



Installation Manual/Instructions

IFDR Panel Mounts



USB 250-M LOG OF REVISIONS

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FOREWORD

This document provides information intended for use by persons who, pursuant to current requirements, are qualified to install this equipment. Because equipment and system installations vary depending on a particular aircraft, this document is intended only as a guideline. If further information is required, contact:

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We welcome your comments concerning this document. Although every effort has been made to keep it free of errors, some may occur. When reporting a specific problem, please describe it briefly and include the document number, the paragraph/figure/picture/table number, and the page number. Send your comments to the address above.

GENERAL DESCRIPTION

The iFDR Panel Mount series is a new flush mounting system to easily dock and seamlessly integrate your Apple iPhone 6 into your aircraft instrument panel – giving it a clean, professional appearance in an easy to view position! Once installed, the iFDR mount allows your iPhone to be docked in seconds, fully connected to power and audio with built-in cable ports. Removal is just as easy – just slide, push, and remove!

The iFDR Panel Mount was designed by aerospace engineers to perform in the unique environment of the cockpit. The spring actuated mounting cradle securely holds the iPad or iPhone in place during the roughest of turbulence. The clean, flush mount has a shallow chassis allowing it to be easily installed in even the smallest of instrument panels. Built-in ports for the Apple Lightning plug and a 3.5mm audio cable help keep cables safely and securely positioned behind the panel, allowing you the ability to connect to power, data, and audio without the cord mess.

The equipment is approved for VFR use only. Installation in experimental aircraft authorized. Consult your local Flight Standards District Office (FSDO) and FAA AC-138 for recommended installation approval in certified aircraft.

MODEL DETAILS

The iFDR panel mount comes in five different models to accommodate specific iPhone / iPad models. These are as illustrated below –



iPhone 6 Mount



iPhone 6+ Mount



iPad Mini Mount



iPad Air / Pro 9.7” Mount



iPad Pro 12.9” Mount

Each of these models has options of single or dual power outputs. In the case of a single output mount, 5V DC power is available for the mounted iPhone / iPad only. On the case of a dual power outlet model, an additional 5V DC power outlet is available that can be used to power an additional device as well. You could for example, use it to power a cooling fan.

LEADING PARTICULARS

PARAMETER	SPECIFICATION
PHYSICAL	
Dimensions	See drawing FDR 100
Weight (actual)	
iFDR 6 (P/N ip6-100)	See drawing M100
iFDR 6+ (P/N ip6+100)	See drawing M100100
iFDR Mini (P/N ipm-100)	See drawing M100
iFDR Air (9.7) (P/N ipa2-100)	See drawing M100
iFDR Pro (12.9)(P/N ipp-100)	See drawing M100
Unit Cooling	Passive
Material	ABS PC
ENVIRONMENTAL	
Cooling	
Temperature and Altitude	
Temperature	
Non-operating high temperature	+80C
Non-operating low temperature	-40C
Operating high temperature	-65C
Operating low temperature	-40C
Humidity	95%
Flammability test	FAA 23.863
Crash test	16G

POWER REQUIREMENTS	
Power – 14/28 V DC Models	
Current requirement	
Input Voltage	14V or 28V
Minimum input	9V
Maximum input	48V
Output USB Voltage	5 Volts ± 0.25V
Amps	0.5A to 2.1 A (Smart Charger)
Max Amperage Draw (Dual Simultaneously)	1.4 A 14V and .9A 24Volts
Max Wire length (20-24 Gauge)	12 ft
Circuit Breaker	2 Amp

RESTRICTIONS AND LIMITATIONS

This unit is approved under the FAA modifications to improve safety; the relevant approval for all such equipment is explained [here](#) on our website. This product is manufactured under [21.8\(d\)](#) for equipment designated as to be Minor change per the FAA to type design and whose failure condition is minor. The installation has been determined to be minor per FAA.

Guardian Avionics has determined that the installation of iFDR dock mounts is minor per 14 CFR Part 21.93 as it has no appreciable effect on the weight, balance, structural strength, reliability, operation characteristics or other characteristics affecting the airworthiness of the aircraft it is installed in.

Installation of the iFDR dock mount Series is supplemental only; it is not intended as a replacement for or modification to an existing, approved or required system. Installation in a commuter or transport category airplane is prohibited, unless approved by the FAA or local FISDO.

