WJ39-075 Low Impedance Adapter – 75 Ohm Mic – 150 Ohm Phones

Installation Manual

Rev. A

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IMPORTANT:

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To confirm the current revision status of this manual, visit the JAC website:

www.jupiteravionics.com

RECORD OF REVISIONS			
Revision	**Rev Date**	**Description**	**ECR**
A	Sep 2015	Initial release, Serial number 1001 and higher.	3372

Prepared:	Checked:	Approved:
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Table of Contents

WJ39-001 Low Impedance Adapter - 75 Ohm Mic – 150 Ohm Phones

SECTION 1 - DESCRIPTION

1.1 System Overview

The WJ39-075 Low Impedance Adapter - 75 Ohm Mic – 150 Ohm Phones is complementary to the JA39-075 Low Impedance Headset Adapter and is used to adapt the wiJAC™ JA61 Intercom Adapter to a low impedance (75 ohm) aircraft audio system.

1.2 Features Overview

The WJ39-075 features one male and one female TJ-120 telephone jack and follows industry standard interconnect for aviation headsets.

The WJ39-075 unit features an industry standard headset pin-out to allow plug and play operation.

The WJ39-075 plugs into the aircraft audio panel between the panel and the JA61-001 Wireless Aircraft Intercom adapter via a standard civilian aviation jack.

1.3 Inputs and Outputs

Refer to the WJ39-075 connector maps for the mating connector designators and pin assignments for the input and output signals.

1.3.1 Inputs

Name	Qty	Type
MIC INPUT HI/LO	2	Audio signal
PHONES INPUT HI/LO	2	Audio signal

1.3.2 Outputs

Name	Qty	Type
MIC OUPUT HI/LO	2	Audio signal
PHONES OUPUT HI/LO	2	Audio signal

1.4 Specifications

1.4.1 Electrical Specifications

1.4.1.1 Audio Performance

Rated Input Level

Phones rated input level	7.75 Vrms ±10%
Microphone input level	250 mVrms ±10%

Rated Output Level

Phone rated output	7.75 Vrms ±10%
Microphone rated output	850 uVrms ±10%

Audio Frequency Response

Audio output audio frequency response	≤3dB from 300 to 6000 Hz

Distortion Characteristics

Audio output distortion at rated power	≤10%

Input Impedance

Microphone input Impedance	150 Ω ± 10%

Audio Noise Level without Signal

Noise level below the rated output	≥50 dB

1.4.2 Mechanical Specifications

Height		2.85 in [72.4 mm] max
Depth		1.02 in [25.9 mm] max
Width		0.74 in [18.8 mm] max
Weight		0.072 lb [32.4 g] max
Material		Polycarbonate
Connectors (2):	J1	One 4 pole TJT-120 jack
	J2	One 4 pole TP-120 plug
Mounting		Insertion into TJ-120 jack
Installation Kit		Not Required.

SECTION 2 – INSTALLATION

2.1 Introduction

This section contains unpacking and inspection procedures, installation information, and post-installation checks.

2.2 Continued Airworthiness

Maintenance of the WJ39-075 is on condition only. Scheduled inspection and/or periodic maintenance of this unit is not required.

2.3 Unpacking and Inspecting Equipment

Unpack the equipment carefully. Check for shipping damage and report any problems to the relevant carrier. Confirm that the Certificate of Conformance is included. Complete the on-line warranty card from the Jupiter Avionics Corporation (JAC) website – www.jupiteravionics.com/warranty.

2.3.1 Warranty

All WJ39 products manufactured by JAC are warranted to be free of defects in workmanship or performance for 1 year from the date of purchase from an approved JAC dealer or agency. This warranty covers the cost of all materials and labour to repair or replace the unit, but does not include the cost of transporting the defective unit to and from JAC or its designated warranty repair centre, or of removing and replacing the defective unit in the aircraft. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

If the on-line warranty card is not completed, the product will be warranted from the date of manufacture.

