

# Aircraft Audio Control Systems



## GENERAL AVIATION



**PMA450 Dual Bluetooth  
 Plug-N-Play GMA340/GMA345**



**PMA8000G - IntelliAudio®  
 Plug-N-Play GMA340/GMA345**



**PAR200B with TRIG Com**



**PMA7000BT Plug-N-Play  
 KMA28 - SL15 - PMA7000M-S**



**HUB45**



**HUB45A**

## SPECIAL MISSION



**CTL-J - 8 Coms**



**CTL-D AMS42/AMS44 Plug-N-Play**



**CTL-P - AMS43 Plug-N-Play**

## BUSINESS AVIATION



**CTL-L Business Aviation**

**HUB50**



***Flying Never Sounded So Good®***

**Audio control has been our only business since 1985 – we are single-minded in the pursuit of audio control perfection**

**PS Engineering has brought more audio control innovations to GA than any other company....period.**

*PS Engineering's team is dedicated to designing, building, and supporting their world acclaimed audio selector panels and intercoms. As a result, PS Engineering has been recognized twice by the Aircraft Electronics Association (AEA) as their Associate Member of the Year, first in 1997 and again in 2014.*

*In 1985, aircraft intercoms and audio panels had seen virtually no improvements in over a decade. With new digital circuitry and technologies, it was time for the revolution to begin.*



*The airplane that started it all!*

**If PS Engineering hadn't been founded, the community of pilots would probably still be waiting for the revolution to begin.**

- **First to provide individually adjustable VOX circuitry**
- **First to introduce an FAA-TSO stereo audio panel with built-in intercom and marker beacon**
- **First to Integrate music with Soft Mute™, allowing flexible music control - Patent no. 4,941,187**
- **First to provide Swap capability, Patent no. 5,903,227; 6,160,496**
- **First to provide true hands-free VOX system, the IntelliVox® Patent no. 6,493,450**
- **First to provide an integrated aural warning system into an audio panel**
- **First to use digital signal processing to record aircraft radio, allowing instant playback of transmission**
- **First to introduce AMP™ (Active Microphone Processor) removing background noise in intercom**
- **First to provide Bluetooth® integration, allows phone and music streaming**
- **First and only company to commercially implement USAF-patented technology for True Dimensional Sound - Patent no. 7,391,877**



**Our audio control systems are designed and manufactured in the USA.**

**[www.ps-engineering.com](http://www.ps-engineering.com)**

# Have one of these? Plug 'N Play with ease!

**PS ENGINEERING® INCORPORATED**  
*Sound Quality. Sound Engineering.*

We have more experience and a wider range of General Aviation audio panels than any other company. Select the audio panel that fits your mission and aircraft capabilities. Our audio panel will make a world of difference.



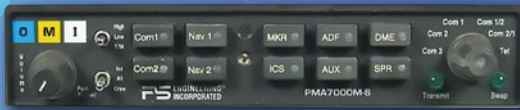
Bendix/King KMA-28



GARMIN GMA340



APOLLO SL15



PS Engineering PMA7000M-S



## PMA8000G with Bluetooth® and flightmate®

- IntelliAudio® Dimensional Sound for clear com reception
- flightmate® Pilot Recordable Audio Alerts and Messages
- Bluetooth® for Wireless Telephone and Music Streaming
- Continuous 10 watts of charging power from USB port



## PMA7000BT

- Available with or without Bluetooth® wireless connectivity
- 6-Place IntelliVox® Hi-Fi Stereo Intercom with muting
- Split Mode transmit capability for pilot and copilot
- 4 - unswitched unmuted inputs for additional aural alerts



## PMA450 Series – Dual Bluetooth® Capability

- MultiTalker® True Dimensional Sound for clear com reception
- flightmate® Pilot Recordable Audio Alerts and Messages
- Unprecedented music distribution and streaming capability
- Continuous 15 watts of charging power from USB-C port



PMA6000M



## 7000M-BT Mono Intercom

- 6-Place IntelliVox® Bluetooth® Intercom with muting
- Split Mode transmit capability for pilot and copilot
- 4 - unswitched unmuted inputs for additional aural alerts

**Slide In - Slide Out ... No Harness Changes**

# PMA4000

The PMA4000 is an audio panel that provides switching of two Coms and two Navs. It has a 4-place mono IntelliVox® intercom, and can be configured for PTT intercom. Four unswitched inputs are available.

Includes a built-in speaker amplifier. Hear aircraft radio audio through the headsets or over the cabin speaker by a press of a button.

The PMA4000 takes advantage of PS Engineering's revolutionary IntelliVox® intercom squelch protocol. A three-position mode switch allows the Pilot to select either ISO or ALL intercom modes. This switch also functions as the on/off switch.

The PMA4000 has Independent intercom volume controls for the Pilot and the Copilot. Because this system can be mounted in another location, the volume controls only the intercom, the radio volume is adjusted by the radio controls.

Both pilot and copilot have transmit capability. The selected com LED shows amber when selected, and flashes during radio transmissions. The transceiver switching is automatic. When the microphone toggle switch selector is in Com 1 position, the pushbutton selector controls receive audio and can be used to select multiple Com receivers.