The iFDR mount system may not be used as a substitution for the certificated aircraft systems. No operational credit may be taken for installation of the system.

INSTRUCTIONS FOR CONTINUED MAINTENANCE AND OPERATION

iFDR Mounts are on condition parts. No maintenance is required. If the unit fails to operate as intended, please contact Guardian Avionics.

SERVICE FACILITIES

The operator can service all other components of the installation at an FAA certified Repair Station or by A&P mechanic.

RECOMMENDED INSTALLATION AREAS

FDR Mounting System can be installed in the aircraft cabin area. Use Guardian Avionics drawing "FDR 200 Rev. A or later as a reference.

INSTALLATION INSTRUCTIONS

The latest installation drawings will be available at this link to the Company website. These can be referred to in case of a doubt. In all cases, the installation kit will consist of the following –

- Mount and Power Package for the Mount, Power Supply, Lightning Cable, Audio Cable

The kit can also be procured in parts with the mount and other components being procured separately.

The following documents the installation criteria for all series of mounts. Detailed drawings for each mount are available in the Appendix of this manual.

- (a) Choose a location in the instrument panel for the installation of the mount with space available (see section 9 for cutout requirements).
- (b) Install the USB circuit breaker (2 AMP) on the non-essential power buss. This will ensure that in the event of a generator failure, USB charging will cut off to minimize load on the aircraft battery.
- (c) Connect the power line to the +14V or +28V DC power output as applicable

- (d) If a jumper wire is required to connect the USB charger to the CB, use 20 Gauge MIL-W-22759/16 or equivalent wire. Wiring is to be performed in accordance with AC 43.13-1B, 2A, acceptable methods, techniques and practices. These instructions are available online [here](#).

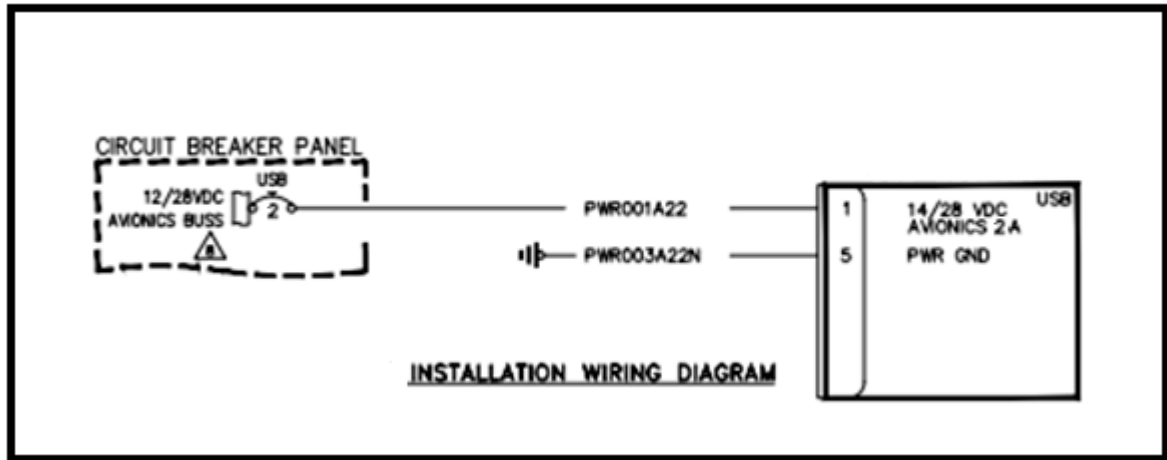


Figure 1 – Wiring Diagram

- (e) Create a mounting hole in the selected location of a size as indicated in Appendix and mount the device.

INSTALLATION CHECKS

- With the USB charger disconnected from the aircraft harness, carry out a continuity check of the added wiring.
- Connect the USB charger connector to the aircraft harness. Turn aircraft Battery Switch ON. Close USB circuit breaker. Slide the iPad / iPhone into the mount. Check for firm mounting and correct connection of Lightning and audio cables.
- Check the USB charger for correct operation. Verify the charger can be shut off with the USB circuit breaker

TECHNICAL SPECIFICATIONS

- Power supply: 9 - 28 V DC
- Power consumption: less than 2 Amps

- Current drawn: up to 1.4 amps for 14V system and .9 Amps for 28V dual USB
- Fuse: Use GMI type, fast acting fuse 2A 250V
- Temperature range: -20C to +65C
- Humidity range: 10-90% RH (Non condensing)

MAINTENANCE INSTRUCTIONS

The iFDR Mounts do not require periodic scheduled servicing or periodic scheduled preventive maintenance.

