

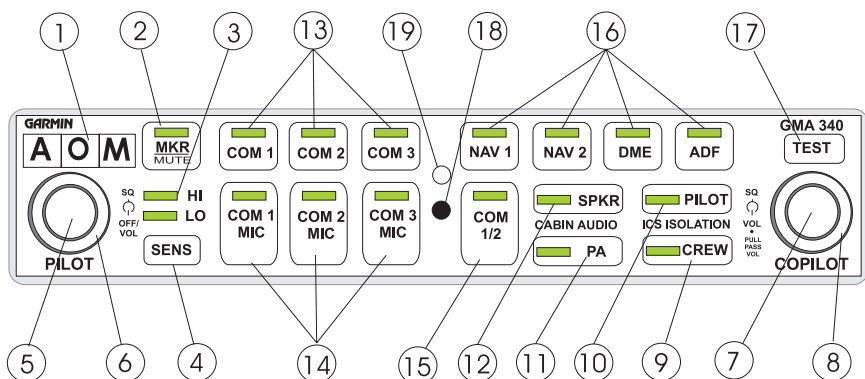
# GMA 340 AUDIO PANEL



## PILOT'S GUIDE



## Front Panel Controls



### MKR BCN

1. Marker Beacon Lamps
2. Marker Beacon Receiver Audio Select/Mute Button
3. Marker Beacon Receiver Sensitivity Indicator LED.
4. Marker Beacon Receiver Sensitivity Selection Button

### ICS

5. Unit On/Off, Pilot Intercom System (ICS) Volume
6. Pilot ICS Voice Activated (VOX) Intercom Squelch Level
7. Copilot and Passenger ICS Volume Control (Pull out for Passenger Volume)
8. Copilot/Passenger VOX Intercom Squelch Level
9. Crew Isolation Intercom Mode Button
10. Pilot Isolation Intercom Mode Button

### COM/ NAV

11. Passenger Address (PA) Function Button
12. Speaker Function Button
13. Transceiver Audio Selector Buttons (COM1, COM2, COM3)
14. Transmitter (Audio/Mic) Selection Buttons
15. Split COM Button
16. Aircraft Radio Audio Selection Buttons (NAV1, NAV2, DME, ADF)

17. Annunciator Test Button
18. Locking Screw Access
19. Photocell - Automatic Annunciator Dimming

## **On, Off, and Fail-Safe Operation**

The GMA 340 is powered off when the left small knob (5) is rotated fully CCW into the detent. To turn the unit on, rotate the knob clockwise past the click. The knob then functions as the pilot ICS volume control. A fail-safe circuit connects the pilot's headset and microphone directly to COM1 in case power is interrupted or the unit is turned off.

## **Lighting**

LED button annunciator and marker beacon lamp intensity are controlled automatically by a built-in photocell on the front panel. Nomenclature backlighting is controlled by the aircraft dimmer buss.

## **Transceivers**

### **NOTE**

*Audio level is controlled by the selected COM radio volume controls.*

Selection of either COM1, COM2, or COM3 for both MIC and audio source is accomplished by pressing either COM1 MIC, COM2 MIC, or COM3 MIC (14). The active COM audio is always heard on the headphones.

Additionally, each audio source can be selected independently by pressing COM1, COM2, or COM3 (13). When selected this way, they remain active as audio sources regardless of which transceiver has been selected for microphone use.

When a microphone is keyed, the active transceiver's MIC button LED blinks approximately once per second to indicate that the radio is transmitting.

## **Split COM**

Pressing the COM 1/2 button (15) activates the split COM function. When this mode is active, COM1 is dedicated solely to the pilot for MIC/audio while COM2 is dedicated to the copilot for MIC/audio. The pilot and copilot can simultaneously transmit in this mode over separate radios. Both pilots can still listen to COM3, NAV1, NAV2, DME, ADF, and MKR as selected. The split COM mode is cancelled by pressing the COM 1/2 button a second time.

When in the split COM mode the copilot may make PA announcements while the pilot continues using COM1 independently. When the PA button is pressed after the split com mode is activated, the copilot's mic is output over the cabin speaker when keyed. A second press of the PA button returns the copilot to normal split COM operation.

#### NOTE

*If the COM radios utilize a “transmit interlock” system, the split COM function may require that this feature is enabled. Refer to the radio installation manual for guidance. GARMIN makes no expressed or implied guarantees regarding the suitability of the split COM feature in a given installation.*

### **COM Swap Function**

The GMA 340 allows the use of a remote mounted switch (typically on the yoke) to alternately transfer the active microphone back and forth between COM1 and COM2. Pressing the remote switch will have no effect if COM3 is the active transceiver. Ask your installing agency for details.

### **Aircraft Radios & Navigation**

#### NOTE

*Audio level is controlled by the selected NAV radio volume control.*

Pressing NAV1, NAV2, DME, ADF (16), or MKR (2) (see MKR Beacon Receiver) selects each audio source. A second button press deselects the audio. In addition, the GMA 340 provides inputs for an unswitched aircraft radio (TEL RINGER) and an un-muted, unswitched aircraft radio (ALT WRN).

### **Speaker Output**

Pressing the SPKR button (12) selects the aircraft radios over the cabin speaker. The speaker output is muted when a COM microphone is keyed. The GMA 340 speaker output level can be adjusted by your installing agency.

### **PA Function**

The PA mode is activated by pressing the PA button (11). Then, when either the pilot's or copilot's microphone is keyed, the corresponding mic audio is heard over the cabin speaker. If the SPKR button is also active, then any selected speaker audio is muted while the microphone is keyed. The SPKR button does *not* have to be previously active in order to use the PA function. Pilot and copilot PA microphone speaker levels are adjustable by your installing agency.