The PMA4000 provides a monaural entertainment input. With our SoftMute™, the music mutes, allowing undistracted communications.

### CHECKLIST OF CAPABILITIES:

- IntelliVox automatic VOX circuit with individually gated mics
- PTT-ICS for open cockpit or higher than normal cockpit noise
- 4-place intercom
- Mono music inputs with muting
- Built-in speaker amplifier
- Remote switched Karaoke mode (no music muting)



Shown actual size



# PMA6000B



The PMA6000B has been given the benefit of PS Engineering's 30 years of audio panel control design and manufacturing experiences. It offers a low cost alternative to the more capable audio panel product line that the industry has become to expect from such a focused driven company.

This audio selector panel has our original "Set it and Forget it" manually adjusted VOX intercom and a slew of features to enhance versatility and utility.

Swap function allows selection of Com 1 or Com 2 from remote pushbutton. Fail-safe feature automatically hard-wires the pilot to Com 1 in the case of an outage Uses a single 44-pin connector making installation easier.

The PMA6000B holds FAA TSO and EASA ETSO and was designed to be made easier to install using a single 44-pin Sub-d connector.



### CHECKLIST OF CAPABILITIES:

- 4-place mono intercom PS Engineering's "Set-it and Forget-it" manual VOX
- Optional built-in marker beacon receiver
- Split mode for dual audio panel capability
- Two Com capability
- Three Intercom Isolation modes - Pilot Isolate, All, and Crew
- Two Music inputs with Soft Mute™
- Two Unswitched inputs
- 6 Switched inputs
- A patented "swap" function allows selection of Com 1 or Com 2 from remote push button
- Fail-safe feature automatically hard-wires the pilot to Com 1 in the case of an outage
- Uses a single 44-pin connector making installation easier

### ORDERING INFORMATION      APART NO.

PMA6000B Audio Selector w/ 4-place intercom ..... 050-604-0300  
 Remove Internal Marker Beacon Receiver ..... 050-604-0100

### ORDERING INFORMATION      PART NO.

PMA4000 4-Place Intercom ..... 11942  
 Audio panel with 4-place intercom with Isolate and ALL modes, single music input, FAA-TSO  
 Weight: 15 ounces      Dimensions: 1.70" H X 2.43" W X 6.50" D

2¼" round mounting plate ..... 575-004-0001  
 Allows installation in a standard 2¼-inch instrument hole.

**WARRANTY**  
 1-year hassle-free exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual for full details.



# PMA7000 Series



PMA6000

If you have this old one...

You can have this new one.



PMA7000M

If you have installed our original mid-1990's PMA6000 series audio panel in your avionics stack, this Plug 'N Play audio panel will provide a tremendous upgrade for those panels without any rewiring at all. The only thing that is required for installation is a 3/32" Allen Wrench.

Having all of the capabilities of the PMA7000BT with the exception that the music is monaural not stereo, this upgrade will provide IntelliVox®, a significantly improved user interface, and the ability to make phone calls and streaming music via Bluetooth®.

### CHECKLIST OF CAPABILITIES:

- IntelliVox® automatic VOX system with individually gated microphones
- 6-Place monaural intercom with Soft Mute™
- Two music mute modes: Mute On and Mute Off
- Improved built-in Marker Beacon Receiver
- Cellular telephone input and music streaming (Bluetooth®)
- Split mode for dual transmit capability
- Three Isolation modes - Pilot Isolate, All, and Crew
- Four unswitched inputs
- Selectable special intercom mode with "Alternate Intercom Mode"

\*No install kit provided



PMA7000H-BT

The PMA7000H includes a 10-place intercom and a Cockpit Voice Recorder (CVR) output. For environments where having a Hot Mic is beneficial, the PMA7000H not only has IntelliVox® but also has provisions for Push-To-Talk Intercom. This capability is especially useful when there may be direct wind noise on the microphones or the cockpit din is just too high for any VOX circuit to work. Now available with wireless Bluetooth® capability.

### CHECKLIST OF CAPABILITIES:

- 10-place IntelliVox® intercom (automatic VOX) with individually gated microphones
- Push-to-Talk Intercom Capability for Crew
- CVR output
- Improved marker beacon receiver
- Com 3 can act as Cellular telephone input with "DuTel™" telephone distribution
- Split mode for dual audio panel capability
- 2 hi-fidelity stereo music source inputs
- Front panel music mute modes - Mute On or Mute off (ICS button)
- 4 unswitched inputs
- Selectable special intercom mode with "Alternate Intercom Mode"
- Optional Bluetooth Module for telephone and audio streaming



### WARRANTY

2-year exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual for full details.

### ORDERING INFORMATION

### PART NO.

PMA7000M Mono Audio Selector with 6-place intercom and Marker Beacon.....	050-781-0604
PMA7000H 10-place hi-fi stereo intercom .....	050-781-0300
PMA7000H Same as PMA7000H with CVR.....	050-781-0287
PMA7000H-BT Same as PMA7000H with Bluetooth® .....	050-781-0404
PMA7000H Same as the PMA7000H-BT but with No Marker.....	050-781-0403

## If you have one of these...



Bendix King KMA28



Apollo SL-15



PMA7000M-S



PMA6000M-S

## You can plug and play one of these.



PMA7000BT

### The Advantage of the PMA7000 Series

The PMA7000 series offers a Plug 'N Play alternative for aircraft that have legacy audio panels. No installation is required, but rather, a simple slide out and slide in with a log book entry performed by an A & P is all that is required to complete the installation.

