

WARNING

PRIOR TO EXPORT OF THIS DOCUMENT, REVIEW FOR EXPORT LICENSE REQUIREMENT IS NEEDED.

COPYRIGHT NOTICE

©1988, 1996, 2002 HONEYWELL INTERNATIONAL INC.

REPRODUCTION OF THIS PUBLICATION OR ANY PORTION THEREOF BY ANY MEANS WITHOUT THE EXPRESS WRITTEN PERMISSION OF HONEYWELL IS PROHIBITED. FOR FURTHER INFORMATION CONTACT THE MANAGER, TECHNICAL PUBLICATIONS, HONEYWELL, ONE TECHNOLOGY CENTER, 23500 WEST 105TH STREET OLATHE KS 66061 TELEPHONE: (913) 782-0400.

KI 208, KI 209

REVISION HISTORY

INSTALLATION MANUAL BENDIX/KING KI 208, KI 209 Navigation Indicators

PART NUMBER	REV	DATE	DESCRIPTION
006-00140-0004	4	Aug/2002	Replaces P/N 006-00140-0003.
006-00140-0003	3	Oct/1996	Replaces P/N 006-00140-0002.
006-00140-0002	2	Mar/1988	Replaces P/N 006-00140-0001.

THIS PAGE RESERVED

TABLE OF CONTENTS

KI 208, KI 209

SECTION I GENERAL INFORMATION

Paragraph

Paragr	aph	Page
1.1	Introduction	1-1
1.2	Equipment Description	1-1
1.3	Technical Characteristics	1-1
1.4	Units and Accessories Supplied	1-2
1.5	Accessories Required, But Not Supplied	1-3
1.6	License Requirements	1-3
1.7	Requirements for TSO'd VOR/ ILS/ Glideslope System	1-3

LIST OF TABLES

Table		Page
1-1	Technical Characteristics KI 208, KI 209	1-1

SECTION II INSTALLATION

Parag	raph	Page
2.1	General	2-1
2.2	Unpacking and Inspecting Equipment	2-1
2.3	Installation KI 208, KI 209	2-1
2.4	Post Installation Checkout	

LIST OF TABLES

Table		Page
2-1	ILS Deflection	2-3
2-2	Glideslope Deflection	2-3

LIST OF ILLUSTRATIONS

Figure		Page
2-1	KI 208 Pinout List	2-5
2-2	KI 209 Pinout List	2-6
2-3	Crimping Tool	2-7
2-4	KI 208, KI 209 Connector Assembly	2-8
2-5	KI 208, KI 209 Outline and Mounting (Dwg 155-05235-0000)	2-9
2-6	KI 208, KI 209 Typical Interconnect	2-11
2-7	KI 208 Non-TSO'd System Interconnect. (Dwg 155-01223-0000)	2-13
2-8	KI 209 System Interconnect	2-15

UP793797

TABLE OF CONTENTS

KI 208, KI 209

SECTION III OPERATION

Paragrapl	h	Page
3.1	Equipment Operation	3-1
3.2	Indicator Control Functions KI 208, KI 209	3-2

LIST OF ILLUSTRATIONS

Figure		Page
3-1	KI 208 Control Functions	3-3
3-2	KI 209 Control Functions	3-4

I

1

KI 208, KI 209

SECTION I GENERAL INFORMATION

1.1 INTRODUCTION

This manual contains information relative to the physical, mechanical and electrical characteristics of the Bendix/King Silver Crown KI 208 and KI 209.

1.2 EQUIPMENT DESCRIPTION

The Bendix/King KI 208 VOR Indicator is designed to operate with VHF navigational equipment (such as the KX 155, KX 155A, KX 165A) to provide OMNI (VOR) or LO-CALIZER (LOC) information. The VHF navigational receiver receives and detects the omni or localizer information. The KI 208 converts this information to DC signals which drive the LEFT-RIGHT needle and the TO-OFF-FROM flag of the visual indicator.

The KI 209 ILS Indicator performs the same functions as the KI 208. In addition, it contains an UP-DOWN glideslope needle with an OFF warning flag.

An anti reflective lens coating is also available on some models of the KI 208 and KI 209.

