

SECTION 8 ADDITIONAL FEATURES



NOTE: *With the availability of SafeTaxi®, ChartView, or FliteCharts®, it may be necessary to carry another source of charts on-board the aircraft.*

Additional features of the system include the following:

- Synthetic Vision System (SVS)(Optional)
- SafeTaxi® diagrams
- ChartView and FliteCharts® electronic charts (Optional)
- SiriusXM Satellite Radio entertainment (Optional)
- Scheduler
- Electronic Checklists (Optional)
- Flight Data Logging
- Auxiliary Video (Optional)

The optional Synthetic Vision System (SVS) provides a three-dimensional forward view of terrain features on the PFD. SVS imagery shows the pilot's view of relevant features in relation to the aircraft attitude, as well as the flight path pertaining to the active flight plan.

SafeTaxi diagrams provide detailed taxiway, runway, and ramp information at more than 700 airports in the United States. By decreasing range on an airport that has a SafeTaxi diagram available, a close up view of the airport layout can be seen.

The optional ChartView and FliteCharts provide on-board electronic terminal procedures charts. Electronic charts offer the convenience of rapid access to essential information. Either ChartView or FliteCharts may be configured in the system, but not both.

The optional SiriusXM Satellite Radio entertainment audio feature of the GDL 69A Data Link Receiver handles more than 170 channels of music, news, and sports. SiriusXM Satellite Radio offers more entertainment choices and longer range coverage than commercial broadcast stations.

The Scheduler feature can be used to enter and display short term or long term reminder messages such as Switch fuel tanks, Change oil, or Altimeter-Transponder Check in the Messages Window on the PFD.

Optional checklists help to quickly find the proper procedure on the ground or during flight.

The Flight Data Logging feature automatically stores critical flight and engine data on an SD data card. Approximately 1,000 flight hours can be recorded for each 1GB of available space on the card.

The G1000 system provides a control and display interface to an optional auxiliary video system. The system can display video for up to two inputs.

8.1 SYNTHETIC VISION SYSTEM (SVS) (OPTIONAL)



WARNING: Use appropriate primary systems for navigation, and for terrain, obstacle, and traffic avoidance. SVS is intended as an aid to situational awareness only and may not provide either the accuracy or reliability upon which to solely base decisions and/or plan maneuvers to avoid terrain, obstacles, or traffic.

The optional Synthetic Vision System (SVS) is a visual enhancement to the G1000 Integrated Flight Deck. SVS depicts a forward-looking attitude display of the topography immediately in front of the aircraft. The field of view is 30 degrees to the left and 35 degrees to the right. SVS information is shown on the Primary Flight Display (PFD), or on the Multifunction Display (MFD) in Reversionary Mode (Figure 8-91). The depicted imagery is derived from the aircraft attitude, heading, GPS three-dimensional position, and a nine arc-second database of terrain, obstacles, and other relevant features. The terrain data resolution of nine arc-seconds, meaning that the terrain elevation contours are stored in squares measuring nine arc-seconds on each side, is required for the operation of SVS. Loss of any of the required data, including temporary loss of the GPS signal, will cause SVS to be disabled until the required data is restored.

The SVS terrain display shows land contours (colors are consistent with those of the topographical map display), large water features, towers, and other obstacles over 200' AGL that are included in the obstacle database. Cultural features on the ground such as roads, highways, railroad tracks, cities, and state boundaries are not displayed even if those features are found on the MFD map. The terrain display also includes a north–south east–west grid with lines oriented with true north and spaced at one arc-minute intervals to assist in orientation relative to the terrain.

The optional Terrain Awareness and Warning System (TAWS) or standard Terrain-SVS is integrated within SVS to provide visual and auditory alerts to indicate the presence of terrain and obstacle threats relevant to the projected flight path. Terrain alerts are displayed in red and yellow shading on the PFD.

The terrain display is intended for situational awareness only. It may not provide the accuracy or fidelity on which to base decisions and plan maneuvers to avoid terrain or obstacles. Navigation must not be predicated solely upon the use of the Terrain–SVS or TAWS terrain or obstacle data displayed by the SVS.

The following SVS enhancements appear on the PFD:

- Pathways
- Flight Path Marker
- Horizon Heading Marks
- Traffic Display
- Airport Signs
- Runway Display
- Terrain Alerting
- Obstacle Alerting

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Figure 8-1 Synthetic Vision Imagery

SVS OPERATION

SVS is activated from the PFD using the softkeys located along the bottom edge of the display. Pressing the softkeys turns the related function on or off. When SVS is enabled, the pitch scale increments are reduced to 10 degrees up and 7.5 degrees down.

SVS functions are displayed on three levels of softkeys. The **PFD** Softkey leads into the PFD function Softkeys, including synthetic vision. Pressing the **SYN VIS** Softkey displays the SVS feature softkeys. The softkeys are labeled **PATHWAY**, **SYN TERR**, **HRZN HDG**, and **APTSIGNS**. The **BACK** Softkey returns to the previous level of softkeys. Synthetic Terrain must be active before any other SVS feature may be activated.

HRZN HDG, **APTSIGNS**, and **PATHWAY** Softkeys are only available when the **SYN TERR** Softkey is activated (gray with black characters). After activating the **SYN TERR** Softkey, the **HRZN HDG**, **APTSIGNS**, and **PATHWAY** softkeys may be activated in any combination to display desired features. When system power is cycled, the last selected state (on or off) of the **SYN TERR**, **HRZN HDG**, **APTSIGNS**, and **PATHWAY** softkeys is remembered by the system.

- **PATHWAY** Softkey enables display of rectangular boxes that represent course guidance.
- **SYN TERR** Softkey enables synthetic terrain depiction.
- **HRZN HDG** Softkey enables horizon heading marks and digits.
- **APTSIGNS** Softkey enables airport signposts.

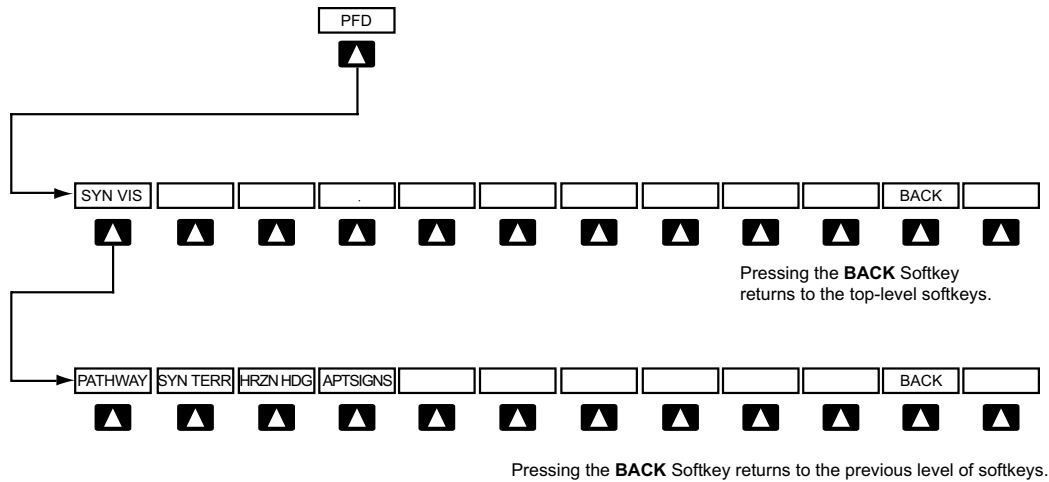


Figure 8-2 SVS Softkeys

Activating and deactivating SVS:

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) Press the **SYN TERR** Softkey. The SVS display will cycle on or off with the **SYN TERR** Softkey.

Activating and deactivating Pathways:

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) Press the **PATHWAY** Softkey. The Pathway feature will cycle on or off with the **PATHWAY** Softkey.

Activating and deactivating Horizon Headings:

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) Press the **HRZN HDG** Softkey. The horizon heading display will cycle on or off with the **HRZN HDG** Softkey.

Activating and deactivating Airport Signs:

- 1) Press the **PFD** Softkey.
- 2) Press the **SYN VIS** Softkey.
- 3) Press the **APTSIGNS** Softkey. Display of airport signs will cycle on or off with the **APTSIGNS** Softkey.

SVS FEATURES



Figure 8-3 SVS on the Primary Flight Display



NOTE: Pathways and terrain features are not a substitute for standard course and altitude deviation information provided by the altimeter, CDI, and VDI.

