

**14 CFR 91.227  
ADS-B OUT  
COMPATIBLE  
EQUIPMENT**

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### **RECORD OF REVISIONS**

<b>Revision</b>	<b>Revision Date</b>	<b>Description</b>
1	9/5/12	Initial Release
2	6/11/13	Updated AC 20-165 reference, added update for GTX 3000 software version 2.01, corrected 400W/500W family main software version
3	7/21/14	Removed all GIA references
4	5/28/15	Added GNS 480 and GDL 88 models
5	2/25/15	Added GTX 3X5 models
6	10/26/17	Added the GDL 82

## INTRODUCTION

It is the installer's responsibility to ensure the ADS-B Out system is compliant with AC 20-165A/B and to ensure compatibility between ADS-B Out Positions Sources and ADS-B Out Transmitting equipment. This document lists compatible equipment shown to be eligible for 14 CFR 91.227-compliant installations in accordance with AC 20-165A/B.

### Reference Documents

**Table 1 Federal Aviation Administration Documents**

Part Number	Document
AC 20-138C	Airworthiness Approval of Positioning and Navigation Systems
AC 20-165A	Airworthiness Approval of Automatic Dependent Surveillance – Broadcast (ADS-B) Out System
14 CFR §91.227	Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment Performance Requirements
AC 20-165B	Airworthiness Approval of Automatic Dependent Surveillance - Broadcast OUT Systems

**Table 2 Garmin Documents**

Part Number	Document
190-00207-02	GTX 330/330D Transponder Installation Manual
190-00356-08	400W Series Installation Manual
190-00357-08	500W Series Installation Manual
190-00906-00	GTX 33 Transponder Installation Manual
190-00906-01	GTX 23 Transponder Installation Manual
190-00926-01	GTX 3000 Transponder Installation Manual
190-01004-02	GTN 625/635/650 TSO Installation Manual
190-01007-02	GTN 725/750 TSO Installation Manual
190-01122-00	GDL 84/88 TSO Installation Manual
560-0982-01	GNS 480 (CNX80) Installation Manual
190-01499-02	GTX 3X5 Transponder TSO Installation Manual
190-01810-00	GDL 82 TSO Installation Manual

## ADS-B Out Position Sources

Equipment in Table 3 complies with AC 20-165A Appendix 2, AC 20-165B Appendix B, and AC 20-138C Appendix 4 and is eligible for use as an ADS-B Out Position Source meeting the requirements of 14 CFR 91.227 when installed in accordance with Garmin’s installation instructions. If integrating the ADS-B Out Position Source equipment with ADS-B Out Transmitting equipment other than compatible equipment identified in Table 5 of this document, the compliance with AC 20-165B and compatibility between the units must be established during installation approval.

**Table 3 ADS-B Out Position Sources for 14 CFR 91.227 Compliant Installation**

Product	Part Number	Required Software Versions
GTN 625	011-02254-( )	Main software version 3.00 or later and GPS software version 5.0 or later*
GTN 635	011-02255-( )	
GTN 650	011-02256-( )	
GTN 725	011-02281-( )	
GTN 750	011-02282-( )	
GPS 400W	011-01057-( )	Main software version 5.03 or later and GPS software version 5.0 or later*
GNC 420W	011-01058-( )	
GNC 420AW	011-01059-( )	
GNS 430W	011-01060-( )	
GNS 430AW	011-01061-( )	
GPS 500W	011-01062-( )	
GPS 500W TAWS	011-01063-( )	
GNS 530W	011-01064-( )	
GNS 530W TAWS	011-01065-( )	
GNS 530AW	011-01066-( )	
GNS 530AW TAWS	011-01067-( )	
GNS 480 (CNX80)	430-6100-8( )-( )	Main software version 2.4 or later and GPS software version 5.1 or later*
GDL 88 or 88H w/Internal GPS	011-02370-( )	Main software version 2.00 or later and GPS software version 5.0 or later*
GDL 88D or 88DH w/Internal GPS	011-02372-( )	
GTX 335 w/Internal GPS	011-03300-4( )	All GTX 3X5 software versions*
GTX 335R w/Internal GPS	011-03301-4( )	
GTX 345 w/Internal GPS	011-03302-4( )	
GTX 345R w/Internal GPS	011-03303-4( )	

\* Refer to the appropriate installation manuals listed in Table 2 for additional information.

