the amount of the credit due to the Operator.

For additional information and rates, please reach out to your MSP Sales Manager.