The PMA7000BT is Plug 'N Play with our legacy PMA7000M-S as well as with the Apollo SL-15 and the Bendix/King KMA28. It is as simple as 1-2-3 to install.

An obvious improvement is the removal of the mic selector knob and the replacement of the momentary push buttons with rubber membrane, tactile feel switches.

The addition of Bluetooth®, it is now possible for the pilot/crew to pair phones and iPads to hear music or audio alerts from aviation applications, such as Foreflight.

COM 3 has been added that provides a full duplex interface if the aircraft is equipped with a satellite phone system.

With a Bluetooth® device connected, it is possible for passengers will to hear Bluetooth® music with all others otherwise they will hear music 2

### CHECKLIST OF CAPABILITIES:

- IntelliVox® automatic VOX system with individually gated microphones
- 6-Place hi-fi stereo intercom with Soft Mute™
- Two music mute modes: Mute On and Mute Off
- Built-in Marker Beacon Receiver
- Cellular telephone input with dedicated On/Off hook switches for unprecedented flexibility
- Split mode for dual audio panel capability
- Two hi-fidelity stereo music source inputs
- Three Isolation modes - Pilot Isolate, All, and Crew
- Four unswitched inputs
- Selectable music muting for passengers
- Selectable special intercom mode with "Alternate Intercom Mode"
- RAM (Radio Active Mute) eliminates constant back ground noise from unswitched inputs

#### WARRANTY

2-year exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual for full details.

#### ORDERING INFORMATION

#### PART NO.

PMA7000BT Audio Selector with Bluetooth® and Marker Beacon .....050-781-0204  
(PMA7000BT requires install kit if new install)





# PMA8000 Series



PMA8000C



The PMA8000C provides for an additional communications transceiver. While most aircraft have two Com radios, there are cases where a third transceiver is required. The PMA8000C not only allows the connection of three radios, it also provides 3 unique split transmit modes.

- Pilot Com 1 - Copilot Com 2
- Pilot Com 1 - Copilot Com 3
- Pilot Com 2 - Copilot Com 3

This is particularly helpful when there are special missions required. As an example, Com 3 could be a HF or UHF radio. Unlike the GMA340 where only Pilot Com 1 - Copilot Com 2 is offered, the PMA8000C adds this additional flexibility.

The PMA8000E is a system that consists of two interconnected audio panels. This provides the Pilot and Copilot their own audio selector panel. With the intelligent digital interface control, the Pilot has command of the entire audio panel system yet can easily offload some of the radio work to the Copilot.

Intercom configurations allow the Pilot undisturbed radio communications while permitting the Copilot and passengers to communicate.

“Strange States” are a thing of the past thanks to the PMA8000E’s built-in intelligence. This system prevents the Copilot from over-riding the Pilot’s audio panel configurations, or interrupting the Pilot’s radio communications. Because of this intelligent approach, the Pilot and Copilot will treat their respective audio panels as their very own, never second guessing what configuration the other person has his audio panel in.

Each audio panel is Bluetooth® enabled. They can be used privately by the Pilot or Copilot or shared with each other. The Copilot’s Bluetooth interface can also be shared with the passengers.

Through the use of expansion units, it is possible to have up to 12 passengers connected to the system.

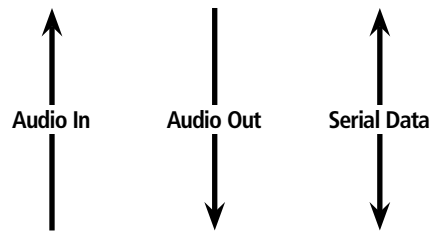
\*GARMIN GMA240, GMA342 and GMA340/345 are trademarks of Garmin International, Inc. PS Engineering, Inc. is not associated or affiliated with Garmin International, Inc. in any way.

## CHECKLIST OF CAPABILITIES:

- IntelliVox® automatic VOX system with individually gated mics
- Bluetooth® enabled
- 3 Com capability
- 6 Place hi-fi stereo intercom with Soft Mute™
- Monitor Mode allows automatic muting of non-primary radio
- 4 music mute modes: Mute On/Off, Radio Mute, ICS Mute
- Dedicated front panel music volume control
- Built-in Marker Beacon Receiver
- Cellular telephone Bluetooth connection
- Easy front panel control for telephone side tone on/off
- Continuous digital recorder for instant radio play ba ck
- Split mode for dual audio panel capability
- 2 Differential, hi-fidelity stereo music source inputs (no ground loop noise)
- 3 Isolation modes - Pilot Isolate, All, and Crew
- 5 - unswitched inputs, with front panel unswitched input
- Selectable music distribution for passengers
- Selectable intercom mode with special "Alternate Intercom Mode"



PMA8000E-Pilot



PMA8000E-Copilot

### WARRANTY

2-year Pro-Support exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual.