PATHWAYS

Pathways provide a three-dimensional perspective view of the selected route of flight shown as colored rectangular boxes representing the horizontal and vertical flight path of the active flight plan. The box size represents 700 feet wide by 200 feet tall during enroute, oceanic, and terminal flight phases. During an approach, the box width is 700 feet or one half full scale deviation on the HSI, whichever is less. The height is 200 feet or one half full scale deviation on the VDI, whichever is less. The altitude at which the pathway boxes are displayed is determined by the higher of either the selected altitude or the VNAV altitude programmed for the active leg in the flight plan (Figure 8-4).

The color of the rectangular boxes may be magenta, green, or white depending on the route of flight and navigation source selected. The active GPS or GPS overlay flight plan leg is represented by magenta boxes that correspond to the Magenta CDI. A localizer course is represented by green boxes that correspond to a green CDI. An inactive leg of an active flight plan is represented by white boxes corresponding to a white line drawn on the Inset map or MFD map indicating an inactive leg.

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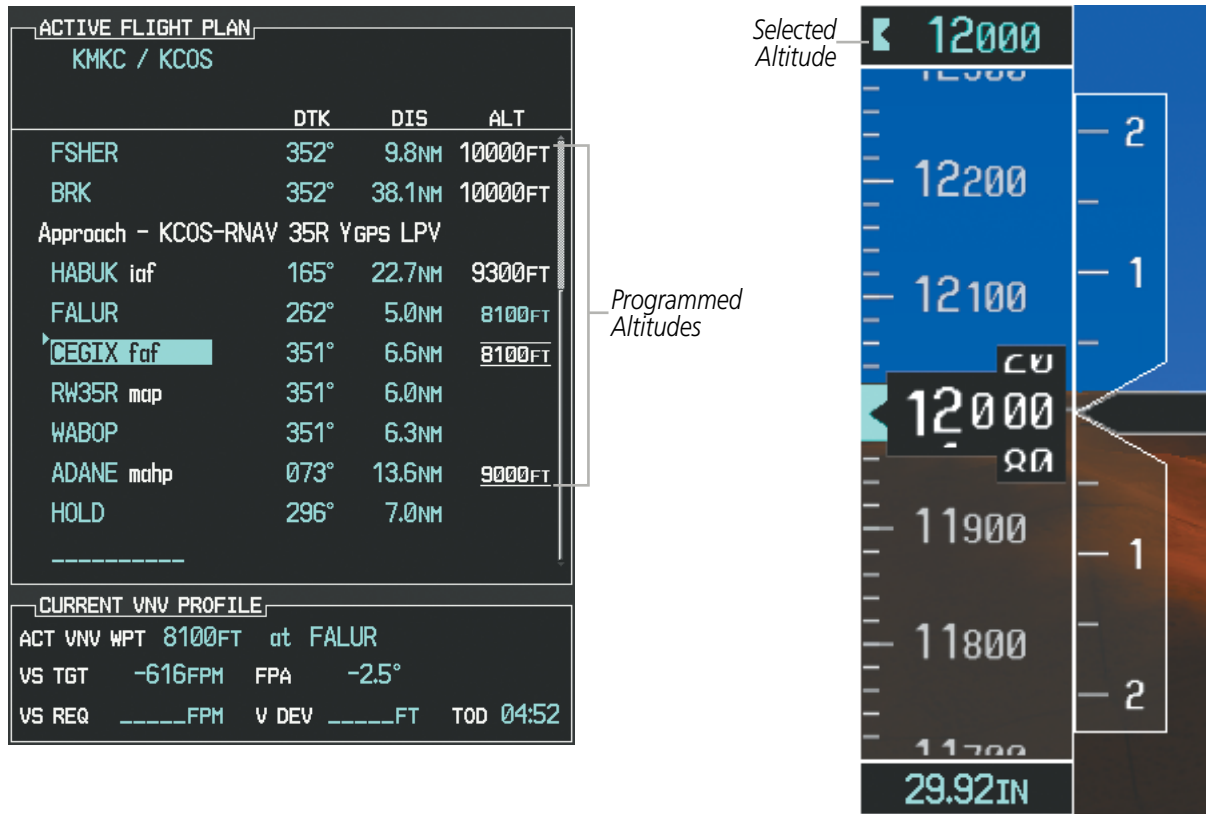


Figure 8-4 Programmed and Selected Altitude

Pathways provide supplemental glidepath information on an active ILS, LPV, LNAV/VNAV, and some LNAV approaches. Pathways are intended as an aid to situational awareness and should not be used independent of the CDI, VDI, glide path indicator, and glide slope indicator. They are removed from the display when the selected navigation information is not available. Pathways are not displayed beyond the active leg when leg sequencing is suspended and are not displayed on any portion of the flight plan leg that would lead to intercepting a leg in the wrong direction.

DEPARTURE AND ENROUTE

Prior to intercepting an active flight plan leg, pathways are displayed as a series of boxes with pointers at each corner that point in the direction of the active waypoint. Pathways are not displayed for the first leg of the flight plan if that segment is a Heading-to-Altitude leg. The first segment displaying pathways is the first active GPS leg or active leg with a GPS overlay. If this leg of the flight plan route is outside the SVS field of view, pathways will not be visible until the aircraft has turned toward this leg. While approaching the center of the active leg and prescribed altitude, the number of pathway boxes decreases to a minimum of four.

Pathways are displayed along the flight plan route at the highest of either the selected altitude or the programmed altitude for the leg. Climb profiles cannot be displayed due to the variables associated with aircraft performance. Flight plan legs requiring a climb are indicated by pathways displayed at a level above the aircraft at the altitude selected or programmed.

DESCENT AND APPROACH

Pathways are shown descending only for a programmed descent (Figures 8-5, 8-6). When the flight plan includes programmed descent segments, pathways are displayed along the descent path provided that the selected altitude is lower than the programmed altitude.

When an approach providing vertical guidance is activated, Pathways are shown level at the selected altitude up to the point along the final approach course where the altitude intercepts the extended vertical descent path, glidepath, or glideslope. From the vertical path descent, glidepath, or glideslope intercept point, the pathways are shown inbound to the Missed Approach Point (MAP) along the published lateral and vertical descent path, or at the selected altitude, whichever is lower.

During an ILS approach, the initial approach segment is displayed in magenta at the segment altitudes if GPS is selected as the navigation source on the CDI. When switching to localizer inbound with LOC selected as the navigation source on the CDI, pathways are displayed in green along the localizer and glide slope.

VOR, LOC BC, and ADF approach segments that are approved to be flown using GPS are displayed in magenta boxes. Segments that are flown using other than GPS or ILS, such as heading legs or VOR final approach courses are not displayed.

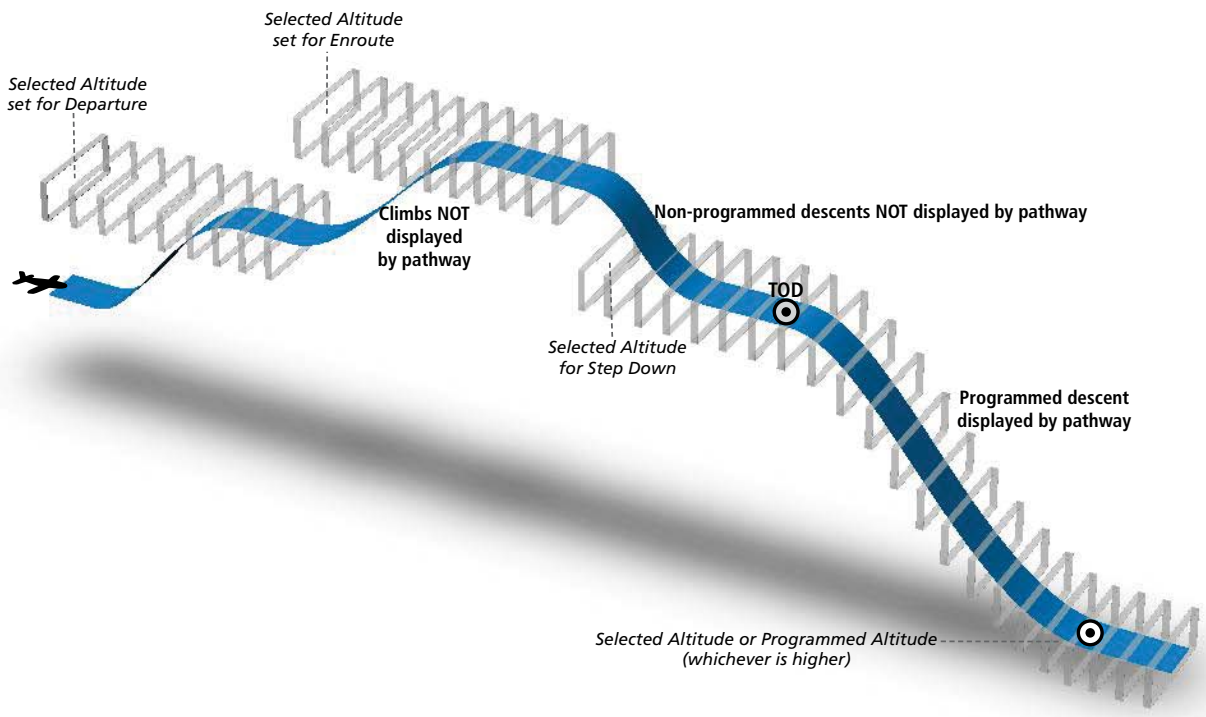


Figure 8-5 SVS Pathways, Enroute and Descent

MISSED APPROACH

Upon activating the missed approach, pathways lead to the Missed Approach Holding Point (MAHP) and are displayed as a level path at the published altitude for the MAHP, or the selected altitude, whichever is the highest. If the initial missed approach leg is a Course-to-Altitude (CA) leg, the pathways boxes will be displayed level at the altitude published for the MAHP. If the initial missed approach leg is defined by a course using other than GPS, pathways are not displayed for that segment. In this case, the pathways displayed for the next leg may be outside the field of view and will be visible when the aircraft has turned in the direction of that leg.