The iFDR series Mounts must be returned to Guardian Avionics LLC for any servicing or repairs that may be required.

The aircraft wiring harness, circuit breaker shall be included in the maintenance instructions for general visual inspections for system integrity, installation security, corrosion and chaffing.

SCHEDULED MAINTENANCE

On Condition, No Scheduled maintenance is required.

WEIGHT AND BALANCE / EQUIPMENT LIST

Model in Use	Weight Empty(lbs)	Weight with iPad/ iPhone
iFDR 6	0.25	0.53
iFDR 6+	.279	0.659
iFDR Mini	0.5	1.15
iFDR Air	0.74	1.7
iFDR Pro	0.95	2.54

LIMITATIONS

No Change

PERFORMANCE

No Change

UNIT FAILURE INDICATION

Two types of failure are possible

- (a) The mount does not hold the device correctly
- (b) The Lightning or the Audio connectors do not work

In both cases, the unit should be returned to Guardian Avionics for repair.

WARRANTY

WARRANTY COVERAGE: CO GUARDIAN LLC. WARRANTS TO THE ORIGINAL CONSUMER PURCHASER, THAT THIS DETECTOR WILL BE FREE OF DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF PURCHASE. THE MANUFACTURER'S LIABILITY HEREUNDER IS LIMITED TO REPLACEMENT OF THE PRODUCT, REPAIR OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT WITH A REPAIRED PRODUCT AT THE DISCRETION OF THE MANUFACTURER. THIS WARRANTY IS VOID IF THE PRODUCT HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, TAMPERING OR OTHER CAUSES NOT ARISING FROM DEFECTS IN MATERIAL OR WORKMANSHIP. THIS WARRANTY EXTENDS TO THE ORIGINAL CONSUMER PURCHASER OF THE PRODUCT ONLY.

Warranty Disclaimers: Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and fitness for a particular purpose, are limited in duration to the above warranty period. In no event shall the Manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitations or exclusions may not apply to you.

Legal Remedies: This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

Warranty Performance: During the above warranty period, your product will be replaced with a comparable product if the defective product is returned, postage prepaid, to Guardian Avionics LLC, Customer Service Department, 1951 East Airport Drive, Tucson, AZ 85756, together with proof of purchase date. Please include a note describing the problem when you return the unit. The replacement product will be in warranty for the remainder of the original warranty period or for six months whichever is longer. Other than the cost of postage, no charge will be made for replacement of the defective product.

Important: Do not attempt to open unit. If unit is opened, warranty will be void.

Appropriate insurance coverage is your responsibility. Consult your insurance agent.

NOTE

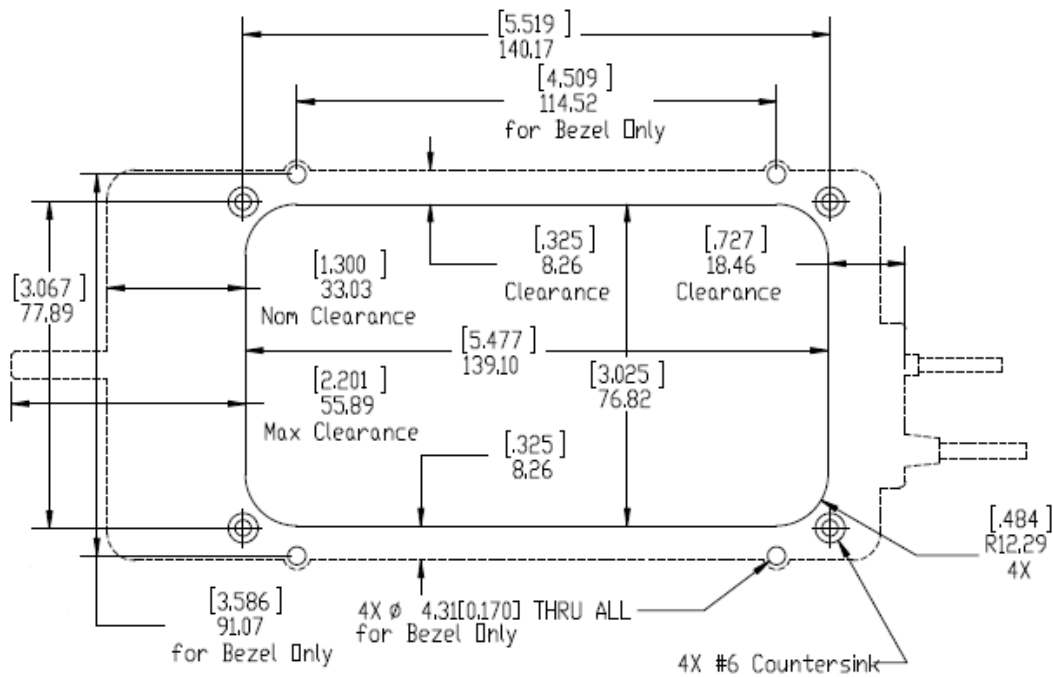
The warranty will be void if the unit is opened or tampered with

