ENGINEERING INCORPORATED ®

Sound Quality. Sound Engineering.

PMA7000M-S CAP Operation

PS Engineering, Inc.

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PMA7000M-S Standard Versions

Standard Version PMA7000M-S

PMA7000M-S 'Civil Air Patrol'

Added Split Com Modes

Black buttons, silver trim

Com 3 Button

PMA7000MS-CAP Operational Training

Demo PMA7000MS (NOT AIRWORTHY)

Com SWAP button

Copilot Headset

Pilot Headset

Aircraft Radio Input (Com 1 Only)

The PMA7000M-S Features:

- **Full-function audio control panel:**
  - 3 coms, 2 navs, ADF, DME
  - 3 light marker beacon receiver
- **PS Engineering's innovative:**
  - Com1/Com2 /Com 3 Split Mode for cockpit resource management
  - Swap Mode for ease of operation
  - 6-pole filtered mic circuits for less noise, better clarity
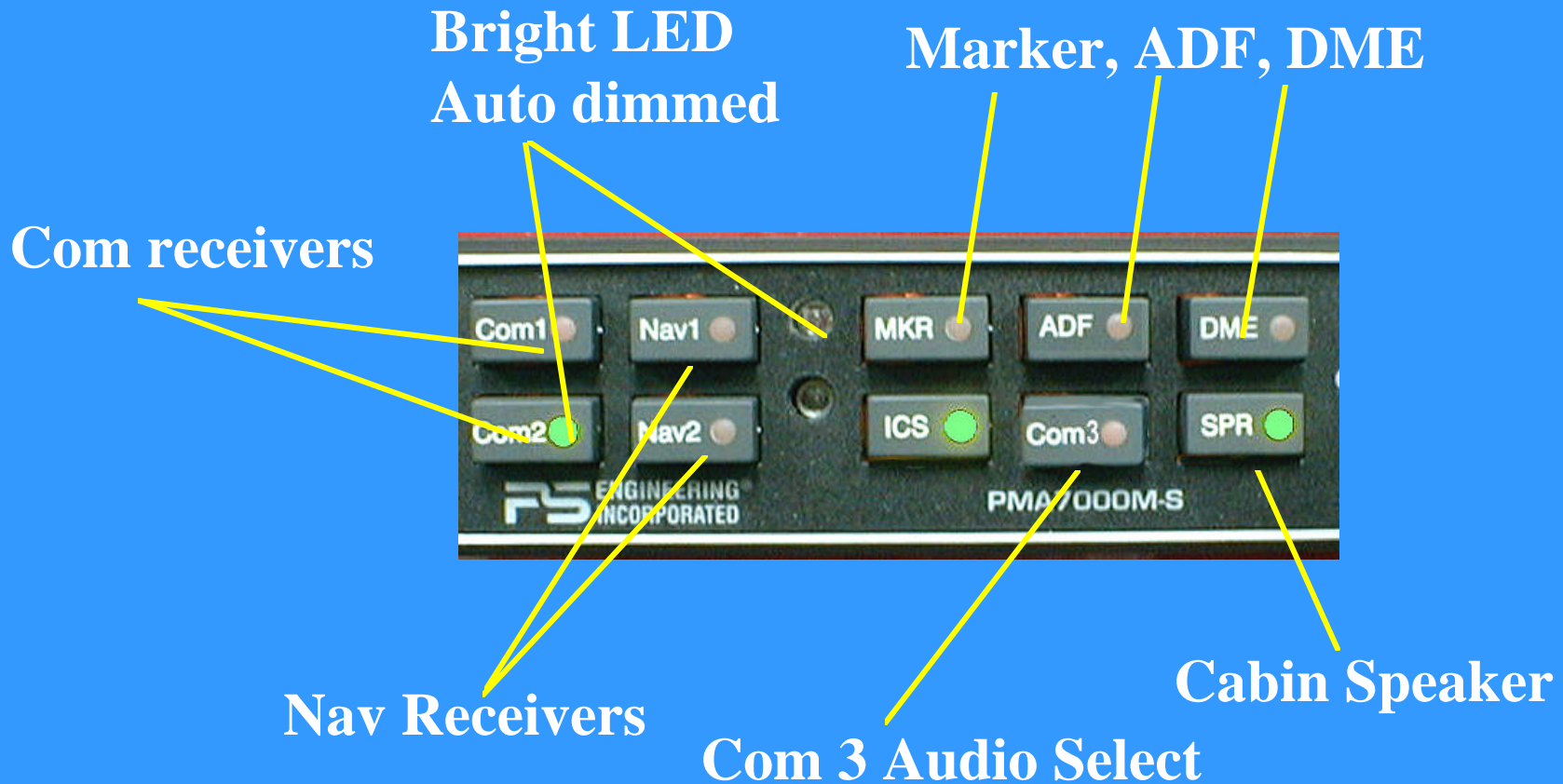
Revolutionary Intercom