1.3 TECHNICAL CHARACTERISTICS

SPECIFICATION	CHARACTERISTIC	
KI208, KI209 TSO COMPLIANCE:	C40a, C36c Class C Cat 2. DO-138 Environmental Cat. DAPAAAXXXXXX.	
ADDITIONAL TSO COMPLIANCE FOR KI 209 ONLY:	C34c Class D Cat 2.	
SIZE:	See Figure 2-5 (P/N 155-05235-0000).	
WEIGHT:	See Figure 2-5 (P/N 155-05235-0000).	
POWER REQUIREMENTS:		
KI 208, KI 209 Indicator	14 Vdc at 50 mA, 28 Vdc at 50 mA.	
KI 208 Lighting KI 209 Lighting KI 208, KI 209 Lighting	14 Vdc at 80 ±20 mA. 14 Vdc at 160 ±45 mA. 28 Vdc at 80 ±20 mA.	

TABLE 1-1 Technical Characteristics KI 208, KI 209

KI 208, KI 209

SPECIFICATION	CHARACTERISTIC		
VOR/LOC:			
Input Impedance:	50 k ohms, nominal.		
Nominal Composite Input Level:	LOC: 0.33 ±10% Vrms. VOR: 0.50 ±10% Vrms ARINC phased.		
Localizer Sensitivity:	4 dB tone ratio will give 3 dot scale deflection.		
OMNI Accuracy:	±2° max error, ±1° typical.		
OMNI Sensitivity:	±10° off course gives full scale deflection.		
External Load:	ARINC autopilot deviation (two 1 k loads).		
GLIDESLOPE DEVIATION METER:			
Input Impedance:	1 k ±5% ohms.		
Deflection Sensitivity:	150 \pm 5% uA for full scale deflection.		
GLIDESLOPE FLAG:			
Input Impedance:	1 k ±5% ohms minimum.		
Deflection Sensitivity:	125 uA for flag to leave stop. 260 uA maximum for fully concealed flag.		

TABLE 1-1 Technical Characteristics KI 208, KI 209

1.4 UNITS AND ACCESSORIES SUPPLIED

1.4.1 KI 208 VOR Indicator

066-3056-00 066-3056-02 Antireflective lens

1.4.2 KI 209 ILS Indicator

066-3056-01 066-3056-03 Antireflective lens

1.4.3 Bendix/King Equipment Installation Kit (P/N 050-01550-0000) which includes mating connectors, mounting hardware, etc., is as follows:

KI 208, KI 209

<u>PART NUMBER</u>	DESCRIPTION	<u>QTY</u>	VENDOR PART NUMBER
030-02227-0005	Shell, Connector Plug	1	Burndy SMS12P-1
030-02227-0009	Hood, Conn (2 pieces)	1	Burndy SMS12H1
030-02227-0023	Pin, Female Crimp	12	Burndy SC20M-6TK6
088-00706-0000	Tool, Adjustment	1	

1.5 ACCESSORIES REQUIRED, BUT NOT SUPPLIED

- 1.5.1 Antenna.
- 1.5.2 Interconnecting Cables.
- 1.5.3 Receiver.
- 1.5.4 Mooring Plate P/N 073-00044-0001.
- 1.5.5 Adapter Plate P/N 073-00045-0000 (Front mounting only).
- 1.5.6PunchRefer to Figure 2-5 (P/N 155-05235-0000) or other
appropriate drawing.
- 1.5.7Filing TemplateRefer to Figure 2-5 (P/N 155-05235-0000) or other
appropriate drawing.
- 1.5.8 Crimp Tool Burndy Hytool M8ND
- 1.5.9 Extraction Tool Handle P/N 005-02012-0012, Burndy RXT20-4P3
- 1.5.10 Extraction Tool Tip P/N 005-02012-0013, Burndy RXK20-25

1.6 LICENSE REQUIREMENTS

None.

1.7 REQUIREMENTS FOR TSO'D VOR/ILS/GLIDESLOPE SYSTEM

Units used in conjunction with the KI 208, KI 209 must meet the specifications listed below to comprise a completely TSO'd navigation system.

- 1.7.1 Navigation Receiver Requirements For Use with KI 208, KI 209.
- 1.7.1.1 The navigation receiver shall be authorized to the standards of TSO C40a, C40b, C40c, and/or TSO C36c, C36d, C36e.
- 1.7.1.2 VOR phase error shall not exceed 1.5°.
- 1.7.1.3 Variation in VOR composite output to not exceed ±3 dB from 0.500 Vrms as the RF input level of a Standard VOR Test Signal to the receiver is varied from 10 uV to 10,000 uV.