### ORDERING INFORMATION

### PART NO.

- PMA8000C - Audio Panel, Marker Beacon, Bluetooth®, stereo intercom.....050-890-0303
- Same as above but with intercom expansion capability.....050-890-0313
- PMA8000E - Dual Audio Panel System with Digital Interface ..... Call for Part Numbers
- 6-Channel Expansion Unit - For PMA8000C and PMA8000E only.....11636R

# PMA8000 Series



PMA8000G

The PMA8000G marks another major milestone in the company's innovative history. This audio panel has significant advancements in audio panel technologies. It will fit pilots who expect more from their audio panel while not adding any additional workload or complex set of push button sequences. The PMA8000G is a natural choice for pilots who demand ease of use with a deep set of audio panel capabilities.

Introducing **flightmate**® the first system ever to be available in an audio selector panel. The pilot can create checklists, emergency procedures, just about anything that pilot can say, he can store into non-volatile memory, making those checklist chores a bit easier.

IntelliAudio® is another standard capability that will make listening to multiple radio calls manageable. With Com 1 in the 10 o'clock position and Com 2 in the 2 o'clock position, pilots can pay attention to the radio that is most important at any one instant of time.

Bluetooth® Interconnectivity allows the pilot to have access to his Bluetooth® enable telephone or entertainment device. The ability to contact ATC by way of the telephone with the engines running and radios tuned and set at an uncontrolled airfield makes getting into the air under IFR condition much easier.

Pilot programmable aural alert annunciations can be programmed right from the front panel of the audio panel while using the pilot's headset microphone to record them. Now you can take up to 4 discrete inputs and have them associated with pre-recorded messages, making it easier to determine exactly what condition needs to be addressed.

And we have included a USB charging port that is rated at 10 watts. This charger provides power for iPads and iPhones or other devices that use a USB charging port.

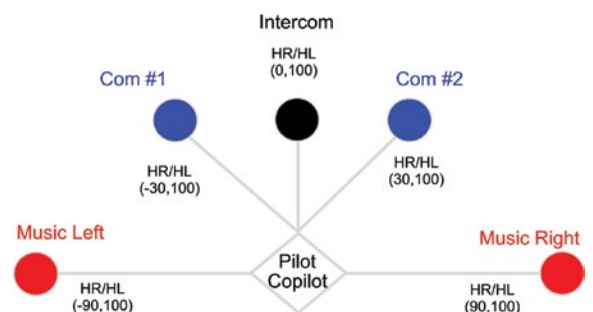
Finally, ease of use. We took a fresh approach to the user interface, making access to the advanced functions much easier than in past iterations of the PMA8000 series.

## CHECKLIST OF CAPABILITIES:

- Com 1, Com 2, Nav 1, Nav 2 capability
- IntelliAudio® True Dimensional Sound gives Pilots the ability to discern important radio calls
- 6-Place hi-fi stereo IntelliVox® Intercom with Soft Mute™
- Bluetooth® enabled allows connection of iPhone, iPads and other PDAs for both music streaming and telephone.
- Monitor Mode allows automatic muting of non-primary radio
- 3 - music mute modes: Mute On, Mute Off, Radio Mute
- **flightmate**®
- Cellular telephone input with front panel control of side tone
- Digital aircraft radio recorder (IRS™)
- USB Charging port with Auto-Protect, provides up to 10 Watts of power for iPhones, iPads and other PDA Accessories.
- Split mode for dual audio panel capability
- 2 - Differential, hi-fidelity stereo music source inputs (no ground loop noise)
- 3 - Isolation modes - Pilot Isolate, All, and Crew with "Alternate Intercom Mode"
- Selectable music distribution for Pilot, Copilot and passengers

## IntelliAudio®

Used in PMA8000G, PAR200B, PMA450C



### ORDERING INFORMATION

### PART NO.

PMA8000G Audio Panel .....	050-890-0912
PMA8000G without marker.....	050-890-0917
PMA8000G Expand ICS (includes expansion unit) 8 places.....	050-890-0914

### WARRANTY

2-year Pro-Support exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual.

\*GARMIN GMA240 and GMA342/345 are trademarks of Garmin International, Inc. PS Engineering, Inc. is not associated or affiliated with Garmin International, Inc. in any way.





# PMA450 Series



The PMA450B is the third-generation, digitally based, top tier audio panel that uses the same patented technology that the USAF has implemented in their fighter jets. Not only does the PMA450B significantly enhance radio communications, it provides an unprecedented amount of intra-cockpit communication flexibility as well.

The true dimensional sound, called MultiTalker®, gives the pilot the capability to pay attention to the radio that is important to their flight at any instant in time. Consider Com 1 coming from the 10 o'clock position while Com 2 is coming from the 2 o'clock position. You are able to pay attention to the person who is telling you something important, while ignoring the other conversations around you.

Another leap forward is the multiple Bluetooth® modules built-in the PMA450B. Now the pilot can connect to a Bluetooth® enabled telephone and tablet, giving the pilot the ability to hear alerts, music, and phone calls. And with the easy to use user interface, setting priorities has never been easier. Hear alerts from Foreflight® audio and entertainment or checklists.