Pathways are displayed along each segment including the path required to track course reversals that are part of a procedure, such as holding patterns. Pathways boxes will not indicate a turn to a MAHP unless a defined geographical waypoint exists between the MAP and MAHP.

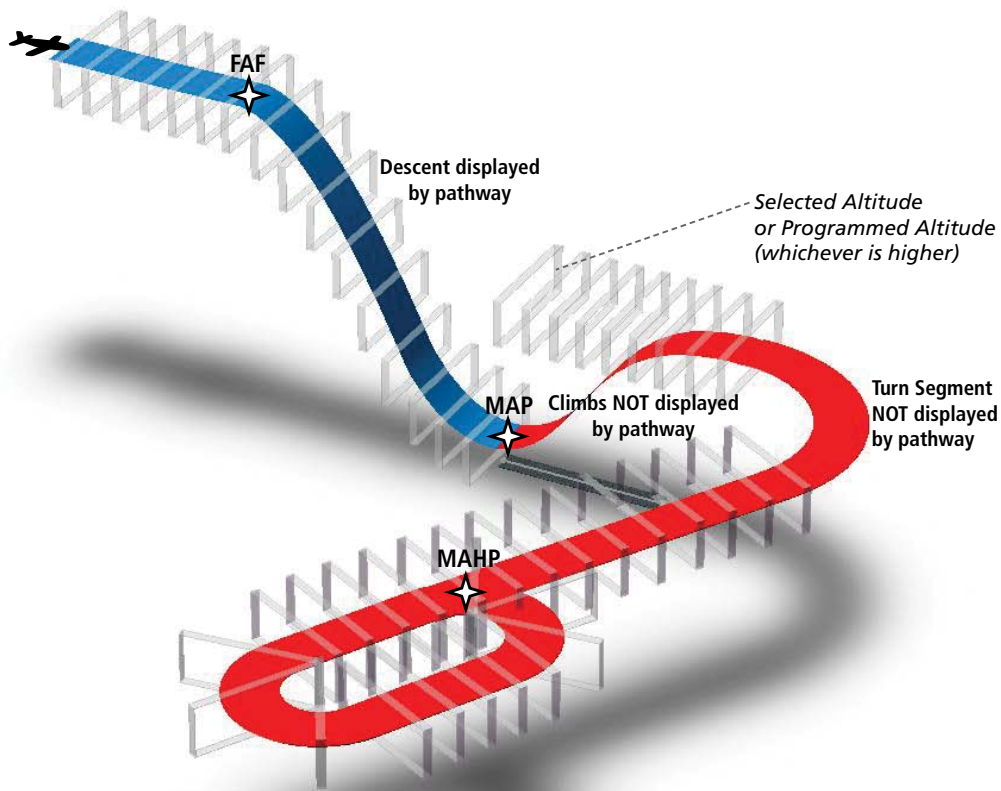


Figure 8-6 SVS Pathways, Approach, Missed Approach, and Holding

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FLIGHT PATH MARKER

The Flight Path Marker (FPM), also known as a Velocity Vector, is displayed on the PFD at groundspeeds above 30 knots. The FPM depicts the approximate projected path of the aircraft accounting for wind speed and direction relative to the three-dimensional terrain display.

The FPM is always available when the Synthetic Terrain feature is in operation. The FPM represents the direction of the flight path as it relates to the terrain and obstacles on the display, while the airplane symbol represents the aircraft heading.

The FPM works in conjunction with the Pathways feature to assist the pilot in maintaining desired altitudes and direction when navigating a flight plan. When on course and altitude the FPM is aligned inside the pathway boxes as shown (Figure 8-7).

The FPM may also be used to identify a possible conflict with the aircraft flight path and distant terrain or obstacles. Displayed terrain or obstacles in the aircraft's flight path extending above the FPM could indicate a potential conflict, even before an alert is issued by TAWS. However, decisions regarding terrain and/or obstacle avoidance should not be made using only the FPM.



Figure 8-7 Flight Path Marker and Pathways

ZERO PITCH LINE

The Zero Pitch Line is drawn completely across the display and represents the aircraft attitude with respect to the horizon. It may not align with the terrain horizon, particularly when the terrain is mountainous or when the aircraft is flown at high altitudes.

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HORIZON HEADING

The Horizon Heading is synchronized with the HSI and shows approximately 60 degrees of compass heading in 30-degree increments on the Zero Pitch Line. Horizon Heading tick marks and digits appearing on the zero pitch line are not visible behind either the airspeed or altitude display. Horizon Heading is used for general heading awareness, and is activated and deactivated by pressing the **HRZN HDG** Softkey.

TRAFFIC



WARNING: Intruder aircraft at or below 500 ft. AGL may not appear on the SVS display or may appear as a partial symbol.

Traffic symbols are displayed in their approximate locations as determined by the related traffic systems. Traffic symbols are displayed in three dimensions, appearing larger as they are getting closer, and smaller when they are further away. Traffic within 250 feet laterally of the aircraft will not be displayed on the SVS display. Traffic symbols and coloring are consistent with that used for traffic displayed in the Inset map or MFD traffic page. If the traffic altitude is unknown, the traffic will not be displayed on the SVS display. For more details refer to the traffic system discussion in the Hazard Avoidance section.

AIRPORT SIGNS

Airport Signs provide a visual representation of airport location and identification on the synthetic terrain display. When activated, the signs appear on the display when the aircraft is approximately 15 nm from an airport and disappear at approximately 4.5 nm. Airport signs are shown without the identifier until the aircraft is approximately eight nautical miles from the airport. Airport signs are not shown behind the airspeed or altitude display. Airport signs are activated and deactivated by pressing the **APTSIGNS** Softkey.



Figure 8-8 Airport Signs

RUNWAYS

WARNING: Do not use SVS runway depiction as the sole means for determining the proximity of the aircraft to the runway or for maintaining the proper approach path angle during landing.

NOTE: Not all airports have runways with endpoint data in the database, therefore, these runways are not displayed.

Runway data provides improved awareness of runway location with respect to the surrounding terrain. All runway thresholds are depicted at their respective elevations as defined in the database. In some situations, where threshold elevations differ significantly, crossing runways may appear to be layered. As runways are displayed, those within 45 degrees of the aircraft heading are displayed in white. Other runways will be gray in color. When an approach for a specific runway is active, that runway will appear brighter and be outlined with a white box, regardless of the runway orientation as related to aircraft heading. As the aircraft gets closer to the runway, more detail such as runway numbers and centerlines will be displayed.



Figure 8-9 Airport Runways

TERRAIN-SVS AND TAWS ALERTING

Terrain alerting on the synthetic terrain display is triggered by Forward-looking Terrain Avoidance (FLTA) alerts, and corresponds to the red and yellow X symbols on the Inset Map and MFD map displays. For more detailed information regarding Terrain-SVS and TAWS, refer to the Hazard Avoidance Section.

In some instances, a terrain or obstacle alert may be issued with no conflict shading displayed on the synthetic terrain. In these cases, the conflict is outside the SVS field of view to the left or right of the aircraft.



Figure 8-10 Terrain Alert

Obstacles are represented on the synthetic terrain display by standard two-dimensional tower symbols found on the Inset map and MFD maps and charts. Obstacle symbols appear in the perspective view with relative height above terrain and distance from the aircraft. Unlike the Inset map and MFD moving map display, obstacles on the synthetic terrain display do not change colors to warn of potential conflict with the aircraft's flight path until the obstacle is associated with an actual FLTA alert. Obstacles greater than 1000 feet below the aircraft altitude are not shown. Obstacles are shown behind the airspeed and altitude displays.