APPENDIX - MOUNTING DETAILS

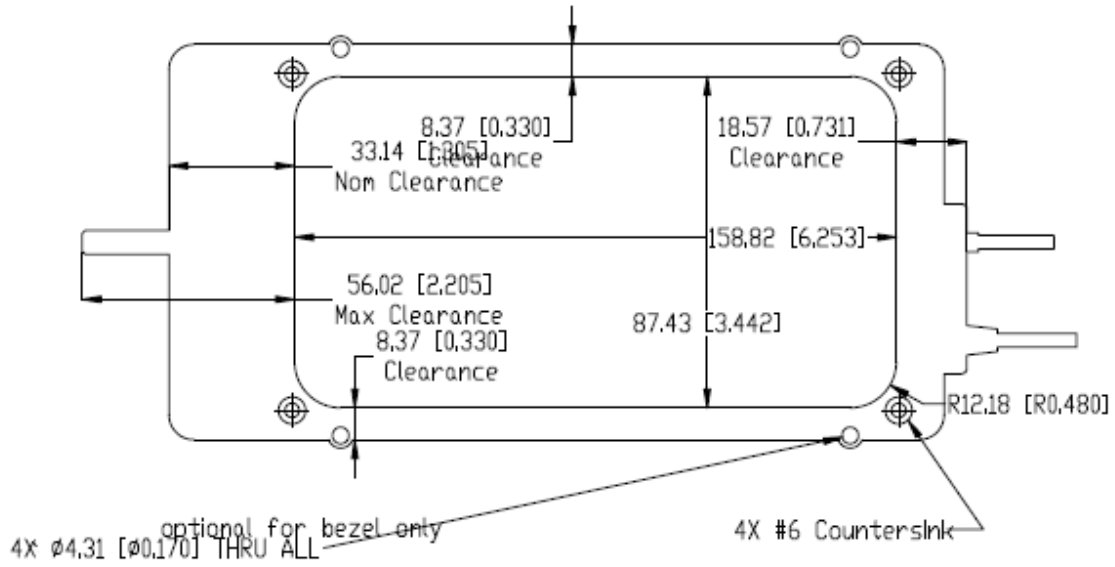
All values are in millimeters, values in brackets [] are in inches

