



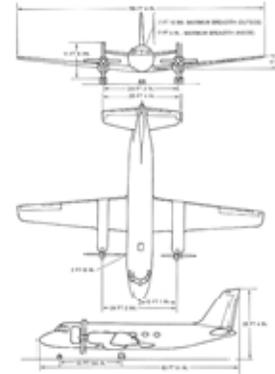
# NIDA SPECIFICATIONS



## FUNDAMENTALS OF AVIATION TECHNOLOGY

### General Description

The Nida Fundamentals of Aviation Technology curriculum is presented in Computer Assisted Instruction (CAI) format, utilizing the educational advantages of graphics, animation, and automated record keeping. The courseware is designed as individual topic-specific lessons that can be assigned as a complete program or selectively administered.



### Topics

#### **Introduction to Aviation Maintenance Technology**

Introduction to Aviation Technology  
 General Aircraft Principles  
 Aircraft Structures  
 Aircraft Power Plants  
 Foreign Object Elimination

#### **Math for Aircraft Technicians**

Fractions  
 Fraction Operations  
 Decimal Fractions  
 Percents  
 Signed Numbers  
 Exponents and Square Roots  
 Metric Notation  
 Ratio and Proportion  
 Fundamentals of Algebra  
 Linear Equations  
 Solving Linear Equations  
 Angular and Circular Measurements  
 Area Measurements  
 Volume Measurements  
 Velocity and Acceleration Measurements  
 Force Measurements  
 Work and Power Measurements

#### **Science for Aircraft Technicians**

Introduction to Chemistry  
 Matter and Energy  
 Simple Machines  
**Aircraft Publications**  
 Aircraft Regulatory Publications  
 Aircraft Drawings  
 Aircraft Technical Publications  
**Line Maintenance**  
 Flight Line Safety  
 Flight Line Fire Protection  
 Aircraft Ground Operations

FundamentalAviationTechnology 1011

#### **Nida Corporation**

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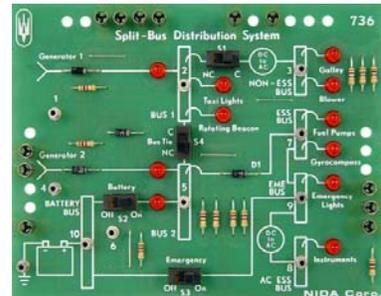
# NIDA SPECIFICATIONS



## AIRCRAFT ELECTRICAL EXPERIMENT CARD SET MODEL 1438P

### General Description

The Aircraft Electrical experiment card set is designed for use with the Nida Model 130E training console. Students will be introduced to Aircraft Wiring and Aircraft Power. The various types of wires, cables, connectors, and tools are covered in theory then they build actual wire & cable assemblies and test the continuity of each. Aircraft Power covers batteries, DC & AC generation, basic aircraft & multi-engine aircraft power distribution systems each with a hands-on experiment emphasizing troubleshooting.



### Card Specifications

- Compatible with computer assisted instruction.
- Pre-assembled circuits require no assembly, jumper wires, or soldering.
- Exposed components provide maximum technician accessibility.
- Push-on, pull-off connections ensure self-cleaning of contacts.
- Powered automatically by computer instruction or manual push-button action.
- Nondestructive faults activated by computer instruction or manual push-button action.
- Generated signals are measurable with standard test equipment.

### Experiment Cards

- DC Motor/Generator PC130-180
- Cable Tester I PC130-W6
- Cable Tester II PC130-W7
- Power Distribution System PC130-734
- AC to DC Generator PC130-735

- Split Bus Distribution System PC130-736
- Troubleshooting Logic PC130-739
- Power Generation PC130-740
- Power Distribution PC130-741
- Systems PC130-742

- Cockpit Wiring PC130-746
- Bulkhead Harness Connection PC130-747
- Aircraft Lighting PC130-748

Also Included:

Model 1410  
Soldering Program  
(see separate specification)  
Model 1438 KIT  
(see separate specification)

31-OCT-2013

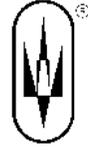
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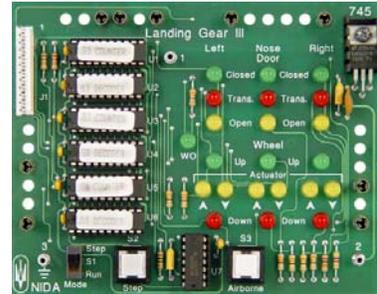
# NIDA SPECIFICATIONS



## AIRCRAFT ELECTRICAL SYSTEMS EXPERIMENT CARD SET MODEL 1438S

### General Description

The Aircraft Electrical Systems experiment card set is designed for use with the Nida Model 130E training console. Students will be introduced to Aircraft Airframe Systems and Aircraft Engine Systems. The following systems are covered; Aircraft Lighting, Aircraft Ice & Rain Protection, Environmental Control, Landing Gear, Aircraft Braking, Fire Warning & Extinguishing, Aircraft Fuel, and Aircraft Ignition. Students will first be taught the theory of each then apply each with a hands-on troubleshooting experiment using standard test equipment.