Figure 8-11 Obstacle

FIELD OF VIEW

The PFD field of view can be represented on the MFD Navigation Map Page. Two dashed lines forming a V-shape in front of the aircraft symbol on the map, represent the forward viewing area shown on the PFD.

Configuring field of view:

- 1) While viewing the Navigation Map Page, press the **MENU** Key to display the PAGE MENU.
- 2) Turn the large **FMS** Knob to highlight Map Setup and press the **ENT** Key.

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Navigation Map Page OPTIONS Menu Map Setup Menu, Map Group, Field of View Option

Figure 8-12 Option Menus

- 3) Turn the **FMS** Knob to select the Map Group and press the **ENT** Key.
- 4) Turn the large **FMS** Knob to scroll through the Map Group options to FIELD OF VIEW.
- 5) Turn the small **FMS** Knob to select On or Off.
- 6) Press the **FMS** Knob to return to the Navigation Map Page.

The following figure compares the PFD forward looking depiction with the MFD plan view and FIELD OF VIEW turned on.

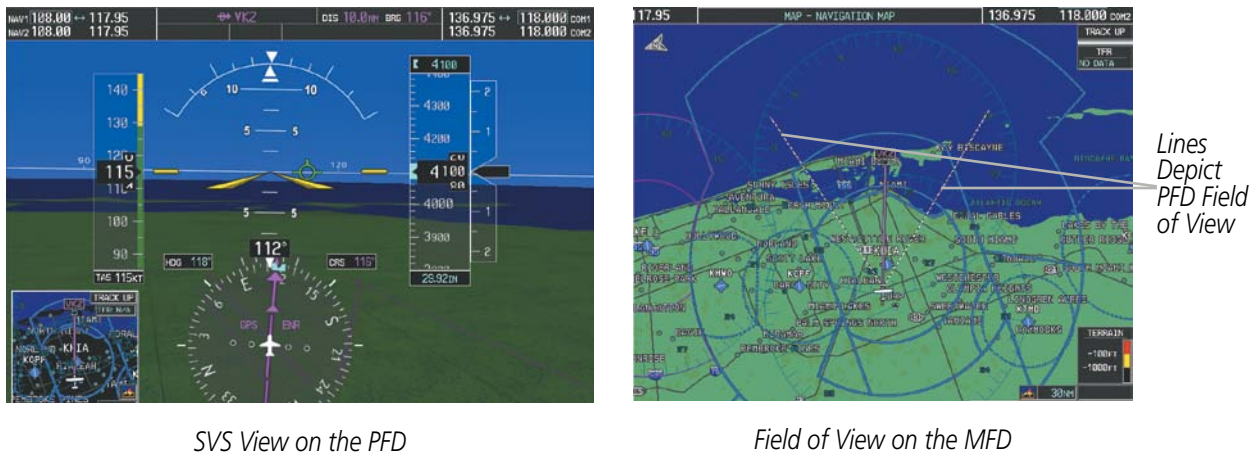


Figure 8-13 PFD and MFD Field of View Comparison

8.2 SAFETAXI

SafeTaxi is an enhanced feature that gives greater map detail when viewing airports at close range. The maximum map ranges for enhanced detail are pilot configurable. When viewing at ranges close enough to show the airport detail, the map reveals taxiways with identifying letters/numbers, airport Hot Spots, and airport landmarks including ramps, buildings, control towers, and other prominent features. Resolution is greater at lower map ranges. When the MFD display is within the SafeTaxi ranges, the airplane symbol on the airport provides enhanced position awareness.

Designated Hot Spots are recognized at airports with many intersecting taxiways and runways, and/or complex ramp areas. Airport Hot Spots are outlined to caution pilots of areas on an airport surface where positional awareness confusion or runway incursions happen most often. Hot Spots are defined with a magenta circle or outline around the region of possible confusion.

Any map page that displays the navigation view can also show the SafeTaxi airport layout within the maximum configured range. The following is a list of pages where the SafeTaxi feature can be seen:

- Navigation Map Page
- Inset Map (PFD)
- Weather Datalink Page
- Airport Information Page
- Intersection Information Page
- NDB Information Page
- VOR Information Page
- User Waypoint Information Page
- Trip Planning Page
- Nearest Pages
- Active and Stored Flight Plan Pages

During ground operations the aircraft's position is displayed in reference to taxiways, runways, and airport features. In the example shown, the aircraft is on taxiway Bravo approaching the High Alert Intersection boundary on KSFO airport. Airport Hot Spots are outlined in magenta. When panning over the airport, features such as runway holding lines and taxiways are shown at the cursor.

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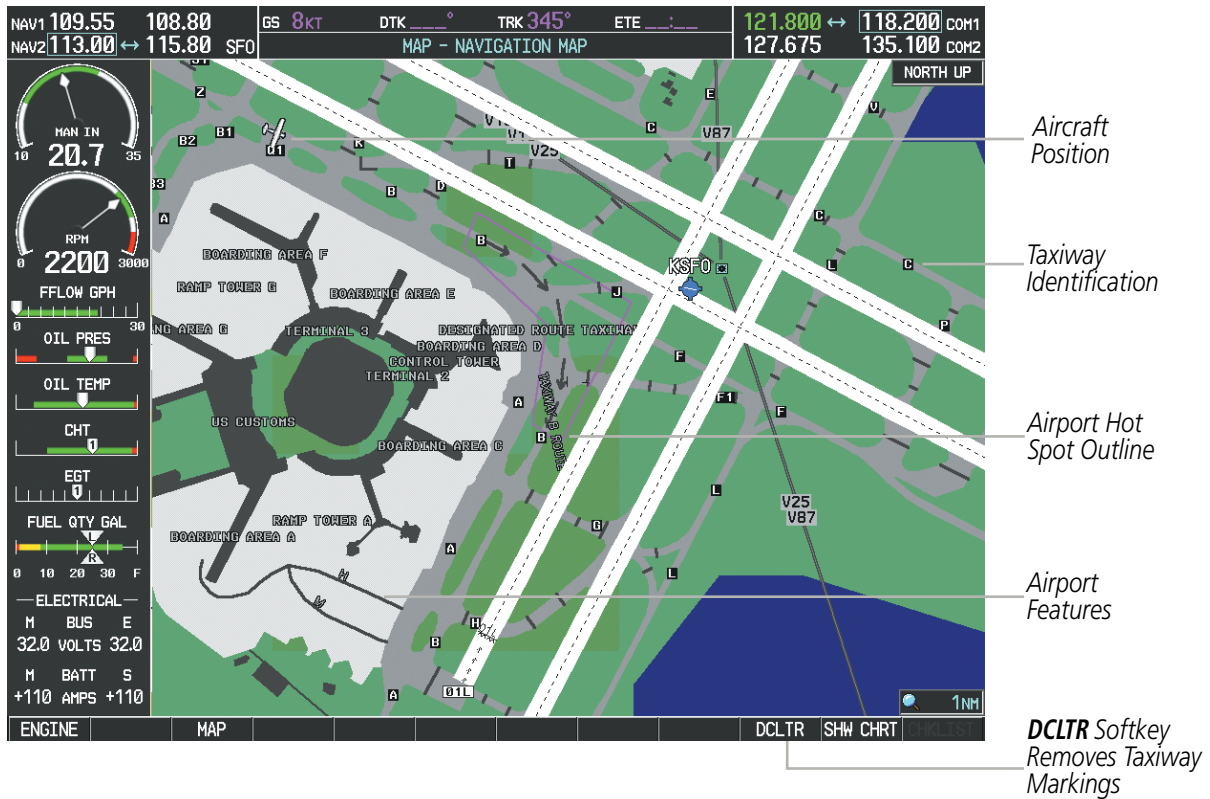


Figure 8-14 SafeTaxi Depiction on the Navigation Map Page

The **DCLTR** Softkey (declutter) label advances to DCLTR-1, DCLTR -2, and DCLTR-3 each time the softkey is pressed for easy recognition of decluttering level. Pressing the **DCLTR** Softkey removes the taxiway markings and airport feature labels. Pressing the **DCLTR-1** Softkey removes VOR station ID, the VOR symbol, and intersection names if within the airport plan view. Pressing the **DCLTR-2** Softkey removes the airport runway layout, unless the airport in view is part of an active route structure. Pressing the **DCLTR-3** Softkey cycles back to the original map detail. Refer to Map Declutter Levels in the Flight Management Section.

Configuring SafeTaxi range:

- 1) While viewing the Navigation Map Page, press the **MENU** Key to display the PAGE MENU.
- 2) Turn the large **FMS** Knob to highlight the Map Setup Menu Option and press the **ENT** Key.