Contact JAC for return authorization, and for any questions regarding this warranty and how it applies to your unit(s). JAC is the final arbiter concerning warranty issues.

2.4 Installation Procedures

WARNING: **Loud noise can cause hearing damage. Set audio system headset volumes to minimum before conducting tests, and slowly increase the volume to a comfortable listening level.**

2.4.1 Installation Limitations

The WJ39 may be installed only by following the applicable airworthiness requirements.

2.4.2 Cabling and Wiring

The WJ39 plugs directly into a standard aircraft audio system headset jack. All wires to said connector shall be selected in accordance with the original aircraft manufacturer's maintenance instructions, or AC43.13-1B Change 1, Paragraphs 11-76 through 11-78. Unshielded wire types shall qualify to MIL-W-22759 as specified in AC43.13-1B Change 1, Paragraphs 11-85, 11-86, and listed in Table 11-11. For shielded wire applications, use Tefzel MIL-C-27500 shielded wire with tag ring or equivalent (for shield terminations) to make the most compact and easily terminated interconnect. Follow the Connector Map in Appendix A of this manual.

2.4.3 Mechanical Installation

The WJ39-075 can be mounted in any attitude and location sufficient clearance for the connector body and headset plug. It requires no direct cooling.

CAUTION: **When plugged in to an aircraft audio jack, the WJ39 could create excessive strain on the connector. Ensure that the WJ39 is protected from impact, and that no tension is applied to any attached intercom adapter cord.**

2.4.4 Post Installation Checks

2.4.4.1 Configuration

The WJ39 has no configuration options.

2.4.4.2 Power on Checks.

Power up the aircraft's systems and confirm operation of all functions of the WJ39.

a) Begin with a low impedance headset attached. Confirm correct operation for both Mic and phones output. Do not proceed until the headsets are functioning correctly.

b) Unusual buzzes, hums or other background audio are symptomatic of multiple grounds, or noisy external systems such as blowers or pumps sharing wiring with the audio system.

2.5 System Operation

The WJ39-075 is designed to operate regardless of the input and output polarities of the attached audio controller and headset.

2.5.1 Microphone Operation

The WJ39-075 attenuates the MIC INPUT audio and routes it to the MIC OUTPUT.

2.5.2 Phones Operation

The WJ39-075 PHONES INPUT audio is routed directly to the PHONES OUTPUT. There is no impedance matching or loads.

2.6 Installation Kit

The WJ39-075 does not require an installation kit.

2.7 Installation Drawings

The drawings and documents required for Installation can be found in Appendix A of this manual.

Installation Manual

Appendix A - Installation Drawings

A1 Introduction

The drawings necessary for installation and troubleshooting of the WJ39-075 Low Impedance Adapter - 75 Ohm Mic – 150 Ohm Phones are in this Appendix, as listed below.

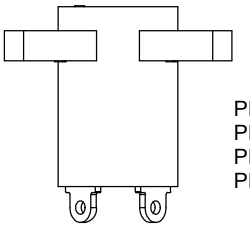
A2 Installation Drawings

DOCUMENT	Rev
WJ39-075 Connector Map	A
WJ39-075 Interconnect	A
WJ39-075 Mechanical Installation	A

Aircraft

P1

TJ-120 or U-92 A/U
MATING CONNECTOR



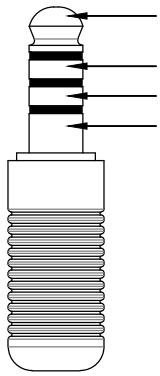
PIN 1: Microphone Input Hi
PIN 2: Phones Output Hi
PIN 3: Microphone Input Lo
PIN 4: Phones Output Lo