- **All, ISO and Crew modes**
- **6-Place _Stereo_ intercom**
  - Dual, independent auxiliary inputs
- **Introducing _IntelliVox™_**
  - Six INDEPENDENT mic sampling circuits
  - Constantly monitoring and adjusting VOX level
  - Field proven in helicopters and high noise cockpits
  - NO MANUAL ADJUSTMENT -**EVER**-

Basic Operation

- **Push Volume Control to switch on**
  - Unless in Com 3 mode, at least one com LED will light.
  - Backlighting comes on
- **Push Volume control to switch off**
  - Fail Safe mode places pilot on Com 1
  - Copilot/passengers have no audio
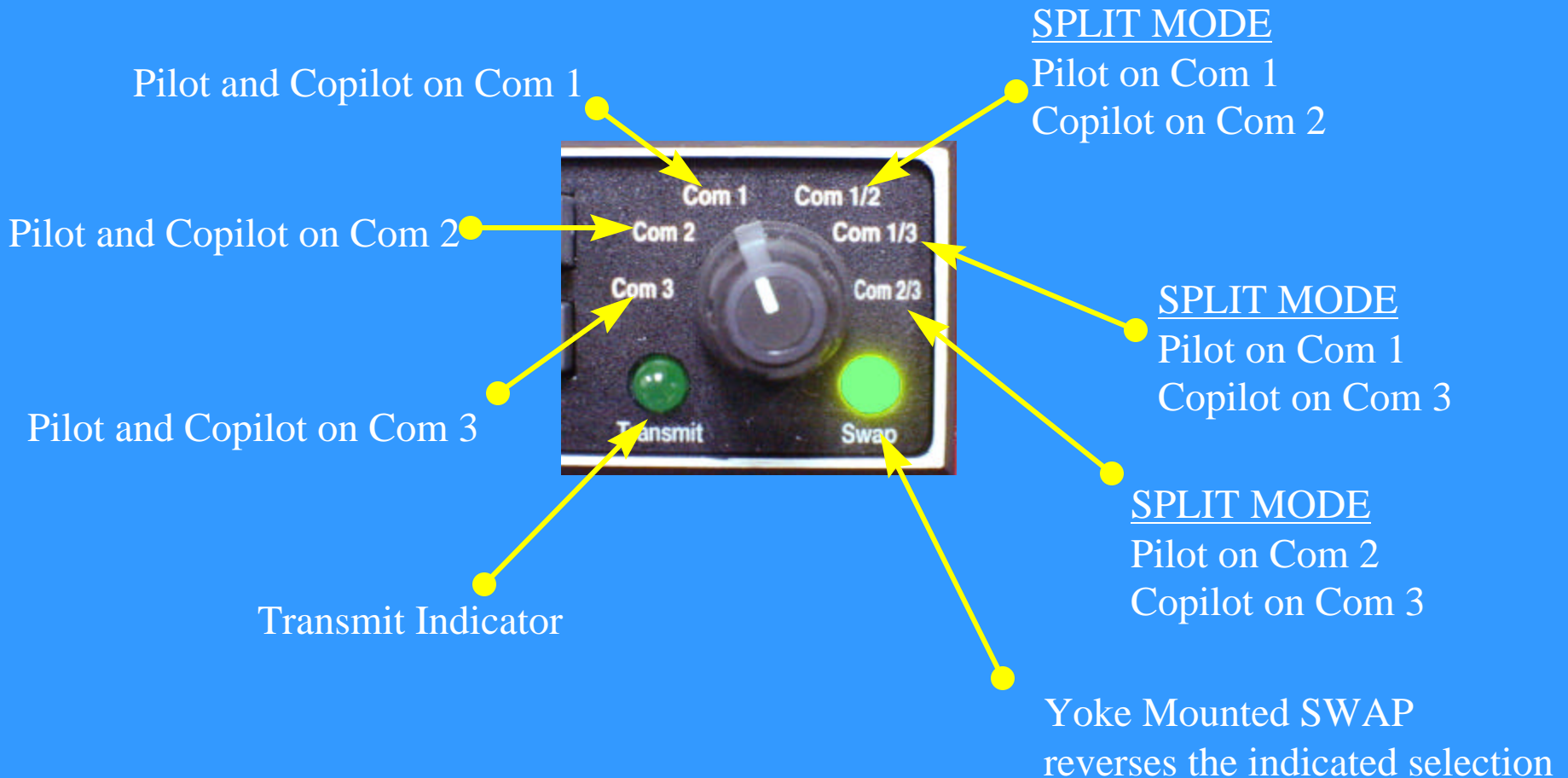- **Intercom operation: Just talk**