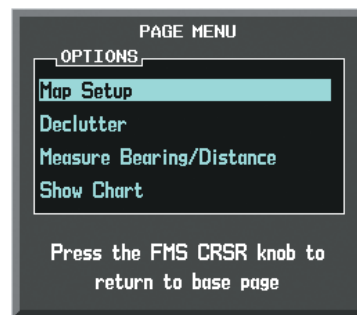


Figure 8-15 Navigation Map PAGE MENU, Map Setup Option

- 3) Turn the **FMS** Knob to select the Aviation Group and press the **ENT** Key.
- 4) Turn the large **FMS** Knob to scroll through the Aviation Group options to SAFETAXI.
- 5) Turn the small **FMS** Knob to display the range of distances.
- 6) Turn either **FMS** Knob to select the desired distance for maximum SafeTaxi display range.
- 7) Press the **ENT** Key to complete the selection.
- 8) Press the **FMS** Knob to return to the Navigation Map Page.

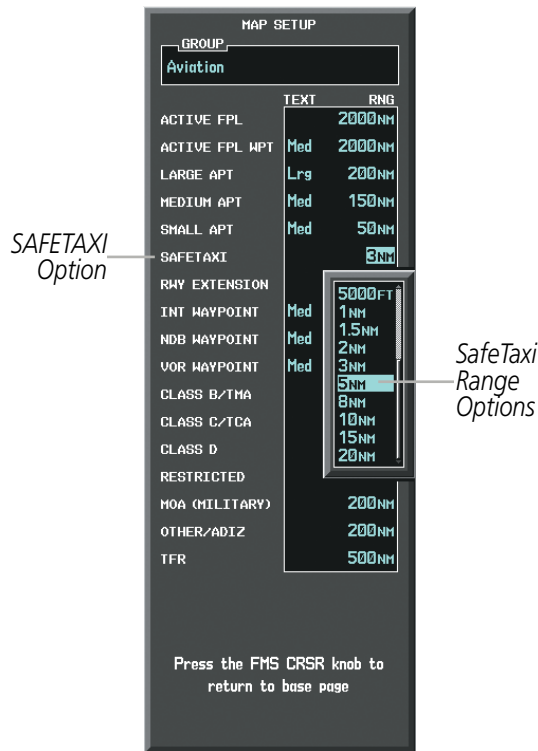


Figure 8-16 MAP SETUP Menu, Aviation Group, SAFETAXI Range Options

SAFETAXI CYCLE NUMBER AND REVISION

SafeTaxi database is revised every 56 days. SafeTaxi is always available for use after the expiration date. When turning on the system, the Power-up Page indicates whether the databases are current, out of date, or not available.

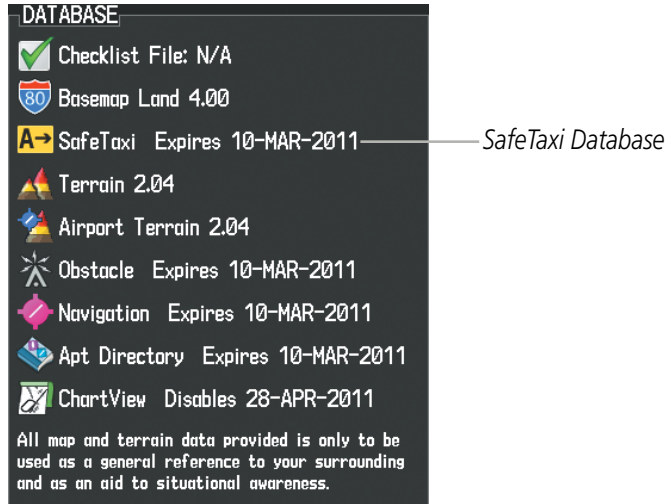


Figure 8-17 Power-up Page, SafeTaxi Database

Power-up Page Display	Definition
	Normal operation. SafeTaxi database is valid and within current cycle.
	SafeTaxi database has expired.
	Database card contains no SafeTaxi data.

Table 8-1 SafeTaxi Annunciation Definitions

The SafeTaxi Region, Version, Cycle, Effective date and Expires date of the database cycle can also be found on the AUX - System Status page, as seen in Figure 8-18.

Select the **MFD1 DB** Softkey to place the cursor in the DATABASE window. Scroll through the listed information by turning the **FMS** Knob or pressing the **ENT** Key until the SafeTaxi database information is shown.

The SafeTaxi database cycle number shown in the figure, 11S1, is deciphered as follows:

11 – Indicates the year 2011

S – Indicates the data is for SafeTaxi

1 – Indicates the first issue of the SafeTaxi database for the year

The SafeTaxi EFFECTIVE date 13–JAN–11 is the beginning date for the current database cycle. SafeTaxi EXPIRES date 10–MAR–11 is the revision date for the next database cycle.



Figure 8-18 AUX – System Status Page, SafeTaxi Current Information

SafeTaxi information appears in blue and yellow text. The EFFECTIVE date appears in blue when data is current and in yellow when the current date is before the effective date. The EXPIRES date appears in blue when data is current and in yellow when expired (Figures 8-18 and 8-19). NOT AVAILABLE appears in blue in the REGION field if SafeTaxi data is not available on the database card (Figure 8-19). An expired SafeTaxi database is not disabled and will continue to function indefinitely.

Select the **MFD1 DB** Softkey a second time. The softkey label will change to **PF1 DB**. The DATABASE window will now be displaying database information for PFD1. As before, scroll through the listed information by turning the **FMS** Knob or pressing the **ENT** Key until the SafeTaxi database information is shown.

Refer to Updating Garmin Databases in Appendix B for instructions on revising the SafeTaxi database.

Figure 8-19 illustrates possible SafeTaxi database conditions that may appear on the AUX - System Status Page. The EFFECTIVE date is the beginning date for this database cycle. If the present date is before the effective date, the EFFECTIVE date appears in yellow and the EXPIRES date appears in blue. The EXPIRES date is the revision date for the next database cycle. NOT AVAILABLE indicates that SafeTaxi is not available on the database card or no database card is inserted.

<p>MFD1 DATABASE</p> <p>REGION WORLDWIDE</p> <p>VERSION 4.00</p> <p>GARMIN LTD. AND ITS SUBSIDIARIES 2010</p> <hr/> <p>SAFETAXI - BOTTOM CARD</p> <p>REGION US</p> <p>VERSION 2.34</p> <p>CYCLE 11S1</p> <p>EFFECTIVE 13-JAN-11</p> <p>EXPIRES 10-MAR-11</p> <p>GARMIN LTD. AND ITS SUBSIDIARIES 2010</p> <hr/> <p>TERRAIN - BOTTOM CARD</p> <p>REGION WORLDWIDE-9</p> <p>VERSION 2.04</p>	<p>MFD1 DATABASE</p> <p>REGION WORLDWIDE</p> <p>VERSION 4.00</p> <p>GARMIN LTD. AND ITS SUBSIDIARIES 2010</p> <hr/> <p>SAFETAXI - BOTTOM CARD</p> <p>REGION US</p> <p>VERSION 2.34</p> <p>CYCLE 11S1</p> <p>EFFECTIVE 13-JAN-11</p> <p>EXPIRES 10-MAR-11</p> <p>GARMIN LTD. AND ITS SUBSIDIARIES 2010</p> <hr/> <p>TERRAIN - BOTTOM CARD</p> <p>REGION WORLDWIDE-9</p> <p>VERSION 2.04</p>	<p>MFD1 DATABASE</p> <p>REGION WORLDWIDE</p> <p>VERSION 4.00</p> <p>GARMIN LTD. AND ITS SUBSIDIARIES 2010</p> <hr/> <p>SAFETAXI - UNKNOWN</p> <p>REGION NOT AVAILABLE</p> <p>VERSION</p> <p>CYCLE</p> <p>EFFECTIVE -- -- --</p> <p>EXPIRES -- -- --</p> <hr/> <p>TERRAIN - BOTTOM CARD</p> <p>REGION WORLDWIDE-9</p> <p>VERSION 2.04</p>
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Current Date is before Effective Date

SafeTaxi Database has Expired

SafeTaxi Database Not Installed

Figure 8-19 AUX – System Status Page, SafeTaxi Database Status

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8.3 CHARTVIEW (OPTIONAL)

ChartView resembles the paper version of Jeppesen terminal procedures charts. The charts are displayed in full color with high-resolution. The MFD depiction shows the aircraft position on the moving map in the plan view of approach charts and on airport diagrams. Airport Hot Spots are outlined in magenta.