## Auxiliary Entertainment Inputs

The GMA 340 provides two stereo entertainment inputs: MUSIC1 and MUSIC2. MUSIC1 is soft-muted during all aircraft radio activity and normally during ICS activity. MUSIC2 is a non-muted input. These inputs are compatible with popular portable entertainment devices such as cassette tape or CD players. The headphone outputs of these devices are used and plugged into MUSIC1 or MUSIC2. Two 3.5 mm stereo phone jacks should be installed in a convenient location for this purpose. MUSIC1 and MUSIC2 have characteristics that are affected by the active intercom mode. Refer to the table on page 5.

## Intercom System (ICS)

Intercom volume and squelch (VOX) are adjusted using the following front panel knobs:

- **LEFT SMALL KNOB**—Unit ON/OFF power control and Pilot ICS volume. Full CCW detent position is OFF.
- **LEFT LARGE KNOB**—Pilot ICS mic VOX squelch level. CW rotation increases the amount of mic audio (VOX level) required to break squelch. Full CCW is the “HOT MIC” position (no squelch).
- **RIGHT SMALL KNOB**—IN position: Copilot ICS volume. OUT position: Passenger ICS volume.
- **RIGHT LARGE KNOB**—Copilot and passenger mic VOX squelch level. CW rotation increases the amount of mic audio (VOX level) required to break squelch. Full CCW is the “HOT MIC” position.

Each of the six microphone inputs have dedicated VOX circuits to ensure that only the active microphone(s) is/are heard when squelch is broken. This represents a vast improvement over the party-line systems and reduces the amount of background noise in the headphones during cockpit communications. After the operator has stopped talking, the intercom channel remains momentarily open to avoid closure between words or normal pauses.

The GMA 340 provides three intercom modes: PILOT, CREW and ALL. Mode selection is accomplished using the PILOT and/or CREW buttons. Pressing a mode button activates the corresponding ICS mode. Pressing again deactivates the mode. The ALL mode is active when neither PILOT nor CREW LEDs are lit. To switch from PILOT to CREW mode, press the CREW button; from CREW to PILOT, press the PILOT button. An LED ON indicates the isolation mode is active.

- **PILOT mode** isolates the pilot from everyone else and dedicates the aircraft radios to the pilot exclusively. The copilot and passengers share communication between themselves but cannot communicate with the pilot or hear the aircraft radios.
- **CREW mode** places the pilot and copilot on a common ICS communication channel with the aircraft radios. The passengers are on their own intercom channel and can communicate with each other, but cannot communicate with the crew or hear the aircraft radios.
- **ALL mode** allows full intercom communication between everyone plugged in to the GMA 340. Aircraft radios are also heard by all.
- **MUSIC1 and MUSIC2** stereo entertainment inputs are affected by the intercom mode selected.

The following table summarizes the ICS operation for the different modes supported by the GMA 340.




<b>MODE</b>	<b>PILOT HEARS</b>	<b>COPILOT HEARS</b>	<b>PASSENGER HEARS</b>	<b>MUSIC1 MUTING TRIGGERED BY</b>
PILOT (LED LIT)	Selected Radios. Pilot.	Copilot. Passengers. MUSIC1.	Passengers. Copilot. MUSIC1.	Copilot or passenger intercom activity.
CREW (LED LIT)	Selected Radios. Pilot. Copilot. MUSIC1.	Selected Radios. Copilot. Pilot. MUSIC1.	Passengers. MUSIC2.	Aircraft radio activity. MKR activity. Pilot or copilot activity.
ALL (LEDs OFF)	Selected Radios. Pilot. Copilot. Passengers. MUSIC1.	Selected Radios. Pilot. Copilot. Passengers. MUSIC1.	Selected Radios. Pilot. Copilot. Passengers. MUSIC1.	Aircraft radio activity. MKR activity. Intercom activity.

MUSIC1 is normally muted during ICS activity. However an installation option is available to disable ICS MUTE. Then muting of MUSIC1 will not occur due to ICS activity. A panel mounted switch may be installed for this function. The MUSIC1 mute trip level is adjustable by the installation agency.

## Marker Beacon Receiver

The marker beacon is used as part of an ILS approach and in certain instances, to identify an airway. In addition to the normal marker beacon functions, the GMA 340 provides an audio muting function. The lamps illuminate, and an associated keyed-tone is heard (when MKR audio is selected), when the aircraft passes over a 75 MHz marker beacon transmitter.

The lamp and audio keying for ILS approach operation are summarized below.

Audio Frequency	Audio Keying	Lamp Actuated
400		Blue (Outer)
1300		Amber (Middle)
3000		White (Airway/Inner)

The marker beacon audio level is aligned at the factory to produce its rated audio output. However, the audio output level is adjustable by your installing agency.

The GMA 340's marker beacon receiver controls are located on the left side of the front panel (1-4). The SENS button selects either high or low sensitivity as indicated by the HI or LO LED being lit. Low sensitivity is used on ILS approaches while high sensitivity allows operation over airway markers or to get an earlier indication of nearing the outer marker during an approach.

The marker audio is initially selected by pressing the MKR/mute button (2). If no marker beacon signal is received, then a second button press will deselect the marker audio. This operation is similar to selecting any other audio source on the GMA 340. However, if the second button press occurs while a marker beacon signal is received, then the marker audio is muted but not deselected. The button's LED will remain lit to indicate that the source is still selected. When the current marker signal is no longer received, the audio is automatically un-muted. While in the muted state, pressing the MKR/mute button deselects the marker audio. The button's LED will extinguish to indicate that the marker audio is no longer selected.

The marker beacon lamps operate independently of any audio selection and cannot be turned off. The GMA 340 can drive external marker lamps if required.



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