Special Mission Audio Controllers

Flying Never Sounded So Good
CHECKLIST OF CAPABILITIES:

- Supports six (6) Com radio interfaces
- MultiTalker® True Dimensional 3D Sound – 9-Field selectable locations
- Up to three (3) control heads via RS-422
- Seven (7) place IntelliVox® intercom built in with ICS PTT & high noise (tighten squelch) configuration, expandable to 12 intercom stations
- flightmate® with IntelliStore™ – provides three (3) customizable audio alerts
- Bluetooth® interface for wireless phone and music
- Master Radio Volume
- Custom legends are quick and easy to order for professional tailored form and function
- Satellite Radio interface with full duplex phone
- Bluetooth® interface for wireless phone and music
- Six (6) switched inputs (Note: AUX switches 3 inputs)
- Optional Night Vision compliant to ANVIS III
- Individual volume controls with push-pull switches
- 1.88" DZUS mount connector
- Master Radio volume for each side
- Remote ICS (ISO/All/Crew) Control
- Public Address Output
- SWAP – only swaps the Coms you’re monitoring pilot side
- Radio Receive Indicator (RXI)
- Intercom call feature
- High noise configuration
- Reversionary mode
- No computers or custom software programs required
- Music mute control (Soft-Mute™)
- Dual CVR outs or single CVR w/ Speaker output
- 2-Year PS Engineering’s Pro-Support Warranty™

Our FAA TSO’d audio controllers provide a price/performance ratio that sets new standards. With 35 years of dedication to designing and manufacturing best in class of aircraft audio systems, gave the unique tool set to solve the demanding requirements of special mission aircraft. The all-digital hub system makes installation of multiple control heads much easier than old analog systems.

True dimensional sound, known as MultiTalker®, is exclusively licensed to PS Engineering by the USAF. By placing various COM audio in unique positions within a stereo headset, the pilot can pay attention to the radio that is important at any instant in time. The Wright Patterson Air Force Laboratory invested years in perfecting this technology. PS Engineering is now making it available to special mission aircraft.

See website for TSO Compliance Data.

CHECKLIST OF CAPABILITIES:

- Supports five (5) Com radio interfaces
- MultiTalker® True Dimensional 3D Sound – 9-Field selectable locations
- One Observer control head via RS-422
- Seven (7) place IntelliVox® intercom built in with ICS PTT & high noise (tighten squelch) configuration, expandable to 12 intercom stations
- Three (3) preprogrammed aural alerts, discrete high or low trigger
- Bluetooth® interface for wireless phone and music
- PIC – Pilot In Command override
- Fully DSP digital audio controller
- Comm Monitor function (primary mutes offside comms)
- RXI – Radio Traffic Active Indicator
- Custom configurable decals
- Offside Radio Audio Selectable (mute or active)
- Pilot isolation, Crew isolation and 4 transmit locations
- Bluetooth® & Hardwire stereo music input with Soft-Mute™ and Soft-Mute™ override
- Crew CALL function when observer control head is installed
- NVG optional w/backlight leveling adjustments
- Custom configurable pilot right or left seat
- Master Radio volume for each side
- Stuck PTT indicator with 35 second shutoff
- Four unswitched inputs with independent volume controls
- Dual CVR outs or single CVR w/ Speaker output
- Pilot (Com1, Nav1, Unsw1, Alerts) & copilot (Com 2) failsafe
- Plug and play with industry standard legacy audio controllers
- Pilot “hands on stick/yoke” comm swap mode (foot switch)
- Pilot “hands on stick/yoke” intercom ICS selection (foot switch)
- 2-Year PS Engineering’s Pro-Support Warranty™

Based upon the PAC45, the PAC45D provides dual audio control capability in a single control head. The Hub can be mounted to the control head or mounted remotely. An Observer control head can be added. The built-in stereo intercom will provide clean 200mW of audio power.

The built-in audio alert system provides 3-audio alerts in addition to the existing aircraft alert system. Bluetooth® allows the interface to a cellphone or stream audio alerts into the audio system.

See website for TSO Compliance Data.
Using the successful PAC45 as the foundation, the all digital PAC45A adds capabilities that have been requested from operators with unique and additional requirements.

Two additional Com radios were added for more advanced operational requirements. With a total of 8 Coms, MultiTalker® provides up to 9 unique positions so that each radio has its own location within the stereo headset.