The ChartView database subscription is available from Jeppesen, Inc. Available data includes:

- Arrivals (STAR)
- Departure Procedures (DP)
- Approaches
- Airport Diagrams
- NOTAMs

CHARTVIEW SOFTKEYS

ChartView functions are displayed on three levels of softkeys. While on the Navigation Map Page, Nearest Airports Page, or Flight Plan Page, pressing the **SHW CHRT** Softkey displays the available terminal chart and advances to the chart selection level of softkeys: **CHRT OPT**, **CHRT**, **INFO-1**, **DP**, **STAR**, **APR**, **WX**, **NOTAM**, and **GO BACK**. The chart selection softkeys shown below appear on the Airport Information Page.

Pressing the **GO BACK** Softkey reverts to the top level softkeys and previous page.

Pressing the **CHRT OPT** Softkey advances to the next level of softkeys: **ALL**, **HEADER**, **PLAN**, **PROFILE**, **MINIMUMS**, **FIT WDTN**, **FULL SCN**, and **BACK**.

While viewing the **CHRT OPT** Softkeys, after 45 seconds of softkey inactivity, the system reverts to the chart selection softkeys.

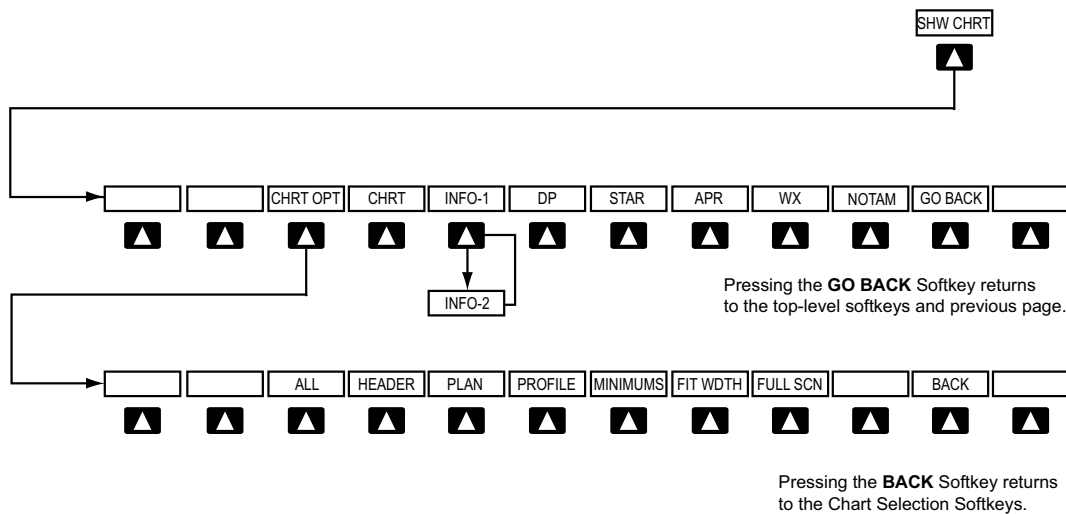


Figure 8-20 ChartView SHW CHRT, Chart Selection, and Chart Option Softkeys

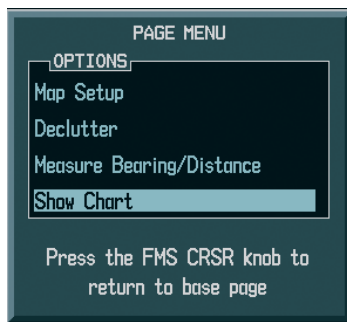
TERMINAL PROCEDURES CHARTS

Selecting Terminal Procedures Charts:

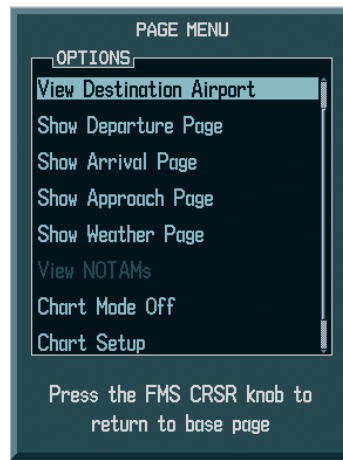
While viewing the Navigation Map Page, Nearest Airport Page, or Flight Plan Page, press the **SHW CHRT** Softkey.

Or:

- 1) Press the **MENU** Key to display the PAGE MENU.
- 2) Turn the large **FMS** Knob to scroll through the OPTIONS Menu to Show Chart.
- 3) Press the **ENT** Key to display the chart.



Navigation Map Page OPTIONS Menu



Waypoint Airport Information Page OPTIONS Menu

Figure 8-21 Option Menus

When no terminal procedure chart is available for the nearest airport or the selected airport, the banner CHART NOT AVAILABLE appears on the screen. The CHART NOT AVAILABLE banner does not refer to the Jeppesen subscription, but rather the availability of a particular airport chart selection or procedure for a selected airport.



Figure 8-22 Chart Not Available Banner

If there is a problem in rendering the data (such as a data error or a failure of an individual chart), the banner UNABLE TO DISPLAY CHART is then displayed.



Figure 8-23 Unable To Display Chart Banner

When a chart is not available by pressing the **SHW CHRT** Softkey or selecting a Page Menu Option, charts may be obtained for other airports from the WPT Pages or Flight Plan Pages.

If a chart is available for the destination airport, or the airport selected in the active flight plan, the chart appears on the screen. When no flight plan is active, or when not flying to a direct-to destination, pressing the **SHW CHRT** Softkey displays the chart for the nearest airport, if available.

The chart shown is one associated with the WPT – Airport Information page. Usually this is the airport runway diagram. Where no runway diagram exists, but Take Off Minimums or Alternate Minimums are available, that page appears. If Airport Information pages are unavailable, the Approach Chart for the airport is shown.

Selecting a chart:

- 1) While viewing the Navigation Map Page, Flight Plan Page, or Nearest Airports Page, press the **SHW CHRT** Softkey. The airport diagram or approach chart is displayed on the Airport Information Page.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to select either the Airport Identifier Box or the Approach Box. (Press the **APR** Softkey if the Approach Box is not currently shown).
- 4) Turn the small and large **FMS** Knob to enter the desired airport identifier.
- 5) Press the **ENT** Key to complete the airport selection.
- 6) Turn the large **FMS** Knob to select the Approach Box.
- 7) Turn the small **FMS** Knob to show the approach chart selection choices.
- 8) Turn either **FMS** Knob to scroll through the available charts.
- 9) Press the **ENT** Key to complete the chart selection.