PMA7000M-S Operation

Audio Selection

Bright LED
Auto dimmed

Marker, ADF, DME

Com receivers

Nav Receivers

Com 3 Audio Select

Cabin Speaker

Audio Selection

- **COM 1 and 2 are momentary buttons**
  - Receive audio always follows the Mic selector
  - Push button to add other com receive audio
- **Com 3 audio is latched**
    - Push Com 1, Com 2 and /or Com 3 to monitor
- **Receiver buttons latch**
  - Positive indication of the selected audio
  - LEDs also annunciate audio sources selected
- **SPR button places all selected audio in cabin speaker**

Transmitter Selection

Pilot and Copilot on Com 1

Pilot and Copilot on Com 2

Pilot and Copilot on Com 3

Transmit Indicator

Pilot on Com 1
Copilot on Com 2

SPLIT MODE
Pilot on Com 1
Copilot on Com 3

SPLIT MODE
Pilot on Com 2
Copilot on Com 3

Yoke Mounted SWAP
reverses the indicated selection

Com 1   Com 1/2
Com 2   Com 1/3
Com 3   Com 2/3
Transmit   Swap

Transmitter Selection

- **Rotary switch controls transmitter selection**
  - You can't transmit without listening to the receiver.
  - Selector has the same order as the panel -top to bottom, 1-3
- **Com 1, Com 2, Com 3**
  - Pilot and copilot can <u>both</u> transmit on same radio.
  - Pilot has PTT priority
  - Only person pushing PTT is heard over radio
- **Com 1/2**
  - Pilot transmit and receive on Com 1
  - Copilot transmit and receive on Com 2
- **Com 2/1**
  - Vice versa

CAP Transmitter Combinations

Mic Se-lector	Normal		Swap	
	Pilot	Copilot	Pilot	Copilot
Com 1	Com 1	Com 1	Com 2	Com 2
Com 2	Com 2	Com 2	Com 1	Com 1
Com 3	Com 3	Com 3	No Swap	No Swap
Com1/2	Com 1	Com 2	Com 2	Com 1
Com 1/3	Com 1	Com 3	Com 3	Com 1
Com 2/3	Com 2	Com 3	Com 3	Com 2

If the Com 3 button is pushed in a Com 3 split mode, the pilot will also hear Com 3 audio, but no transmit.