MOUNTING HOLE DIMENSIONS

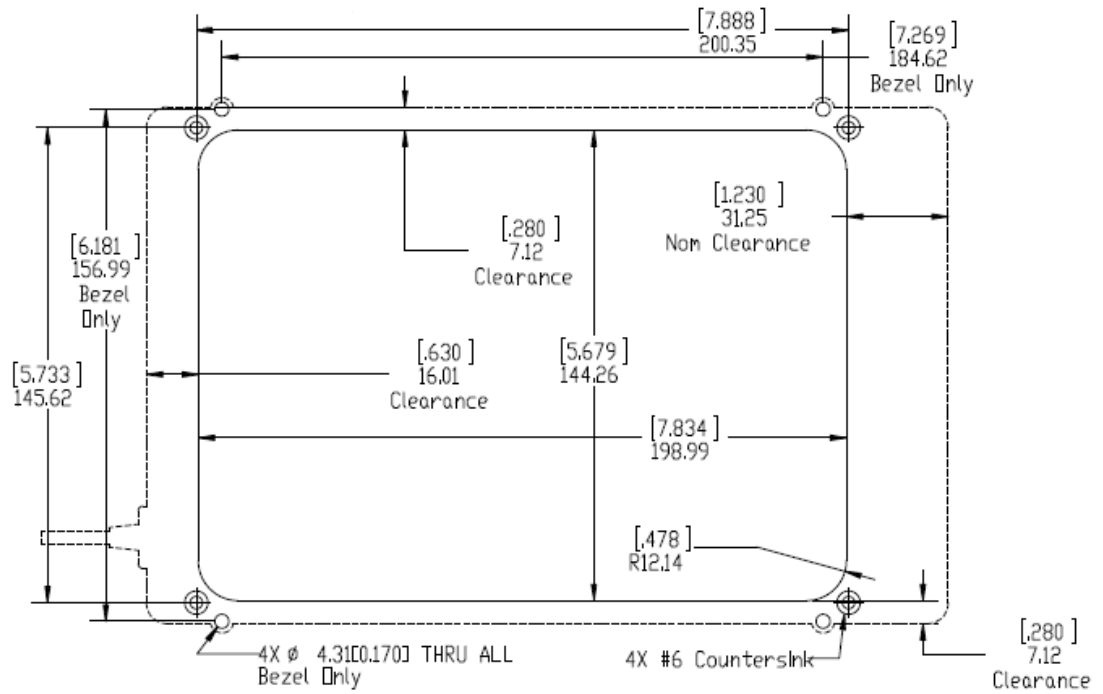
iPhone 6



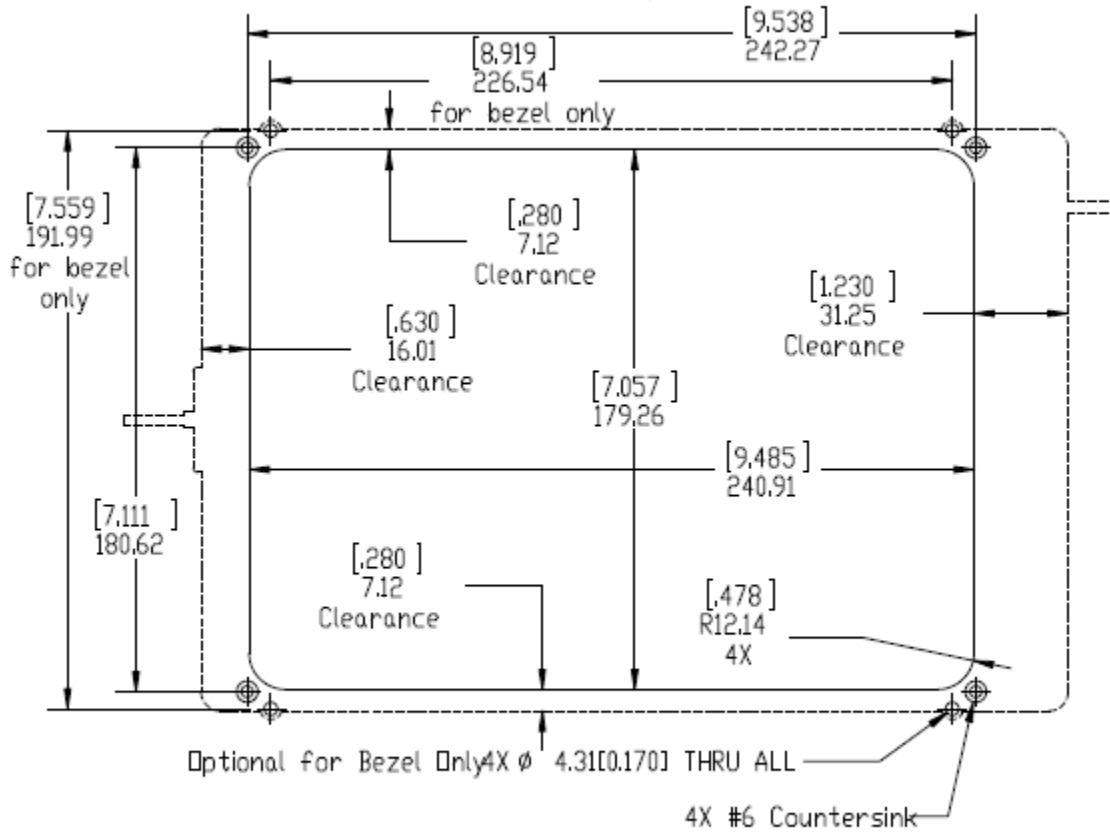
iPhone 6+



iPad Mini



iPad Air2



iPad Pro