Up to four control heads can be connected to the PAC45A hub. Like the PAC45, the hub is the central wiring location for all of the radios with a simple RS-422 serial bus connected to each control head, making the wiring significantly easier when compared to analog audio controllers.

The PAC45A integrates Receive Audio Indicator (RXI) inside the audio panel. Additionally, there are two built-in 10 watt speaker amplifiers for cockpit and public address.

Up to 9 audio alerts are also available, and through the use of IntelliStore each of these inputs can be custom recorded. Either rising, falling, or Sonalert inputs can activate these alerts. Once acknowledged, they are reset and then begin monitoring the inputs again. Sonalert triggers will remain active until the Sonalert voltage is removed.

CHECKLIST OF CAPABILITIES:

- Supports eight (8) Com radio interfaces
- MultiTalker® True Dimensional 3D Sound – 9 selectable locations
- Up to four (4) control heads via RS-422
- Nine (9) place IntelliVox® intercom built in with ICS PTT & high noise (tighten squelch) configuration, expandable to 12 intercom stations
- flightmate® with IntelliStore™ – provides nine (9) customizable audio alerts
- Two (2) built-in 10-watt speaker amplifiers
- Bluetooth® for cellphone and music inputs with Soft-Mute™ override
- Radio Receive Indicator (RXI)
- 4 independent CVR outputs
- Radio Mute Function (external switch)
- Independent and Master Radio Volume Controls
- Field configurable volume controls for unswitched & alerts
- High noise configuration (low mic gain)
- Offside Com allows monitoring other Coms when transmitting
- Optional Night Vision compliant to ANVIS III
- PIC (Pilot In Command) transmit override
- Pilot swap mode, only swaps on the Coms you’re monitoring
- Remote Intercom (ISO/ALL/CREW) Selector switch
- 35 second stuck PTT disconnect
- Field configurable switched settings – No computer necessary
- 5VDC to 28VDC lighting with field adjustable settings
- CALL feature
- Reversionary mode
- 2-Year PS Engineering’s Pro-Support Warranty™

### Audio Selector/Intercom

- **Audio Selector/Intercom**: FAA TSO C139a

### Environmental Specifications

- **Operating Temperature Range**:
  - Hub: -55º C to +70º C
  - Control head: -20º C to +55º C
- **Altitude**: Up to 50,000 feet in a non-pressurized area
- **Weight**:
  - HUB45R: 2.0 lbs. (.905 kg)
  - CTL45A: 1.0 lbs. (.45 kg)

### Dimensions

- **CTL45A**:
  - Height: 1.9" Width: 5.88" w/ mounting flanges
  - Length: 7.22", 12" w/ all connectors

### Power Requirements (Including Internal Lighting)

- **Voltage**: 28 VDC Systems 20.5VDC - 32.2VDC
- **Maximum Current**: 0.5 Amp (Externally protected by a 1A pull-type breaker)

### Audio Selector Specifications

- **Audio Selector panel input impedance**: 510 Ω
- **Input Isolation**: 60 dB (min.)
- **Switched Receiver Inputs**: 0 (COM 1-COM 8, Tel, AUX 1-8) (Can be relabeled as desired)
- **Unswitched Inputs**: 5
- **Transmitter Selections**: 0 (COM 1-COM 2, COM 3-COM 4, COM 5-COM 6, COM 7, COM 8) (Can be relabeled as desired)
- **Headphone Impedance**: 8 Ω – 600 Ω
- **Headphone Output**: 200 mW each side (left and right) headset, no clipping < .5% THD typical
- **Microphone Impedance**: 150 Ω - 600 Ω
- **Bluetooth® Radio**: Music and cell phone

### Intercom Specifications

- **Intercom Positions**: 9 places (with individual IntelliStore™ circuits)
- **Music Inputs**: 1 (wired) plus Bluetooth®
- **Music Muting**: < 30 dB “Soft-Mute” when Com or intercom active
- **Distortion**: < 1% THD @ 20-2000 mW into 8 Ω or 600 Ω
- **MIC Frequency Response**: 3 dB 300 Hz – 6000 Hz
- **Music Frequency Response**: 3 dB 20 Hz – 16 kHz
Marker Beacon Receiver (MB10/MB10R)

The MB10 is a 75 MHz Marker Beacon receiver with 3-lamp indications for ILS Systems. Also available as a remote-mounted unit - MB10R.