View of Aircraft mating connector

JA61 Connector

P2

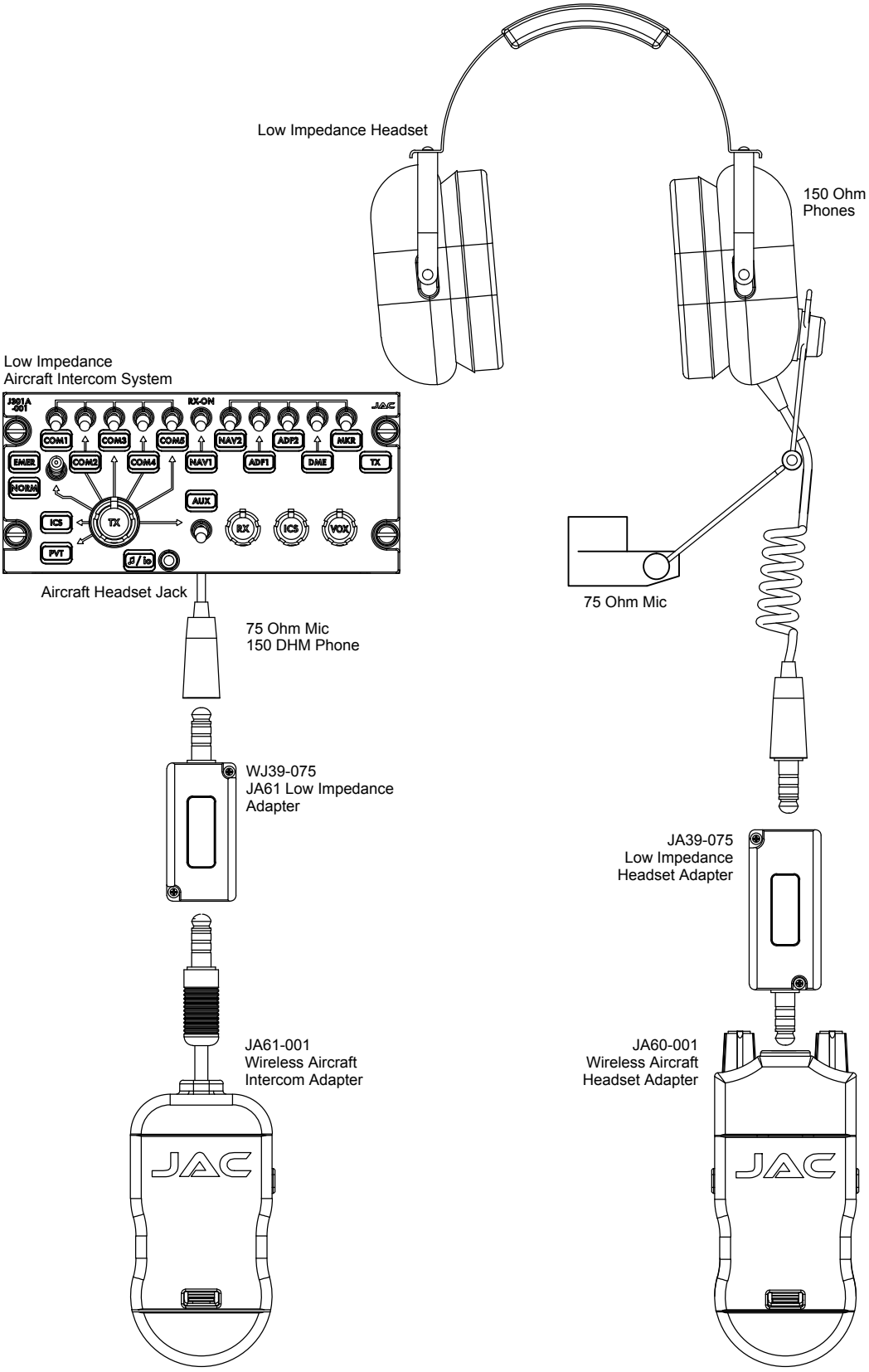
U174/U or U-93A/U
MATING CONNECTOR



TIP / PIN 1: Microphone Input Hi
1st Ring / PIN 2: Phones Output Hi
2nd Ring / PIN 3: Microphone Input Lo
3rd Ring / PIN 4: Phones Output Lo