### Card Specifications

- Compatible with computer assisted instruction.
- Pre-assembled circuits require no assembly, jumper wires, or soldering.
- Exposed components provide maximum technician accessibility.
- Push-on, pull-off connections ensure self-cleaning of contacts.
- Powered automatically by computer instruction or manual push-button action.
- Nondestructive faults activated by computer instruction or manual push-button action.
- Generated signals are measurable with standard test equipment.

### Experiment Cards

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Aircraft Environment Power Source<br/>PC130-731</li> <li>• Aircraft Environment Thermostat<br/>PC130-732</li> <li>• Aircraft Heat Valve Control<br/>PC130-733</li> <li>• Fire Warning System<br/>PC130-738</li> <li>• Landing Gear I<br/>PC130-743</li> </ul> | <ul style="list-style-type: none"> <li>• Landing Gear II<br/>PC130-744</li> <li>• Landing Gear III<br/>PC130-745</li> <li>• Incandescent Lights<br/>PC130-749</li> <li>• Interior Lights<br/>PC130-750</li> <li>• Strobe Light<br/>PC130-751</li> <li>• Exterior Lights<br/>PC130-752</li> </ul> |
|--|--|

1438S Aircraft Electrical Sys 1011

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# NIDA SPECIFICATIONS



## AIRCRAFT ELECTRONIC SYSTEMS EXPERIMENT CARD SET MODEL 1438E

### General Description

The Aircraft Electronic Systems experiment card set is designed for use with the Nida Model 130E training console. Students will be introduced to Aircraft Instrument Systems and Aircraft Communications Systems. Topics include Tachometer, Torque, & Position-Indicating Systems, Temperature & Fuel Flow Indicating Systems, Pressure Sensing & Chip Detection Systems, Aircraft Master Warning & Annunciator Systems, and Aircraft Antenna Systems. Students will first be taught the theory of each then apply each with a hands-on troubleshooting experiment using standard test equipment.



### Card Specifications

- Compatible with computer assisted instruction.
- Pre-assembled circuits require no assembly, jumper wires, or soldering.
- Exposed components provide maximum technician accessibility.
- Push-on, pull-off connections ensure self-cleaning of contacts.
- Powered automatically by computer instruction or manual push-button action.
- Nondestructive faults activated by computer instruction or manual push-button action.
- Generated signals are measurable with standard test equipment.

### Experiment Cards

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Temperature Control PC130-189</li> <li>• Temperature Display PC130-190</li> <li>• Barometer Circuit I PC130-241</li> </ul> | <ul style="list-style-type: none"> <li>• Barometer Circuit II (Display) PC130-242</li> <li>• AC to DC Generator PC130-735</li> <li>• Master Warning &amp; Annunciators PC130-737</li> </ul> |
|---|---|

1438E Aircraft Electronic Sys 1011

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# NIDA SPECIFICATIONS



## AVIONICS DATA COMMUNICATIONS EXPERIMENT CARD SET MODEL 1438D

### General Description

The Avionics Data Communications experiment card set is designed for use with Nida Model 130 series training consoles. Students will identify systems and instrumentation that use data communication, describe how communications systems use protocol to transfer data and observe the transmission and reception of serial data during a hands-on experiment. The electrical characteristics of both RS232 and RS485 are identified while measuring line interface voltages as data is being transferred and received. Bus systems are explored by describing the operational characteristics and actual measurement of signals.



### Card Specifications

- Compatible with computer assisted instruction or traditional hard copy text materials.
- Pre-assembled circuits require no assembly, jumper wires, or soldering.
- Exposed components provide maximum technician accessibility.
- Push-on, pull-off connections ensure self-cleaning of contacts.
- Powered automatically by computer instruction or manual push-button action.
- Nondestructive faults activated by computer instruction or manual push-button action.
- Generated signals are measurable with standard test equipment.

### Experiment Cards

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• RS232 &amp; RS485 Interface PC130-232 (2ea.)</li> <li>• Digital Transmission Serial (Sender) PC130-265</li> <li>• Digital Transmission Serial (Receiver) PC130-266</li> </ul> | <ul style="list-style-type: none"> <li>• Tri-State Transmission Parallel (Sender) PC130-267</li> <li>• Tri-State Transmission Parallel (Receiver) PC130-268</li> <li>• Digital Readout Assembly PC130-284</li> </ul> |
|--|--|

1438D AvionDataComm-0902

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