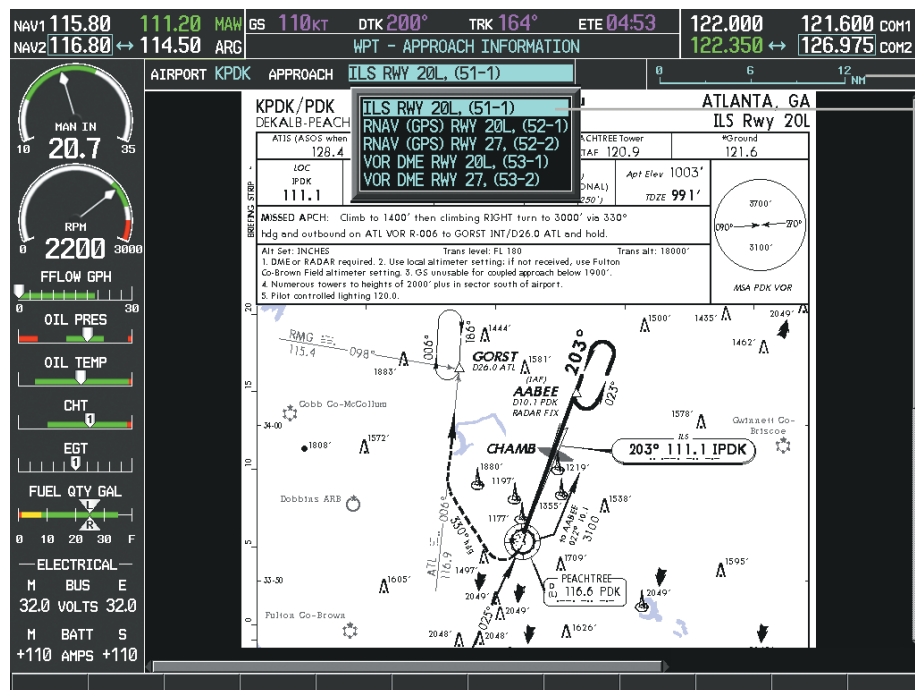


Figure 8-24 Approach Information Page, Chart Selection

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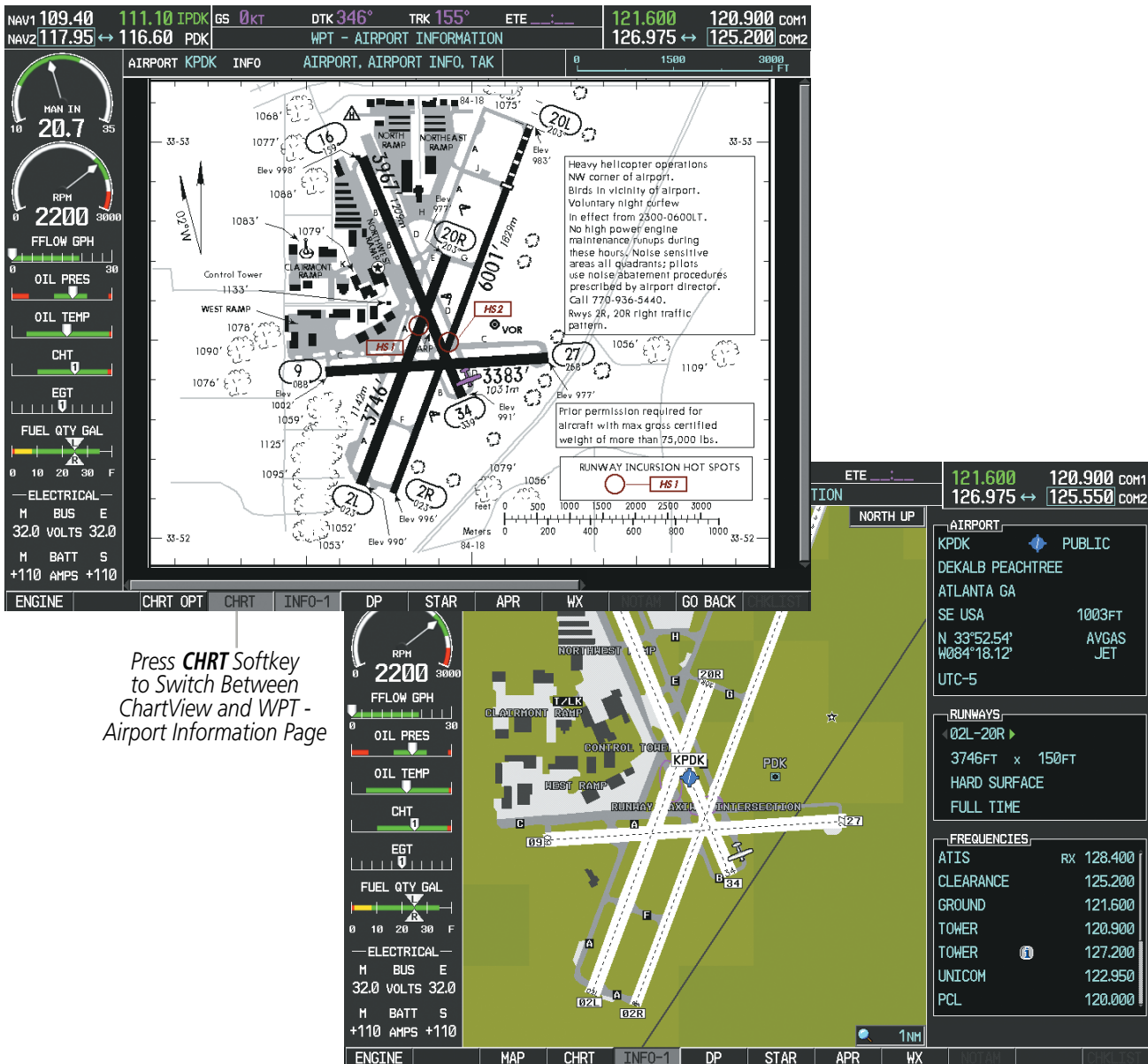
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While the APPROACH Box is selected using the **FMS** Knob, the G1000 softkeys are blank. Once the desired chart is selected, the chart scale can be changed and the chart page can be scrolled using the **Joystick**. Pressing the **Joystick** centers the chart on the screen.

The aircraft symbol is shown on the chart only if the chart is to scale and the aircraft position is within the boundaries of the chart. The aircraft symbol is not displayed when the Aircraft Not Shown Icon appears (Figure 8-28). If the Chart Scale Box displays a banner NOT TO SCALE, the aircraft symbol is not shown. The Aircraft Not Shown Icon may appear at certain times, even if the chart is displayed to scale.

Pressing the **CHRT** Softkey switches between the ChartView diagram and the associated map in the WPT page group. In the example shown, the **CHRT** Softkey switches between the DeKalb Peachtree (KPKD) Airport Diagram and the navigation map on the WPT – Airport Information page.



Press **CHRT** Softkey to Switch Between ChartView and WPT - Airport Information Page

Figure 8-25 CHRT Softkey, Airport Information Page

Pressing the **INFO-1** or **INFO-2** Softkey returns to the airport diagram when the view is on a different chart. If the displayed chart is the airport diagram, the **INFO-1** or **INFO-2** Softkey has no effect.

The aircraft position is shown in magenta on the ChartView diagrams when the location of the aircraft is within the chart boundaries. In the example shown, the aircraft is taxiing on Taxiway Alpha on the Charlotte, NC (KCLT) airport.

Another source for additional airport information is from the INFO Box above the chart for certain airports. This information source is not related to the **INFO-1** or **INFO-2** Softkey. When the INFO Box is selected using the **FMS** Knob, the G1000 softkeys are blank. The Charlotte, NC airport has five additional charts offering information; the Airport Diagram, Take-off Minimums, Class B Airspace, Airline Parking Gate Coordinates, and Airline Parking Gate Location. (The numbers in parentheses after the chart name are Jeppesen designators.)



Aircraft Current Position

Figure 8-26 Airport Information Page, INFO View, Full Screen Width

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In the example shown in Figure 8-26, the Class B Chart is selected. Pressing the **ENT** Key displays the Charlotte Class B Airspace Chart (Figure 8-27).

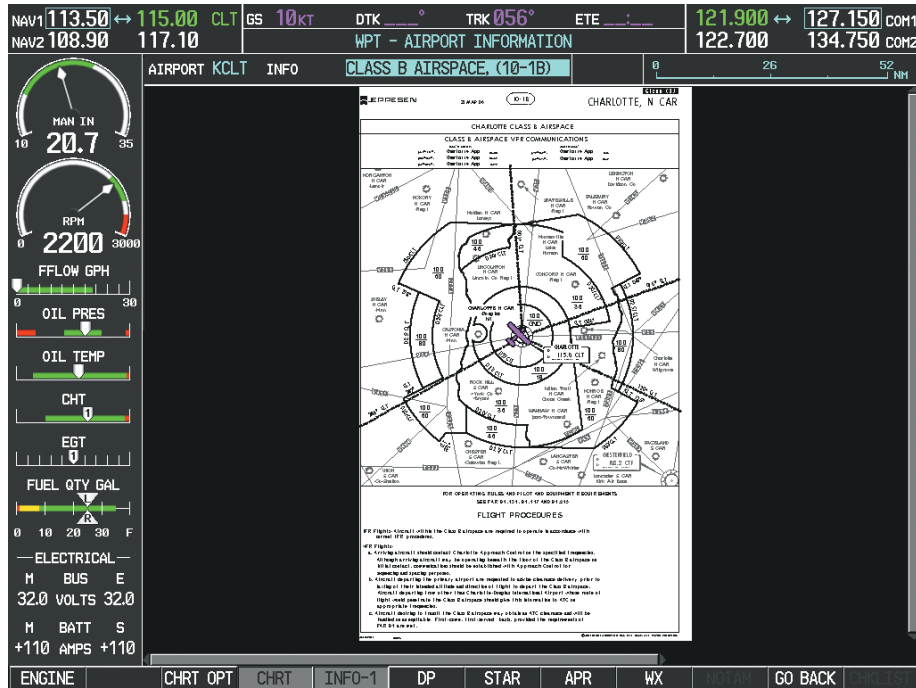


Figure 8-27 Airport Information Page, Class B Chart Selected from INFO View

Pressing the **DP** Softkey displays the Departure Procedure Chart if available.