<table>
<thead>
<tr>
<th>MB10/MB10R SPECIFICATIONS</th>
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<tbody>
<tr>
<td>FAA-TSO</td>
</tr>
<tr>
<td>Power</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Sensitivity</td>
</tr>
<tr>
<td>1000 µV (Hard) (390 to 576 V/µs sqrt)</td>
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<tr>
<td>2000 µV (Soft) (130 to 200 V/µs sqrt)</td>
</tr>
<tr>
<td>Selectivity</td>
</tr>
<tr>
<td>External Lamp Output</td>
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<tr>
<td>positive when active, max. current 125 mA</td>
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<tr>
<td>MM Sense</td>
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<tr>
<td>Output impedance</td>
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<tr>
<td>Audio Output</td>
</tr>
<tr>
<td>Temperature</td>
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<tr>
<td>Altitude</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Dimensions</td>
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Tactical Radio Adapter (12100)

Headphone and microphone signals from non-General Aviation applications are not compatible with FAA compliant audio device design standards. The use of the 12100 converts these non-GA radios into the appropriate inputs and outputs so they will work with GA audio systems.

The 12100 audio input can be configured for inputs of either a 150 Ω or 8 Ω speaker while the microphone output will change non-carbon mic equivalent types to carbon mic equivalent.

The 12100 also provides the required mic bias source, if required. The 12100 is capable of providing side tone during transmissions.

<table>
<thead>
<tr>
<th>12100 SPECIFICATIONS - NOT FAA APPROVED</th>
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<tbody>
<tr>
<td>FAA-TSO pending</td>
</tr>
<tr>
<td>Power</td>
</tr>
<tr>
<td>Aircraft Radio Impedance</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Dimensions</td>
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GA to Mil Headset Adapter (HSA13)

The HSA13 is a remote-mounted low impedance to high impedance adapter for adapting military-style headsets to civil aviation audio systems. It is a direct replacement for the DB Systems DB213 microphone amplifier, and can also serve to convert high impedance headset audio to low impedance signals.

<table>
<thead>
<tr>
<th>HSA13 SPECIFICATIONS</th>
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<tbody>
<tr>
<td>FAA-TSO</td>
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<tr>
<td>Power</td>
</tr>
<tr>
<td>Conversion (switch configurable)</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Dimensions</td>
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IntelliPax™ Expansion Unit (116X6)

The IntelliPax™ is a 6-channel, hi-fi stereo expansion unit that can add 6 additional stereo headset intercom positions to PS Engineering’s intercoms and audio panels. A single shielded cable is connected between the device to be expanded and to the specific IntelliPax™ unit. IntelliPax™ has our much lauded IntelliVox®, an automatic VOX that eliminates any VOX adjustments.

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<thead>
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<th>116X6 SPECIFICATIONS - NOT FAA APPROVED</th>
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<tbody>
<tr>
<td>FAA-TSO pending</td>
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<tr>
<td>Power</td>
</tr>
<tr>
<td>Headphone Impedance</td>
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<tr>
<td>Audio Output</td>
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<tr>
<td>Weight</td>
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<td>Dimensions</td>
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PRD60 Audio Alert Unit

The PRD60 contains six stored messages. An outside annunciator, such as an electronic engine instrument, can trigger these messages. When there is an announcement, it will be repeated every two seconds until the remote mounted ACK button is pushed. This stops the played announcement until the next announcement is triggered (the next falling edge). For an additional fee, custom messages can be created.

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<thead>
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<th>PRD60 SPECIFICATIONS - NOT FAA APPROVED</th>
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<tbody>
<tr>
<td>FAA-TSO pending</td>
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<tr>
<td>Power</td>
</tr>
<tr>
<td>Number of Discrete Inputs</td>
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<tr>
<td>Weight</td>
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<td>Dimensions</td>
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Dual Speaker Amplifier (PSA210)

The PSA210 is a remote-mounted dual speaker amplifier that is capable of driving two 4 Ω speakers independently at 10 Watts each. This is a compact solution for providing clean audio output to cockpit, cabin, or public address speakers.

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<tr>
<th>PSA210 SPECIFICATIONS</th>
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<tr>
<td>FAA-TSO</td>
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<tr>
<td>Power</td>
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<tr>
<td>Output</td>
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<tr>
<td>Weight</td>
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<td>Dimensions</td>
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800-427-2376
www.PS-Engineering.com