Deep capability does not mean having a difficult audio panel to use. With our OLED technology and soft key approach, the PMA450B is the easiest to use audio panel we sell today. The large display is great for caller ID, displaying what radio message is being played back, or as a count-down/count-up timer.

The new USB-C standard also brings more power to the pilot. This USB is for powering devices up to 15 Watts, 33% more powerful than the original USB standard.

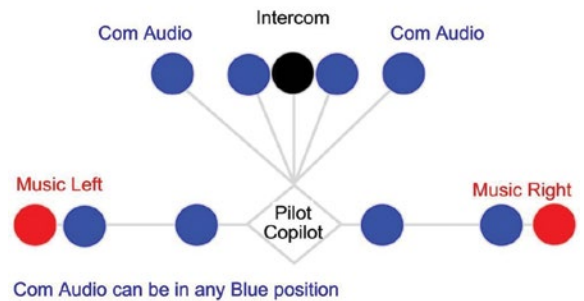
In addition to the dual Bluetooth® modules, the pilot has the ability to change the Bluetooth 2 from a streamer for listening to music to an output device for use with Bluetooth® digital video recorders.

This audio panel is Plug 'N Play with GARMIN's GMA340/345, makes the upgrade easy. Except for *flightmate*®, get all of the capabilities by simply removing and replacing.

## CHECKLIST OF CAPABILITIES:

- Com 1, Com 2, Nav 1, Nav 2, ADF, DME
- MultiTalker® True Dimensional Sound
- Dual Bluetooth® Modules
- Optional Marker Beacon Receiver
- Volume light bar indicates various volume Levels
- 3 Customizable switched inputs. Pilot creates custom labels to fit specific aircraft equipment list.
- 6-place hi-fi stereo intercom with many distribution capabilities and 3 music mute modes.
- USB-C charger for portable devices including iPhones® or iPads®.
- Adjustable volume levels for Speaker, Music 1, 2, BT1, and BT2 inputs, unswitched inputs and the optional Marker Beacon Receiver
- Two hardwired music inputs as well as two Bluetooth® music inputs
- Extremely quiet digital intercom system.
- No computer programming required, front panel configurable.

## MultiTalker®



## ORDERING INFORMATION PART NO.

PMA450B Audio Panel with IntelliAudio®, 6-Place IntelliVox® stereo intercom, Dual Bluetooth® and Marker Beacon	050-450-0601
PMA450B (same as above but without Marker Beacon Receiver)	050-450-0701

## WARRANTY

2-year Pro-Support exchange program. when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any report. See Warranty information in the Installation Manual.



## ORDERING INFORMATION PART NO.

PMA450C with Marker Beacon	050-450-0801
PMA450C w/o Marker Beacon	050-450-0901

## PMA450C

A lower-cost version of the PMA450B – IntelliAudio® places Com 1 at the 10 o'clock position and Com 2 at the 2 o'clock position. Does not include: *flightmate*®, count-down/count-up timer with audio alerts, and BT2 does not have streaming out to a digital video camera.



Watch the Aviation Consumer PMA450C Video Review

# PAR200B



Remote Mounted Radio



The PAR200B is a TSO'd audio control system that combines an audio control panel, a 4-place hi-fi stereo intercom with IntelliVox® and Bluetooth®, along with a remote mounted, 760/2280-channel VHF Aviation Communications Transceiver.

This combination of traditional stand-alone systems saves panel space, weight, and costs when compared to stand-alone units. All while providing state of the art functionality.

The user interface has seen a complete overhaul when compared to the previous versions of the PAR200 system. A large OLED display with softkeys makes operation easy and intuitive. The volume and frequency knobs have very distinct detents making frequency selection easy to accomplish, even in the choppiest of air.

The right half of the PAR200B is dedicated to the communication radio. Using the three softkeys to the left of the OLED displays allows the pilot to easily enter in radio frequencies. Pressing the bottom softkey swaps the standby into the active radio frequency.

Using the improved user interface, storing up to 5 unique frequencies for later recall has never been easier. And the large OLED display uses very large text making reading the frequencies from across the cockpit and at any angle easy to do.

The concentric knob on the left-hand side of the audio panel has two functions. If the OLED displays "Frq" then the small knob controls the KHZ selection while the large knob controls the MHZ selection. If the OLED displays "Vol", then the small knob controls the intercom volume while the large knob controls the TRIG aircraft radio volume.

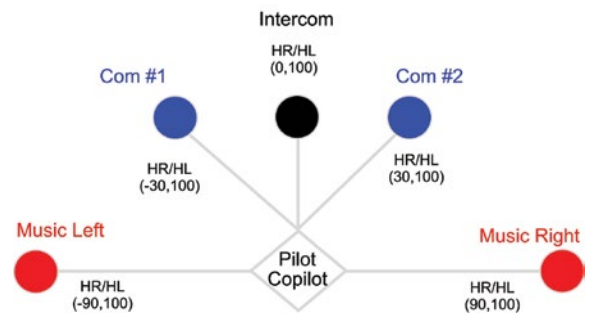
The refinements of the PAR200B didn't stop at the user interface, we added a great deal of music distribution, muting types, and individual volume flexibility. Crafted from our top of line PMA450B, the pilot can easily configure the entertainment that best fits their inflight entertainment needs.

