

Use this form for each user-supplied instrument on the **University of Wyoming King Air**. Download this form and save it to a computer, enter the requested information and then save as a PDF. Upload each PDF file individually to the online aircraft request form. Complex instruments may require more than one form.

*\*\*Note: user-supplied racks, inlets, and externally mounted instruments will require FAA approval and therefore require a minimum 6-month lead-time.*

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| **User-supplied Scientific Payload** | |
| Instrument name |  |
| Instrument PI |  |
| Is this a mission critical instrument? |  |
| Provide the primary contact name, institution, phone, and email. |  |
| Instrument description (Please provide publication(s) if available.) |  |
| Will a member of the PI Team be available for the duration of the project to operate and maintain the instrument? |  |
| How many full-time operators during flight are needed? |  |
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| Provide the individual weight and description of each component (e.g., pump, laptop, rack). Please include tubing, connectors and wiring. Additional forms may be used for the individual components of a complex instrument. |  |
| Provide the dimensions, enclosure description and Center of Mass (if known) of each component (e.g., pump, laptop, rack). |  |
| Provide the rack-mountable 19” panel space required. Note: Panel depth varies depending on location; limited depths beyond 18” are available, please consult KA Facility. |  |
| Will the PI team supply an equipment rack(s) that has been certified to survive 9G crash loads?\*\* |  |
| Has the instrument previously flown on the King Air or NCAR/EOL or other aircraft? |  |
| Provide the desired external sensor location (if any).\*\* |  |
| Describe the inlet requirements (e.g., Special Type, User Supplied; or inlet material, size, flow rate, distance to instrument).\*\* |  |
| Can the instrument and inlet handle flight in cloud and precipitation? For sampling instruments, can water ingestion be tolerated? |  |
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| List the maximum power draw as shown on the instrument panel placard (watts, volts, amps, PF).  (Please include separate values for each individually powered component) |  |
| Provide the average running (steady-state) power measured (watts, volts, amps, PF). |  |
| Provide power required for de-ice (watts, volts, amps) and the type of heat provided \*\*. |  |
| Provide the type of power required (DC or 60 Hz AC) (Note: The King Air does not typically support 400 Hz AC). |  |
| Is any part of the instrument a commercial off-the-shelf (COTS) device? |  |
| If so, please list the manufacturer, model #, contact information and country of origin. |  |
| Does a nationally recognized testing laboratory list the instrument? (e.g., UL, CSA, ETL, CE) |  |
| Does the instrument need to be powered continuously or require extended start-up/warm-up or shutdown times? |  |
| Does the instrument contain any non-metallic or other materials which may not be flame-retardant (e.g., PVC, plastics, 3D-printed parts, wood, rubber, composites) |  |
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| List hazardous materials utilized by the instrument (e.g., cryogens, EMF, high-energy rotors, flammable, toxic or oxygen depleting substances). |  |
| List the required compressed gases, number/size of cylinders required onboard and frequency of replacement. |  |
| List any radioactive sources or materials in the payload. |  |
| List any lasers used (type, wavelength, power, class, exposed/enclosed beam, terminated/unterminated emission). |  |
| List all export-controlled parts in the equipment (e.g., ITAR or CCL [ECCN/EAR]). |  |
| What are the operational and storage temperature limits of the instrument; does it need to be protected from freezing? |  |
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| If the instrument signal(s) need to be recorded on UW’s Aircraft Data System, provide the following: |  |
| Signal format (digital, analog, serial, network) |  |
| Signal description |  |
| Sample rate (e.g., 1, 5, 250 Hz) |  |
| Will the instrument be using a user-provided data recording system? |  |
| Is a real-time, in-flight, “IWG-1” KA-measurement feed needed in Ethernet or serial (RS-232, RS-422) format? |  |
| Is an NTP, IRIG or PPS time-code feed needed? |  |
| How many and what type of network connections are needed? |  |
| How is the instrument data displayed (e.g., laptop, VNC/RDP remote connection, webpage, front panel indicators) |  |
| Will you need to install instrument software on a King Air display computer (Windows/Linux only)? |  |
| Provide the number of laptop computers required for onboard use. |  |
| Will the instrument be actively controlled from the ground using the SATCOM link (as opposed to just looking at real-time downloaded data)? |  |
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| Are special sensor calibration services/flights required? |  |
| Are there any other requirements for this user-supplied instrument that the University of Wyoming or NCAR/EOL should be aware of? |  |
| Specify type and lead-time if UWYO support is required in preparing the instrument(s) for use on the aircraft (other than inspection, installation and power hook-up). UWYO can provide limited design and fabrication support for hardware and electronic interfaces. (If so, specify type and lead-time). |  |
| Provide the on-site data access requirements. |  |

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| **Payload Ground Support Needs for User-Supplied Instrumentation** | | | |
|  | Pre-flight needs on flight days | Post-flight needs on flight days | Routine maintenance on non-flight days |
| Access (hrs) |  |  |  |
| Power (hrs) |  |  |  |
| Special support needs |  |  |  |