Pushing SWAP again, or moving MIC Selector cancels swap
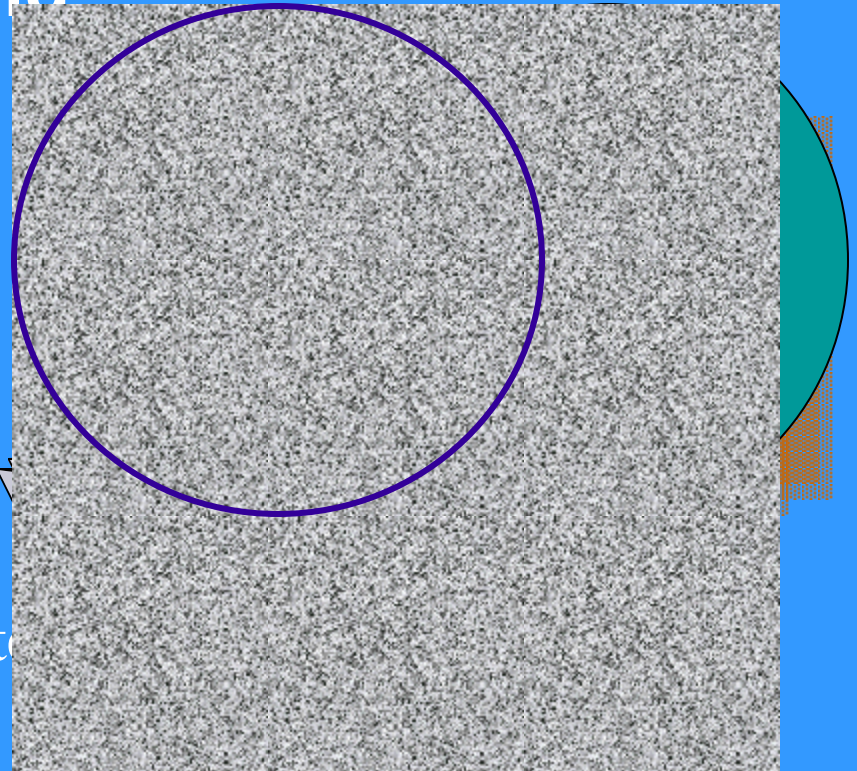
Who's talking now?

- **Com 1 or Com 2 annunciator flashes to show which radio is transmitting.**

- **Pilot hears selected receive audio in split mode**

- **If Com 3 is selected he will hear it in split, and can elect to monitor Com 3 receptions**

Three transmit positions

- **Through an external switch some aircraft can be configured to exchange the copilot connection with the observer position.**

- **Gives observer position any radio transmit ability.**

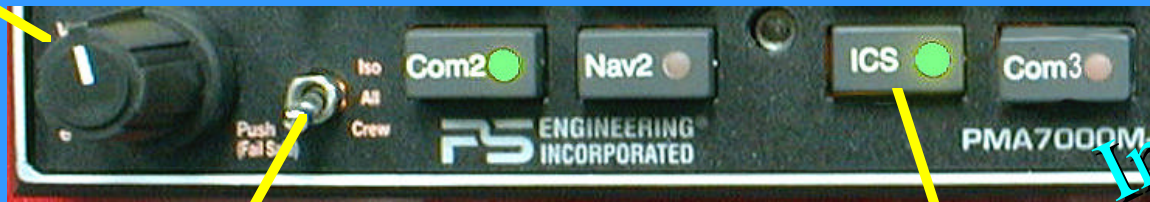- **Copilot becomes passenger**

Split Mode Limitations

- **Two comms transmitting in close proximity may bleed over.**

- **Depends on:**
  - Emission (AM/FM=Better)
  - Frequency (> Difference =Better)
  - Transmit Power (lower=Bett
  - Antenna location (Farther=Better)

Intercom Functions

Intercom
Volume
CW=Increase

Dual <u>Independent</u> Auxiliary Inputs
Front and back are separated.