- 1.7.1.4 Variation in the LOC composite output shall not exceed ±2 dB from 0.333 Vrms as the RF input level of a Standard Localizer Centering Signal is varied from 50 uV to 10,000 uV.
- 1.7.1.5 A control line (ILS Energize) must be provided as a low impedance to ground when an ILS frequency is selected.
- 1.7.2 Glideslope Receiver/Converter Requirements For Use with KI 209.
- 1.7.2.1 The glideslope receiver/converter shall be authorized to the standards of TSO C34c, C34d, C34e.
- 1.7.2.2 Centering current to be 0 ±7 uA into a 1000 ohm load with a 95% probability under all combinations of the service conditions listed in RTCA Paper DO-132, <u>Minimum Performance Standards Airborne ILS Glideslope Receiving Equipment</u> paragraph 2.1 sub-paragraph b, <u>Centering Accuracy</u>.
- 1.7.2.3 Deviation current with a 700 uV Standard Glideslope Deviation Signal (0.091 \pm 0.001 ddm tone ratio) applied to the receiver input shall be 78 \pm 10% uA into a 1000 ohm load. Deviation current shall not change more than 15% as the RF input level of a Standard Glideslope Deviation Signal is varied from 100 to 10,000 uV. Deviation current shall be proportional within 5% to the difference in depth of modulation of the 90 Hz and 150 Hz tones.
- 1.7.2.4 Warning signal output shall be a DC current less than 125 uA into a 1000 ohm load for a warning flag to be fully visible. Warning signal for a fully concealed warning flag shall be a DC current of 260 uA minimum into a 1000 ohm load.
- 1.7.3 Fully TSO'D Systems

The following navigation systems will meet all TSO system requirements when used in conjunction with the KI 208, KI 209:

KX 155 KX 155A KX 165A

SECTION II INSTALLATION

2.1 GENERAL

This section contains suggestions and factors to consider before installing the KI 208, KI 209 Indicator. Close adherence to these suggestions will assure a more satisfactory performance from the equipment.

2.2 UNPACKING AND INSPECTING EQUIPMENT

Exercise extreme care when unpacking each unit. Make a visual inspection of each unit for evidence of damage incurred during shipment. If a claim for damage is to be made, save the shipping container to substantiate the claim. When all equipment is removed, place in the shipping container all packing materials for use in unit storage or reshipment. The KI 208, KI 209 installation will conform to standards designated by the customer, installing agency and existing conditions as to unit location and type of installation.

NOTE

This equipment has plastic lenses. Use extreme caution when cleaning.

- 2.3 INSTALLATION KI 208, KI 209
- 2.3.1 Installation Procedure
- 2.3.1.1 Carefully select the KI 208, KI 209 panel location for unobstructed vision, minimum parallax, and adequate clearance for the instrument case and installation of cables and connectors.
- 2.3.1.2 Refer to Figure 2-5 (P/N 155-05235-0000), or other appropriate drawing, for the KI 208 and KI 209 mounting dimensions.
- 2.3.1.3 A standard 3 1/8 inch instrument hole is required. Refer to Figure 2-5 (P/N 155-05235-0000), or other appropriate drawing, for hole punch or filing templates.
- 2.3.1.4 Secure the KI 208, KI 209 firmly in place using the mounting screws supplied. If the mounting screw supplied are not used, #6-32 mounting screws that do not extend more than 0.625 inches (1.59 cm) into the unit may be used.
- 2.3.1.5 The installing agency will supply and fabricate the external cable. The plugs required are supplied by Bendix/King.
- 2.3.1.6 The KI 208, KI 209 will drive two external deflection indicator loads of 1000 ohms or greater impedance.
- 2.3.1.7 An omni phase adjust potentiometer, R233 is accessible from the front of the indicator by removing the upper left mounting screw. The 2 1/2 inch long adjustment tool (P/N 088-00706-0000) is required to adjust the omni phase ad-

JP793797

just potentiometer. This is for final calibration of the omni system after installing in aircraft. The range of the error potentiometer is approximately $\pm 25^{\circ}$. It should be noted that this potentiometer does not affect localizer centering. The localizer centering potentiometer R227 is accessible from the front of the indicator by removing the upper right mounting screw. Again the 2 1/2 inch long adjustment tool is required.

- 2.3.2 CABLING
- 2.3.2.1 The length and routing of the external cables must be carefully studied and planned prior to the installation. Avoid sharp bends and placing cables too near the aircraft control cables.
- 2.3.2.2 Fabricate the external cables in accordance with the installation drawing that fulfills the system requirement.
- 2.3.2.3 Avoid running the interconnect harness between the KI 208 and navigation receiver too close to any transmitter antenna coax cable.
- 2.3.2.4 Considerable savings of installation time can be realized by using the Burndy crimping tool shown in Figure 2-3.

