

OVERVIEW

In some aircraft, such as F-16 fighter jets, F-15 fighter jets, A-10 attack aircraft and F-22 fighter jets, a center instrument pedestal comprises components such as instruments, gauges, and/or switches that provide information and functionality to a pilot. For example, the components may comprise altimeters, airspeed indicators, directional gyroscopes, vertical velocity indicators, navigation mode selectors, and fuel switches.

SUMMARY OF EXAMPLE EMBODIMENTS

According to a first aspect, there is provided a pedestal canister, comprising: a housing configured to be disposed within a pedestal aperture of a pedestal mounting block, the housing comprising: a mounting plate configured to couple the canister to the mounting block; and a body coupled to the mounting plate, the body comprising a rear plate opposite from the mounting plate; one or more processing modules disposed within the body, a processing module configured to facilitate an operation of an associated aircraft instrument; a front connector disposed in the mounting plate, the front connector operable to mate the pedestal canister with a display interface fitted to the housing over the pedestal canister; and one or more aircraft interfaces disposed in the rear plate, an aircraft interface configured to couple a processing module to the associated aircraft instrument.

According to a second aspect, there is provided a pedestal canister, comprising: a housing configured to be disposed with a pedestal aperture of a pedestal mounting block, the housing comprising: a mounting plate configured to couple the canister to the mounting block; and a body coupled to the mounting plate, the body comprising a rear plate opposite from the mounting plate; one or more aircraft interfaces disposed in the rear plate, the one or more aircraft interfaces configured to couple the canister to an aircraft instrument; a cooling fan disposed in the mounting plate; a plurality of power modules disposed within the canister and coupled to an aircraft interface; and a plurality of capacitors disposed within the canister.

In accordance with one embodiment of the present disclosure, a pedestal canister includes a housing, one or more processing modules, and one or more aircraft interfaces. The housing is configured to be disposed within a pedestal aperture of a pedestal mounting block. The housing includes a mounting plate configured to couple the canister to the mounting block and a body coupled to the mounting plate. The one or more processing modules are disposed within the body and at least one processing module is configured to facilitate an operation of an associated aircraft instrument. The one or more aircraft interfaces include an aircraft interface configured to couple a processing module to the associated aircraft instrument.

Numerous technical advantages are provided according to various embodiments of the present disclosure. Particular embodiments of the disclosure may exhibit none, some, or all of the following advantages depending on the implementation. In certain embodiments, increased processing capability may be added and used for a number of applications, such as situational awareness capabilities for the pilot. In other embodiments, more processing power and memory storage capacity may be added to the aircraft without changing the current aircraft configuration. In some other embodiments the space allotted for existing aircraft instruments in the center pedestal may be used to host improved flight instruments.

Other technical advantages of the present disclosure will be readily apparent to one skilled in the art from the following figures, descriptions, and claims. Moreover, while specific advantages have been enumerated above, various embodiments may include all, some, or none of the enumerated advantages.

WHAT IS CLAIMED IS:

1. A pedestal canister, comprising:
a housing configured to be disposed within a pedestal aperture of a pedestal mounting block, the housing comprising:
5 a mounting plate configured to couple the canister to the mounting block; and
a body coupled to the mounting plate;
one or more processing modules disposed within the body, a processing module configured to facilitate an operation of an associated aircraft instrument; and
10 one or more aircraft interfaces, an aircraft interface configured to couple a processing module to the associated aircraft instrument.
2. The canister of Claim 1, wherein the body has a first dimension between 3.15 to 3.45 inches and a second dimension between 3.15 to 3.45 inches.
3. The canister of Claim 1, wherein at least one of the one or more aircraft interfaces is configured to couple with a connector associated with a display.
4. The canister of Claim 1, further comprising a plurality of processing
20 cards, the plurality of processing cards disposed within the body.
5. The canister of claim 1, further comprising a plurality of card mounts, the card mounts configured to mount one or more processing cards to the body.
- 25 6. The canister of Claim 1, wherein a processing module is programmed to:
generate flight data of a flight; and
send the flight data to an aircraft interface, the aircraft interface coupled to a
30 display interface.

7. The canister of Claim 1, wherein a processing module is programmed to:
generate a video signal; and
send the video signal to an aircraft interface for display.

8. The canister of Claim 1, wherein the body comprises an upper plate and a lower plate, the canister further comprising an electromagnetic interference (EMI) gasket, the EMI gasket positioned around a perimeter of the upper plate and a perimeter of the lower plate.