IntelliVox™

Squelch

Mode Select

ISO	Pilot in command
All	Everybody tunes in
Crew	Front vs. back

ICS Button
Activates Intercom in Split Modes
Aux muting Control

Intercom Functions

- **Volume Control**
  - <u>Only</u> affects the intercom level.
    - Not , auxiliary not radio.
  - Intercom volume control for pilot and copilot only
    - Rear passengers are fixed volume.
    - Stereo headsets have individual volume controls, can be adjusted with screwdriver.
- **Push on/Push off switch**
  - Fail-Safe mode connects pilot headset to Com 1 if unit off, or power removed.

Intercom Modes

- **ISO**
  - Pilot only hears radios
  - Copilot and passengers have intercom
  - Copilot hears Aux 1
  - Passengers hear Aux 2
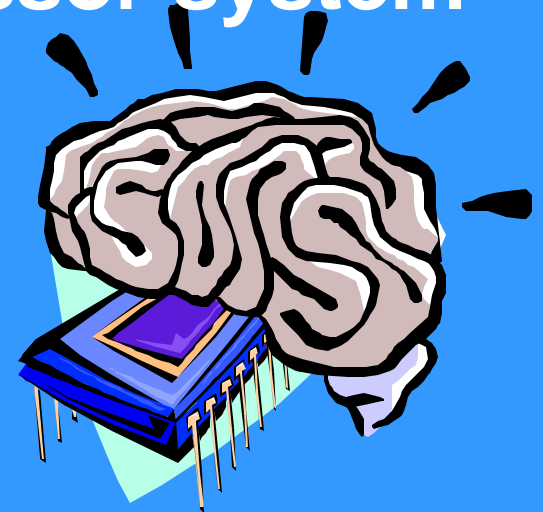
- **ALL**
  - Everybody hears everything
  - Radios
  - Intercom
  - Pilot and copilot hear Aux 1
  - Passengers hear Aux 2

- **Crew**
  - Pilot & Copilot hear radios
  - Pilot and copilot have separate intercom
  - Passengers have intercom, no radios.
  - Crew- Aux 1
  - Passengers- Aux 2

IntelliVox ™

- **Revolutionary microprocessor system**
  - No manual control
  - 6-independent circuits
  - constant monitoring
- **Just speak normally**
  - Position microphone <u>close</u> to your lips
  - Use a microphone muff
  - Avoid direct drafts into microphone
  - More noise the better it works

Intercom Entertainment

- **Aux source #1 feeds pilot and copilot headset.**

  - is muted whenever the intercom or radios are active.

- **Push "ICS" button to disable muting of the auxiliary inputs**

  ICS

- **Aux 2 feeds rear 4 seats.**

  - External switch in rear of aircraft to control Aux 2 muting

Marker Beacon Receiver

3-lights: **O**uter, **M**iddle and **I**nner

Marker Modes

High   Sense
Low   Sense
Test   Lamps and receiver

Audio Selection

Marker Beacon Operation

- **Receiver always on.**
- **Select MKR for receiver audio.**
- **High sense until tone acquired.**
  - Select low sense if desired to precise station crossing indication.
- **Test function for lamps and audio circuits.**

PTT ICS

- **Push to talk intercom (PTT)**
  - For very noisy conditions
  - Only for pilot and copilot positions
  - Must install ICS PTT button at each position
- **PTT-Enable select switch on panel**
  - Forces IntelliVox squelch closed
  - Then use ICS PTT to be heard on intercom

Night time dimming

- **The backlighting is adjusted by the aircraft dimmer <u>OR</u>**

  - Set at a fixed level at installation.

- **Annunciators and Marker lamps controlled by photocell on unit.**

  - The photodetector has a delay for smooth transition

ProSupport Customer Care

- **Questions or Comments or Problems :**
  - Call PS Engineering at (423) 988-9800
    8:00 am to 5:00 p.m. Eastern time.
  - FAX: (423) 988-6619 any time
  - email: GUYICS@aol.com or
    intercoms@ps-engineering.com
- **3-Year warranty**
  - Replacement for first 12 months
  - Repair for following 24 months

From all of us at PS Engineering. . .

THANK YOU !