2.4 POST INSTALLATION CHECKOUT

An operational ramp test or performance flight test is recommended after installation to insure satisfactory performance of the equipment in its normal environment.

- 2.4.1 RAMP TEST
- 2.4.1.1 Use VOR/ILS ramp generator IFR 401L or equivalent.
- 2.4.1.2 Set ramp generator to VOR, 90° TO. Set NAV receiver to VOR frequency. Rotate OBS until the D-bar centers, with the To/From indicator reading TO. The OBS should read 90° TO $\pm 2^{\circ}$. Change the generator to 0° TO, center the D-bar, and check the OBS reading for 0° TO $\pm 2^{\circ}$.
- 2.4.1.3 If the error is greater than ±2°, VOR centering may be readjusted by R233 (behind top left mounting screw) using adjustment tool P/N 088-00706-0000.
- 2.4.1.4 To adjust VOR centering, change the generator to 90° TO, center the D-bar, and adjust R233 for 0° TO ±2°. Change the generator to 90° FROM, center the D-bar, and adjust R233 for half the reading at 90° TO. Repeat adjustments at 90° TO and 90° FROM until both are within ±2°. If large corrections are required to center the needle the source of error may be exist in another part of the VOR/LOC navigation system.
- 2.4.1.5 Change the generator to 0° TO, center the D-bar for 0° TO. Set OBS to 8° and check for 4 ±1/2 dots deflection to the Left. Set OBS to 352° and check for 4 ±1/2 dots deflection to the Right.
- 2.4.1.6 Rotate the OBS 360° and verify that the To/From flag changes state only at $270^{\circ} \pm 30^{\circ}$ and at $90^{\circ} \pm 30^{\circ}$ OBS position.

JP793797

- 2.4.1.7 Remove VOR RF signal and verify that NAV warning flag appears.
- 2.4.1.8 Set ramp generator to ILS mode. Set NAV receiver to ILS frequency. Check the levels in Table 2-1 for ILS deflection and Table 2-2 for Glideslope deflection within ±1/2 dot.

SIGNAL	LEVEL	PREDOMINATE MODULATION	DIRECTION	DEFLECTION (±1/2 dot)
LOC	+4 dB (+.093 ddm)	150 Hz	LEFT	3 dots
LOC	+0 dB (0 ddm)		CENTERED	$\pm 1/2 \text{ dot}$
LOC	-4 dB (093 ddm)	90 Hz	RIGHT	3 dots

TABLE 2-1 ILS Deflection

TABLE 2-2 Glideslope Deflection

SIGNAL	LEVEL	PREDOMINATE MODULATION	DIRECTION	DEFLECTION (±1/2 dot)
GS	+2 dB (>.091 ddm)	150 Hz	UP	2 1/2 dots
GS	+0 dB (0 ddm)		CENTERED	$\pm 1/2 \text{ dot}$
GS	-2 dB (.091 ddm)	90 Hz	DOWN	2 1/2 dots

- 2.4.1.9 If the error is greater than ±1/2 dot, LOC centering may be readjusted by R227 (behind top right mounting screw) using adjustment tool P/N 088-00706-0000 at 0 dB (0 ddm).
- 2.4.1.10 Remove ILS RF signal and verify that NAV/GS warning flag(s) appear.
- 2.4.2 FLIGHT TEST
- 2.4.2.1 To check the VOR/ILS System, select a VOR frequency within a forty nautical mile range. Listen to the VOR audio and insure that no electrical interference such as magneto noise is present. Check the tone identifier operation. Fly inbound or outbound on a selected VOR radial and check for proper LEFT-RIGHT and TO-FROM indications. Check VOR accuracy for ±5° of a known heading.

NOTE

VOR ground station scalloping may occur under weak signal conditions.

Channel off VOR NAV receiver and verify that the NAV warning flag appears.

2.4.2.2 Flight test the ILS operation by flying a simulated ILS approach. Check localizer LEFT-RIGHT deflection and, if applicable, glideslope deflection. Check the localizer accuracy in relation to the ILS runway.

Channel off ILS NAV receiver and verify that NAV/GS warning flag(s) appear.