9. The canister of Claim 1, wherein:
the body comprises a plurality of side plates; and
a processing module is mounted to a side plate of the plurality of side plates.

10. The canister of Claim 1, wherein the canister is configured to be installed through the cockpit side of the pedestal mounting block.

11. A pedestal canister, comprising:
a housing configured to be disposed with a pedestal aperture of a pedestal mounting block, the housing comprising:
a mounting plate configured to couple the canister to the mounting
5 block; and
a body coupled to the mounting plate;
one or more aircraft interfaces, the one or more aircraft interfaces configured to couple the canister to an aircraft instrument;
a plurality of power modules disposed within the canister and coupled to an
10 aircraft interface; and
a plurality of capacitors disposed within the canister.
12. The canister of Claim 11, wherein the body has a first dimension between 3.15 to 3.45 inches and a second dimension between 3.15 to 3.45 inches.
13. The canister of Claim 11, wherein:
the body comprises a plurality of side plates; and
each of the plurality of power modules is mounted to a side plate of the
15 plurality of side plates.
14. The canister of Claim 11, wherein the body comprises an upper plate and a lower plate, the canister further comprising an electromagnetic interference (EMI) gasket, the EMI gasket positioned around a perimeter of the upper plate and a
20 perimeter of the lower plate.
15. The canister of Claim 11, wherein the canister is configured to be
25 installed through the cockpit side of the pedestal mounting block.

CLAIMS:

1. A pedestal canister, comprising:
 - a housing configured to be disposed within a pedestal aperture of a pedestal mounting block, the housing comprising:
 - a mounting plate configured to couple the canister to the mounting block; and
 - a body coupled to the mounting plate, the body comprising a rear plate opposite from the mounting plate;
 - one or more processing modules disposed within the body, a processing module configured to facilitate an operation of an associated aircraft instrument;
 - a front connector disposed in the mounting plate, the front connector operable to mate the pedestal canister with a display interface fitted to the housing over the pedestal canister; and
 - one or more aircraft interfaces disposed in the rear plate, an aircraft interface configured to couple a processing module to the associated aircraft instrument.
2. The canister of claim 1, wherein the body has a first dimension between 3.15 to 3.45 inches and a second dimension between 3.15 to 3.45 inches.
3. The canister of claim 1, further comprising a plurality of processing cards, the plurality of processing cards disposed within the body.
4. The canister of claim 1, further comprising a plurality of card mounts, the card mounts configured to mount one or more processing cards to the body.
5. The canister of claim 1, wherein a processing module is programmed to:
 - generate flight data of a flight; and
 - send the flight data to an aircraft interface, the aircraft interface coupled to a display interface.
6. The canister of claim 1, wherein a processing module is programmed to:
 - generate a video signal; and
 - send the video signal to an aircraft interface for display.

7. The canister of claim 1, wherein the body comprises an upper plate and a lower plate, the canister further comprising an electromagnetic interference (EMI) gasket, the EMI gasket positioned around a perimeter of the upper plate and a perimeter of the lower plate.
8. The canister of claim 1, wherein:
 - the body comprises a plurality of side plates; and
 - a processing module is mounted to a side plate of the plurality of side plates.
9. The canister of claim 1, wherein the canister is configured to be installed through the cockpit side of the pedestal mounting block.
10. A pedestal canister, comprising:
 - a housing configured to be disposed with a pedestal aperture of a pedestal mounting block, the housing comprising:
 - a mounting plate configured to couple the canister to the mounting block; and
 - a body coupled to the mounting plate, the body comprising a rear plate opposite from the mounting plate;
 - one or more aircraft interfaces disposed in the rear plate, the one or more aircraft interfaces configured to couple the canister to an aircraft instrument;
 - a cooling fan disposed in the mounting plate;
 - a plurality of power modules disposed within the canister and coupled to an aircraft interface; and
 - a plurality of capacitors disposed within the canister.
11. The canister of claim 10, wherein the body has a first dimension between 3.15 to 3.45 inches and a second dimension between 3.15 to 3.45 inches.
12. The canister of claim 10, wherein:
 - the body comprises a plurality of side plates; and
 - each of the plurality of power modules is mounted to a side plate of the plurality of side plates.

13. The canister of claim 10, wherein the body comprises an upper plate and a lower plate, the canister further comprising an electromagnetic interference (EMI) gasket, the EMI gasket positioned around a perimeter of the upper plate and a perimeter of the lower plate.
14. The canister of claim 10, wherein the canister is configured to be installed through the cockpit side of the pedestal mounting block.