The PAR200B has a built-in Speaker Amplifier as well as the Monitor function. But most importantly, the PAR200B now includes IntelliAudio®. This technology was developed by the USAF Wright Patterson Airforce Laboratory. When activated, COM 1 will appear to be coming from the 10 o'clock position in their stereo headset while COM 2 will appear to be coming from the 2 o'clock, making listening to the radio that is important at any instant in time much easier.

An integrated Bluetooth® module allows the connection of both a telephone and a streaming device, such as an iPad. Pilots will appreciate the reduced workload that comes with being able to tune their radio while using their phone to talk to ATC from an uncontrolled field, all while their engine is running.

## IntelliAudio®

Used in PMA8000G, PAR200B, PMA450B



### CHECKLIST OF CAPABILITIES:

- IntelliVox® automatic VOX circuit with individually gated mics
- IntelliAudio® true dimensional com audio
- 4 place hi-fi stereo intercom with flexible music distribution
- Ability to adjust Bluetooth and Music 1 and Music volumes
- Built-in speaker amplifier
- Easy to store and recall radio frequencies, up to five
- Remote mount Trig TY91L with minimum 6 watts of rated output
- Monitor function, listen to both active and standby at same time
- Failsafe available regardless of the Trig TY91L is Com 1 or Com 2
- Flexibility where the Com is mounted, making coax runs shorter
- Lower weight when compared to individual units
- Large OLED display with Rotary Encoder makes entering freq easy

### WARRANTY

2-year Pro-Support exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any report. See Warranty information in the Installation Manual.



### ORDERING INFORMATION

### PART NO.

PAR200B Audio Panel, IntelliAudio, Com Radio.....	050-228-0300
PAR200B with Expansion .....	050-228-0302



# Special Mission & Business Aviation Audio Controller

**PS ENGINEERING<sup>®</sup>**  
INCORPORATED  
*Sound Quality. Sound Engineering.*

*Audio Experts Since 1985*  
*Digital Audio Provides Affordable*  
*and Reliable Communications*

All Audio Panels Include  **Bluetooth<sup>®</sup>**

- MultiTalker<sup>®</sup> True Dimensional Sound
- Bluetooth<sup>®</sup> Phone and Entertainment
- Up to 8 Coms and 4 Control Heads
- Field Configurable (no computer)
- Field Recordable Audio Alerts
- 8-22 Intercom Stations
- Always in Stock
- FAA-TSO



**PAC45**

**Plug N Play AMS43**



**PAC45D**

**Plug N Play AMS44**



**PAC45J**

Learn more at  
**PS-Engineering.com**  
or call toll-free  
**800-427-2376**

Select the PAC that meets your mission  
[www.ps-engineering.com/PAC45Compare.html](http://www.ps-engineering.com/PAC45Compare.html)





The PAC24 was designed as a versatile audio system that meets the needs of airborne law enforcement, EMS, forestry, and special mission aircraft.

Best yet, the recently updated PAC24 is designed to be easily retrofitted into the same installation as a King KMA24H-71 (050-240-0100) and the KMA24H-70 (050-240-0700). This makes adding modern, flexible, audio control and a high-performance intercom easy and cost-effective into aircraft with aging audio panels.

The PAC24 contains PS Engineering's legendary IntelliVox® intercom and the headphone amplifier is the most powerful and cleanest in its class, delivering 120mW of punch to overcome the loudest cockpit environments.

The PAC24 has all the features you expect from PS Engineering, like swap™, split mode, duplex mode, and a 3-year warranty. Designed from the beginning as a dual-capable system, the PAC24

offers outstanding flexibility for crew member and passenger communications. In the dual configuration, the Pilot's audio panel has command of the ship's intercom if necessary, while the Copilot side is able to handle any necessary audio chores.

In cases where the crew wants extra control, the PAC24 can be switched to PTT-ICS mode. This prevents the intercom from activating until a dedicated push to talk switch is activated.

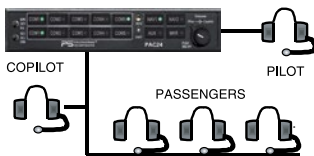
COM 5 has special properties in the PAC24. It can be configured as either a conventional Com 5 transceiver, or as a full duplex telephone.

An "Observer" version of the PAC24 is also available. This unit allows radio transmission capabilities for a third person when configured as a special mission dual system.

For non-aviation HF and UHF radios, a tactical radio adapter is required.