## ADS-B Out Transmitting Equipment

Equipment in Table 4 complies with the applicable requirements of AC 20-165A and AC 20-165B, and is eligible for use as an ADS-B Out Transmitter when installed in accordance with Garmin’s installation instructions and integrated with a compatible ADS-B Out Position Source. If integrating the ADS-B Out Transmitting equipment with ADS-B Out Position Source equipment other than compatible equipment identified in Table 5 of this document, the compliance with AC 20-165B and compatibility between the units must be established during installation approval.

**Table 4 ADS-B Out Transmitting Equipment for 14 CFR 91.227-Compliant Installation**

Product	Part Number	Required Software Versions
GDL 88 or GDL 88H	011-02369-( )	Main software version 3.20 or later*
GDL 88D or GDL 88DH	011-02371-( )	
GDL 88 or GDL 88H w/ Internal GPS	011-02370-( )	Main software version 3.20 or later and GPS software version 5.0 or later*
GDL 88D or GDL 88DH w/ Internal GPS	011-02372-( )	
GDL 82	011-03946-0( )	Main software version 2.0 or later and GPS software version 6.0 or later*
GDL 82 w/Internal GPS	011-03946-4( )	
GTX 23	011-02803-02	Main software version 7.00 or later*
GTX 33 w/ ES	011-00779-20 and 011-00779-30	Main software version 7.00 or later*
GTX 33H w/ ES	011-00779-70	
GTX 33D w/ ES	011-00779-21	
GTX 33DH w/ ES	011-00779-61	
GTX 330	011-00455-6( ) and 011-00455-8( )	Main software version 7.00 or later*
GTX 330D	011-00455-7( ) and 011-00455-9( )	
GTX 3000	011-01997-0( )	Main software version 2.01 or later*
GTX 335	011-03300-0( )	Main software version 2.00 or later*
GTX 335 NV	011-03300-2( )	
GTX 335 GPS	011-03300-4( )	
GTX 335R	011-03301-0( )	
GTX 335R GPS	011-03301-4( )	
GTX 345	011-03302-0( )	
GTX 345 GPS	011-03302-4( )	
GTX 345R	011-03303-0( )	
GTX 345R GPS	011-03303-4( )	

\* Refer to the appropriate installation manuals listed in Table 2 for additional information.

## **ADS-B Out Position Source and Transmitting Equipment Compatibility**

Equipment combinations marked with an “X” in Table 5 comply with the applicable requirements of AC 20-165A and AC 20-165B when installed in accordance with Garmin’s installation instructions. If integrating ADS-B Out Position Sources with ADS-B Out Transmitting equipment other than compatible equipment identified in Table 5 of this document, the compliance with AC 20-165B and compatibility between the units must be established during installation approval.

Table 5 ADS-B Out Position Source and Transmitting Equipment Compatibility Table

		ADS-B Out Transmitting Equipment																						
		GDL 82	GDL 82 w/Internal GPS	GDL 88 or GDL 88H	GDL 88D or GDL 88DH	GDL 88 or GDL 88H w/ Internal GPS	GDL 88D or GDL 88DH w/ Internal GPS	GTX 23	GTX 33 w/ ES	GTX 33H w/ ES	GTX 33D w/ ES	GTX 33DH w/ ES	GTX 330 w/ ES	GTX 330D w/ ES	GTX 3000	GTX 335	GTX 335 NV	GTX 335 GPS	GTX 335R	GTX 335R GPS	GTX 345	GTX 345 GPS	GTX 345R	GTX 345R GPS
ADS-B Out Position Source	GTN 625	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GTN 635	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GTN 650	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GTN 725	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GTN 750	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GPS 400W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNC 420W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNC 420AW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 430W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 430AW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GPS 500W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GPS 500W TAWS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 530W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 530W TAWS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 530AW	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 530AW TAWS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GDL 88 or GDL 88H w/ Internal GPS					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GDL 88D or GDL 88DH w/ Internal GPS					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GNS 480 (CNX80)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GTX 335 w/Internal GPS			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GTX 335R w/Internal GPS			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GTX 345 w/Internal GPS			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
GTX 345R w/Internal GPS			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	