View of JA61 mating connector

PREPARED	TAT	JUPITER AVIONICS CORPORATION
CHECKED	JAC 09-11-15 DS	TITLE: JA61 Low Impedance Adapter 75 Ohm Mic - 150 Ohm Phones
APPROVED	JAC 09-11-15 KDV	NCAGE CODE: L00N3 / PART NO.: WJ39-075 / SHEET: 1/1
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: WJ39-075 Connector Map Rev A.dwg



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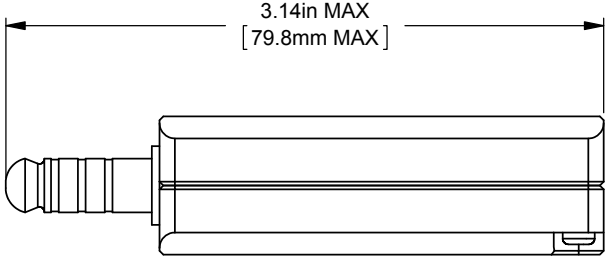
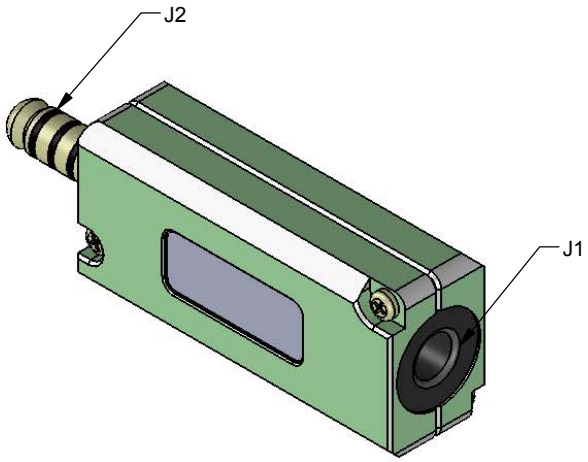
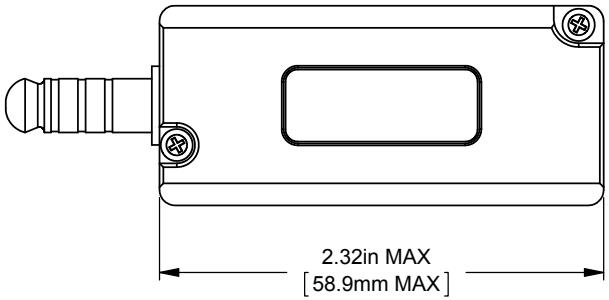
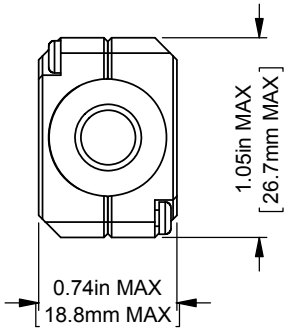
APPROVED	JAC 09-10-15 KDV	NCAGE CODE: L00N3 / PART NO.: WJ39-075 / SHEET: 1/1
CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.		DOC NO.: WJ39-075 Interconnect Rev A.dwg









WEIGHT: 0.072 lbs [32.4 g] MAX.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ARE IN DEGREES TOLERANCES: 1 DEC PLACE: ± 0.1 2 DEC PLACE: ± 0.01 3 DEC PLACE: ± 0.005 ANGLES: ± 0.5 DEG	PREPARED	TAT
	CHECKED	JAC 09-11-15 DS
	APPROVED	JAC 09-11-15 KDV
MATERIAL: N/A	CONFIDENTIAL & PROPRIETARY TO JUPITER AVIONICS CORP.	
FINISH: N/A	DRAWING NOT TO SCALE	

JUPITER AVIONICS CORPORATION

TITLE: JA61 Low Impedance Adapter - 75 ohm Mic

NCAGE CODE	PART NO.	SHEET
L00N3	WJ39-075	1/1

DOC. NO.
WJ39-075 Mechanical Installation Rev A.SLDDRW