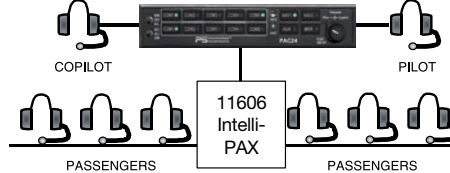
(1) 050-240-0100

### Case I



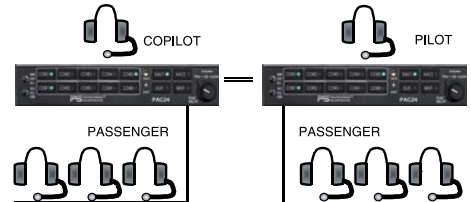
(1) 050-240-0100

### Case II



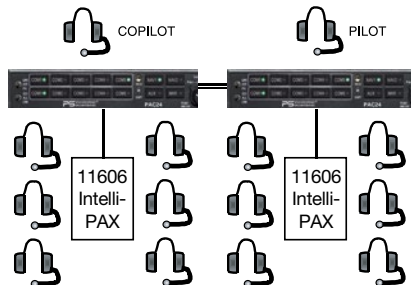
(2) 050-240-0100

### Case III



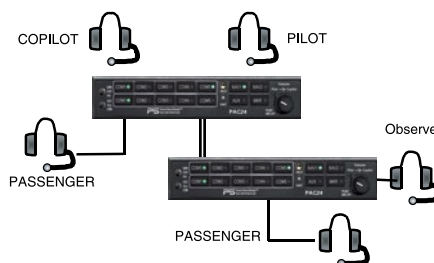
(2) 050-240-0100

### Case IV



(2) 050-240-0400

### Case V



Case	PAC24	Expansion Unit	Pass	Crew Mode
I	Single	No	3	No
II	Single	Yes	6 or 8	Yes
III	Dual	No	6 (3+3)	No
IV	Dual	Yes	14	Yes
V	Observer	No	2	No

**WARRANTY**  
2-year Pro-Support exchange program, when installed by an authorized PS Engineering Dealer. After the warranty expires, a fixed repair fee will cover any repair. See Warranty Information in Installation manual.

TECHNICAL SPECIFICATIONS	
Approval Basis	FAA-TSO C50c EASA ETSO C50c, C35d
Certification Documents	RTCA DO-214 DO-160D, DO-178B
Intercom	5-place
Transceivers	5 (Com 1, 2, 3, 4, 5)
Audio Inputs	4 (Nav 1, Nav 2, ADF, DME)
Unswitched audio inputs	2
Power Required	11-33 VDC, 1.5 A
Power consumption	Speaker on, 600mA typ. 1A peak; Speaker off 350 mA
Output power	Speaker 10 W at 28 Vdc; 3W at 13.8Vdc into 4Ω load
Headphone	50 mW into 150, <1% THD; 120 mW into 150, <10% THD
Audio Frequency Response	±3dB, 350Hz-6,000Hz
Weight	0.8 lb.
Dimensions	6.25" W x 1.3" H x 6.8" deep
Environmental Conditions	DO-160D B1CABGMXXXXXZBBATMXXE2XXX
Temperature Range	-20 C to +70, with brief operation at +85 C
Altitude	25,000 feet, unpressurized

# Remote Mount Digital Audio Management Systems

## HUB45 – CHECKLIST OF CAPABILITIES:

- Supports 6 transceivers & 6 nav aids (CTL-P)
- Supports 5 transceivers & 5 nav aids (CTL-D)
- Single HUB 3 control heads, dual HUB 6 control heads (CTL-P)
- MultiTalker Dimensional Sound
- 8 station stereo intercom
- Flightmate 3 aural alerts
- Bluetooth cellphone & music entertainment
- RXI (Radio Receive Indicator)
- TXI (Intercom active during PTT activity)
- 2 independent CVRs
- Special Record Out CVR for Shot Over systems
- Master Radio control available
- Independent radio volume controls (CTL-P)
- Offside Comm allows monitoring of receiving comms when transmitting
- PIC (pilot in command) override
- Pilot swap mode
- Remote (foot switch) ISO/ALL/CREW switch
- 35 second stuck PTT disconnect
- Field configurable, no laptops or special proprietary software
- Cabin Call function
- Reversionary mode (redundancy)
- Vertical or horizontal panel mounts available
- "Plug n play" with legacy AMS42/43/44
- 2-Year Pro Support



HUB45



CTL-P



CTL-D

## Using Innovation To Make Installations Easier

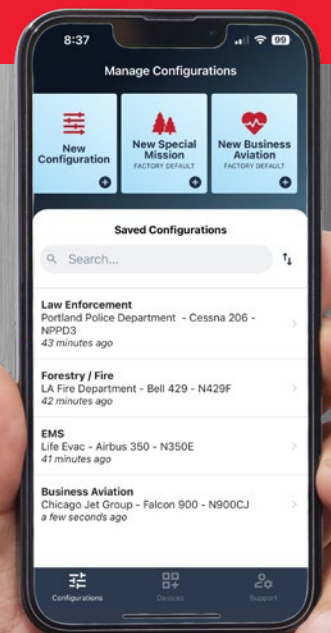
# HUB50 and iOS Application

PS Engineering has been designing and building audio control systems since 1985. *It's our only mission!*



**The next level of configurability**

No more switches, memory modules, or computers – just your iPhone or iPad.