KI 208 PINOUT LIST

P2081

DESCRIPTION

1	4		AIRCRAFT GROUND
2	←		VOR/LOC COMPOSITE
3			NO CONNECTION
4	«		LOC ENGAGE IN
5			LIGHTING 28 VOLT LO
6		چه هم که دن چه هند منه منه منه منه برای زیره چه هند که هم هند	NO CONNECTION
7	4		LIGHTING 14 VOLT
8	∢ -		11-33 VDC AIRCRAFT POWER
9			NO CONNECTION
10			LATERAL DEVIATION +LEFT OUT
11			LATERAL DEVIATION + RIGHT OUT
12		بے سے بن سے سے بن سے میں میں میں میں	NO CONNECTION

← INPUT OUTPUT →

Figure 2-1 KI 208 Pinout List

I

KI 209 PINOUT LIST

P2091

91		DESCRIPTION
1	←	 AIRCRAFT GROUND
2	←	 VOR/LOC COMPOSITE
3	←	 VERTICAL DEVIATION + UP IN
4	<	 LOC ENGAGE
5		 LIGHTING 28 VOLT LO
6	←	 VERTICAL DEVIATION + DOWN IN
7	4	 LIGHTING 14 VOLT
8	←	 11-33 VDC AIRCRAFT POWER
9	←	 VERTICAL +FLAG IN
10		 LATERAL DEVIATION +LEFT OUT
11		 LATERAL DEVIATION +RIGHT OUT
12	←-	VERTICAL -FLAG IN

← INPUT OUTPUT →

Figure 2-2 KI 209 Pinout List



BURNDY HYTOOL M8ND (ratchet controlled)

RXK20-25 Extraction Tool Tip (P/N 005-02012-0013) RXT20-4P3 Extraction Tool Handle (P/N 005-02012-0012)



Fixed outer sleeve depresses contact locking spring. With tool still in contact hole, use hand to pull out contact.



Suggested Wire Strip Length



Burndy Socket SC20M-6TK6 (P/N 030-02227-0023)

Figure 2-3 Crimping Tool

JP793797

I

KI 208, KI 209



Figure 2-4 KI 208, KI 209 Connector Assembly









NOTES:

- 1. ALL WIRES ARE 24 AWG MINIMUM UNLESS OTHERWISE NOTED.
- 2. IF THE KAP 140 IS INTERFACED TO THE KI 208/209, THE KC 140 SHOULD BE CONFIGURED FOR "NAV FORCE VALID: TRUE", SO THE KC 140 WILL NOT EXPECT A LATERAL FLAG INPUT.
- 3. \pm CONNECT THESE SHIELD GROUNDS TO AIRCRAFT CHASSIS WITH AS SHORT A CONDUCTOR AS PRACTICAL.



FIGURE 2-6 KI 208, KI 209 Typical Interconnect

IM 006-00140-0004



KI 208, KI 209



÷.

UP793797

- 7, 8 7 AN (KI265) NC 200
- SHOULD LEADS RETURN HAILER RAMP 7. .6
- AIRCRAFT SPEAKER N 1 AT KMA20. AND AIRCRAFT SPEAKER O FIN 1 AT KMA20. ITCHING CAPABILITY: ខ

Dwg 155-01223-0000 Rev 4

- COMM PIN 17 NONE NAV PIN 26 300mm INS. EXTER 10.
 - E K AL AL #2 IS INTERCOM MIC I MAS THE FOLLOWING AUDIO KI 208 AUX 11. 12.
- CAPA VING

	N	DR/LOC
INDICATORS	FLAG	DEFLECTION
ARINC	NONE	ONE
AUTOFILOT	NONE	ONE

KN74 MAY BE AND KN65 INTERCONNECT INFORMATION FOR CTIVE INSTALLATION MANUALS. COMPLETE 13.

Ы

- GROUND. HAVE AIRFRAME MUST OR EQUIVALENT) ANTENNA (KA 22
- I TRANSMITTER COAXIAL 175/170B/175B. MMON AND FOWER GROUND WER GROUN L70A/1 AWAY FROM CAREST KX 1 ILS MNJ 39] OF GRD 14. 15.
 - , ROUTE OUTPUT I I IS SPK LOAD GI KX ITOA/B/175. IS USED, KMA 20 OF THE ġ





FIGURE 2-8 KI 209 System Interconnect (Dwg No 155-01241-0000, Rev 4)

AUTOPILOT

ES CABL IO. GLIDESLOPE ANTENNA (KA22 OR EQUIVALENT) MUST HAVE ARFRAME GND. IN ROUTE ILS COMMON AND POWERGND. AWAY FROM COMM TRANSMITTER COAXIAL IF KA39 IS USED, ROUTE OUTPUT PIN & WITH ILS COMMON AND POWER GND.