**PS ENGINEERING<sup>®</sup> INCORPORATED**  
Sound Quality. Sound Engineering.



HUB45A



HUB50

### HUB45A & HUB50 – CHECKLIST OF CAPABILITIES:

- Supports 8 transceivers & 8 nav aids (CTL-A & CTL-J)
- Supports 4 transceivers & 8 nav aids (CTL-L for business aviation)
- Single HUB 4 control heads, dual HUB 8 control heads
- MultiTalker Dimensional Sound
- 9 station stereo intercom, expandable to 22 intercom stations
- Flightmate Field Programmable 9 aural alerts
- Two internal 10W speaker amps (PA & Pilot Speaker)
- Bluetooth cellphone & music entertainment
- RXI (Radio Receive Indicator)
- TXI (Intercom active during PTT activity)
- 4 independent CVRs
- Special Record Out CVR for Shot Over systems
- Independent & master radio volume controls
- Offside Comm allows monitoring of receiving comms when transmitting
- PIC (pilot in command) override
- Pilot swap mode
- Remote (foot switch) ISO/ALL/CREW switch
- 35 second stuck PTT disconnect
- Field configurable, no laptops or special proprietary software
- Cabin Call function
- Reversionary mode (redundancy)
- VOC (Voice Ident)
- Oxygen mask inputs
- Available in both gray & black cosmetics
- Vertical or horizontal panel mounts available
- 2-Year Pro Support



CTL-J



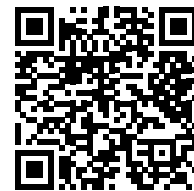
CTL-A



CTL-L

### HUB50 ADDITIONAL FUNCTIONALITY:

- Status LED indicator.
- Assignable unswitched inputs. These can be enabled on a per user station basis.
- Assignable switched inputs. These can be enabled on a per user station basis.
- Non-aviation transceiver microphone voltage bias support.
- Artificial Transmit Sidetone configurable on any transceiver.
- Four built in headset low impedance adapters.
- Passenger audio separated from Observer 2 to become fully independent. Permits muting of radios to passengers, EMS patient ICS isolation, other applications.
- Expansion output is a fully configurable output.
- Selectable audio output of FM transceivers for flight data recorders
- PA speaker reconfigurable as copilot cabin speaker.
- PA TX support added to observer stations.
- Audio Alerts can be configured to play once or play 3 times when triggered.
- Alerts can be played on activation and deactivation of an alert for all alert inputs (i.e. seat belt chimes).
- Programmable Bluetooth ID.
- Field configurable pilot custom profiles for fleet operators.



Scan the QR for additional information on the HUB series of digital audio controllers.

# Intercoms

Scan the QR codes for additional technical specifications and information.

## PM1200 – EXPERIMENTAL

The PM1200 is designed for the noisiest of aircraft, including open cockpit and warbird aircraft. The Active Microphone Processor (AMP) uses emphasis and de-emphasis to strip much of the background noise out of the intercom audio.

The PM1200 provides both our IntelliVox® auto-squelch and Push-to-talk intercom (PTT-ICS) so that when the cockpit noise is too high for VOX operation, a press of the Copilot's volume control places the PM1200 into PTT-ICS mode.

And for those pilots who like to wear ear plugs while wearing headsets, the PM1200 has the ability, when connected to a 24 volt system, of providing up to 120mW! Now that's a lot of audio punch!



### ORDERING INFORMATION PART NO.

PM1200 2-place high performance intercom .....	11960
6-Place Expansion Unit.....	11616

## PM1000II – TSO'd

The PM1000II is a 4-place panel mounted intercom with VOX. Individual volume and squelch controls for the crew reduces the number of microphones that are on at any one time, reducing the din of the cockpit.

The PM1000II (11922) provides Pilot Isolate and All modes.

This design makes it easy to balance intercom, radio and music volume levels. And with Soft Mute™, the Pilot will never miss a radio call because the monaural music is automatically muted.



### ORDERING INFORMATION PART NO.

PM1000II 4-Place Intercom, FAA-TSO .....	11922
6-Place Expansion Unit.....	11616

## PM3000 – TSO'd

With audiophile stereo music sound, this panel mount provides high-quality intercom and aircraft radio audio, while Soft Mute™ provides the Pilot the ability to select having the muting function turned on or off. This eliminates the need for constant changes in the stereo music when the aircraft radio becomes active.

The VOX in the PM3000 earned the reputation "Set it-Forget it, it's the most forgettable intercom you'll ever use." The single VOX control sets the trip level for the Pilot, Copilot, and passengers microphones, reducing the number of microphones that are on at any one time.

The PM3000A (11931A) has 2-unswitched audio inputs.



### ORDERING INFORMATION PART NO.

PM3000A 4-Place Stereo Intercom, FAA-TSO.....	11931A
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# Accessories

## 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.



## 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.



## 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.



## 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. IntelliPax™ has our much lauded IntelliVox®, an automatic VOX that eliminates any VOX adjustments.



## PRD60 Audio Alert Unit

The PRD60 contains six stored messages. An outside annunciator, such as an electronic engine instrument, can trigger these messages and will be heard in the headset.



## GA to Mil Headset Adapter (HSA13)

The HSA13 is a low impedance to high impedance adapter for adapting various headsets. It's a direct replacement for the DB Systems DB213 device and can also serve to convert headphone impedances.



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