REQUIRED NUMBER OF EXTERNAL INDICATED FOR AS PINS KN 73 JUMPER ē,

slope	<u>f</u> P	none	none	
Glide	tks	1 k	none	
loads				
external				
Number of	-	0	ю	

SECTION III OPERATION

3.1 EQUIPMENT OPERATION

All controls required to operate the KI 208, KI 209 are located on the unit's front panel and on the front panel of the related NAV/COMM transceivers.

3.1.1 VOR OPERATION (KI 208, KI 209)

Select the desired VOR station frequency with the NAV frequency controls. The NAV receiver volume control can then be adjusted to positively identify the station or listen to FSS reports.

To intercept a selected VOR radial (from the station) and fly outbound, turn the OBS control to set the desired radial under the top indicator index. Maneuver the aircraft to fly the selected radial magnetic heading plus a 45° intercept angle which will provide a sufficient intercept angle. The intercept angle should be reduced as the deviation needle approaches an on-course condition (center) to prevent excessive course bracketing.

To determine the bearing and fly "To" a selected VOR station, turn the OBS control until the "To-From" flag resembles a white arrow pointing up and the deviation needle is centered. Read the "To" bearing under the top indicator index and maneuver the aircraft to approximately fly the magnetic course "To" the station. If the deviation needle moves to the right, the aircraft course must be adjusted 5 or 10 degrees to the right. Similarly, if the deviation needle goes to the left, the aircraft course must be adjusted to the left. Maintaining a centered deviation needle will provide automatic course compensation for wind drift.

3.1.2 LOCALIZER OPERATION (KI 208, KI 209)

Localizer circuits are automatically energized when an ILS frequency is selected on the KX 155, KX 155A. By adjusting the NAV volume level, the localizer station can be identified and in some cases, ATIS information received. The localizer flag should disappear from view into the "To" condition indicating the signal is reliable.

Maneuver the aircraft to fly an on-course centered needle. While flying a front course approach or outbound on the back course approach, magnetic heading corrections are made toward the needle deflection. Similarly, while flying the back course approach or outbound on the front course approach, corrections are made away from the needle deflection.

The localizer course width is narrow compared to VOR course width and requires much smaller course corrections to center the deviation needle. When intercepting the localizer course, the aircraft turn into localizer course should be started when the needle moves off the meter stop.

A helpful quick reference reminder of the localizer course is to set the course on the omni-bearing readout.

3.1.3 GLIDESLOPE OPERATION (KI 209)

The glideslope (horizontal) needle provides the pilot with vertical steering information during ILS approaches. The glideslope circuitry may be energized independently or when the associated localizer frequency is selected on the navigation receiver. Observe that the glideslope warning flag is concealed. The glideslope needle deflects toward the direction the pilot must fly to remain on the glideslope path. If the glideslope needle deflects upward, the aircraft is below the glideslope and must climb to center the needle. If the needle deflects downward, the aircraft is above the glide path and must descend to remain on the glide path. When the needle is centered the aircraft is on the glide path.

3.2 INDICATOR CONTROL FUNCTIONS KI 208, KI 209

Figure 3-1 displays the control functions of the KI 208. Figure 3-2 displays the control functions of the KI 209.

3.2.1 OMNI-BEARING SELECTOR (OBS)

The OMNI Bearing Selector knob rotates the azimuth card on which the desired course is selected. The course selected serves as a reference for all VOR indications. The reciprocal course is identified under the bottom course index.

3.2.2 VOR/LOC DEVIATION INDICATOR

The VOR/LOC needle deflection indicates the amount of deviation from the selected VOR course or localizer path. The indicated angular deviation is toward the proper flight path in normal operation.

The VOR/LOC warning flag is fully visible when the VOR or LOC signal is unreliable. The VOR TO-FROM flag indicates the direction "TO" or "FROM" the VOR station.

3.2.3 GLIDESLOPE DEVIATION INDICATOR (KI 209 Only)

The glideslope deviation needle deflection indicates the amount of deviation from the glide path. The deflection is toward the direction of flight required to maintain the proper descent path. The glideslope warning flag is visible when the glideslope signal is unreliable or the receiver has malfunctioned.



KI 208 CONTROL FUNCTIONS

Figure 3-1 KI 208 Control Functions



KI 209 CONTROL FUNCTIONS

Figure 3-2 KI 209 Control Functions