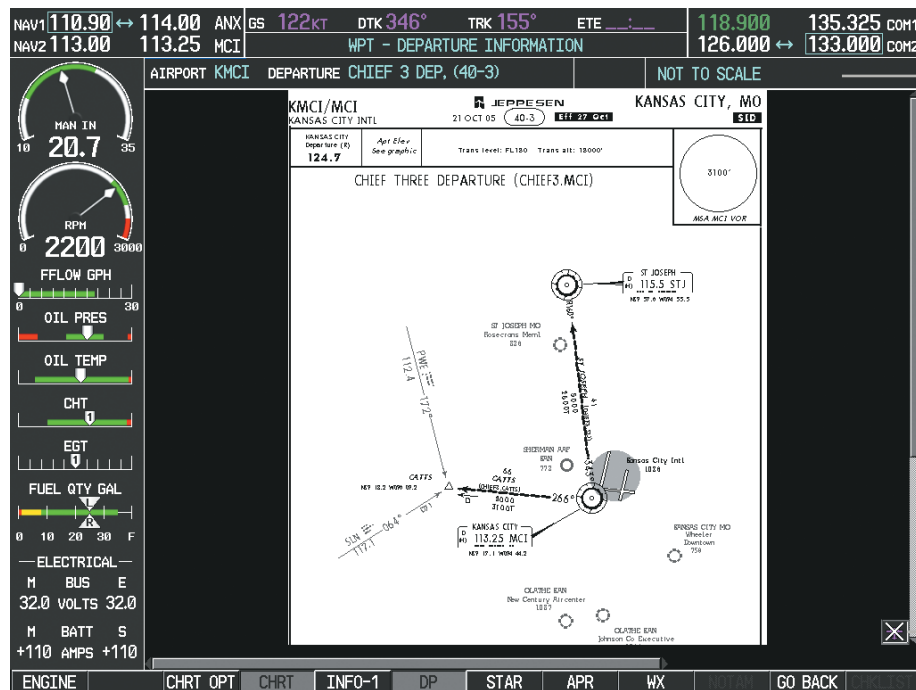


Figure 8-28 Departure Information Page

Pressing the **STAR** Softkey displays the Standard Terminal Arrival Chart if available.

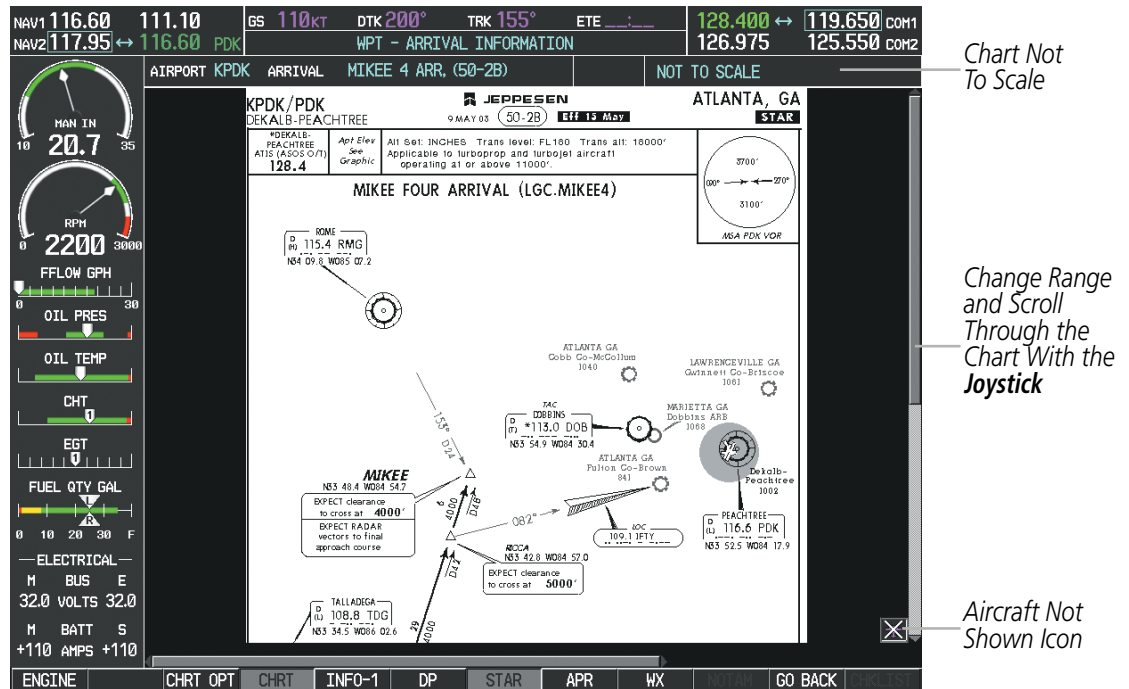


Figure 8-29 Arrival Information Page

Pressing the **APR** Softkey displays the approach chart for the airport if available.

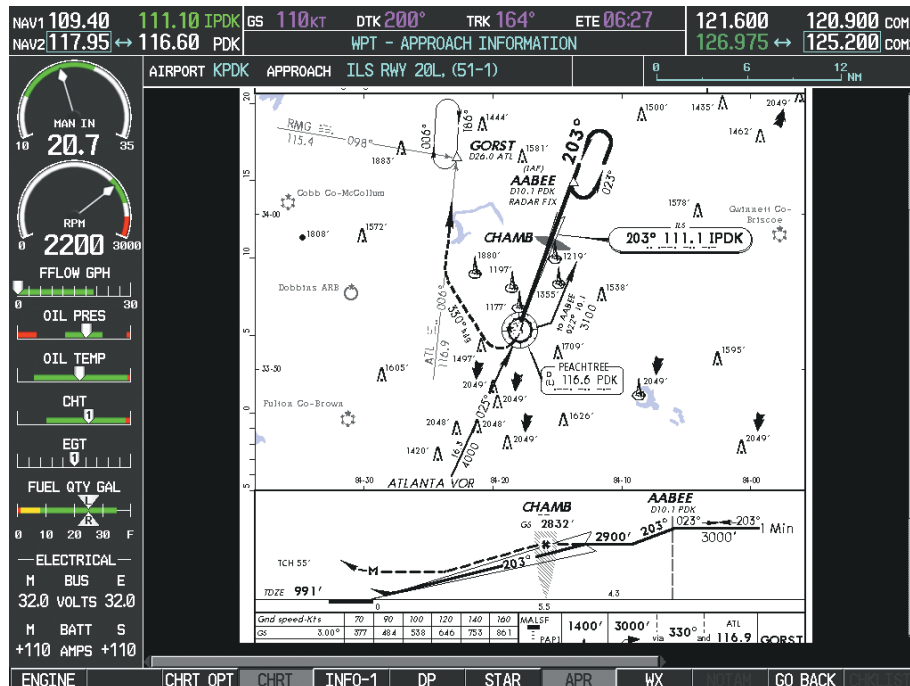


Figure 8-30 Approach Information Page

Pressing the **WX** Softkey shows the airport weather frequency information, and includes weather data such as METAR and TAF from the XM Data Link Receiver, when available. Weather information is available only when an XM Data Link Receiver is installed and the XM WX Satellite Weather subscription is current.

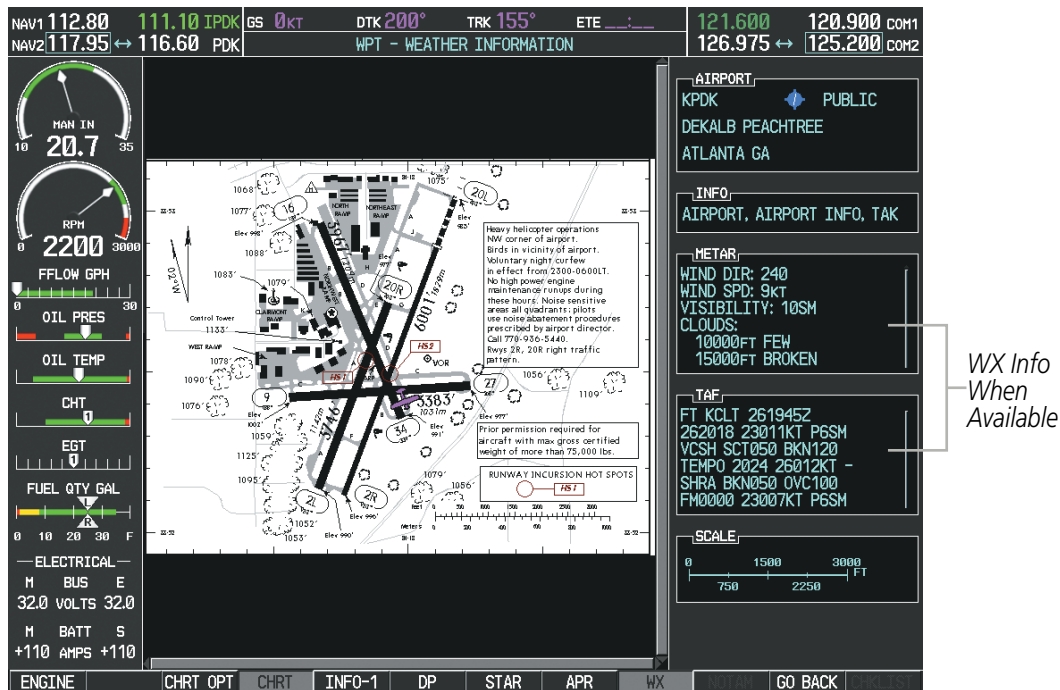
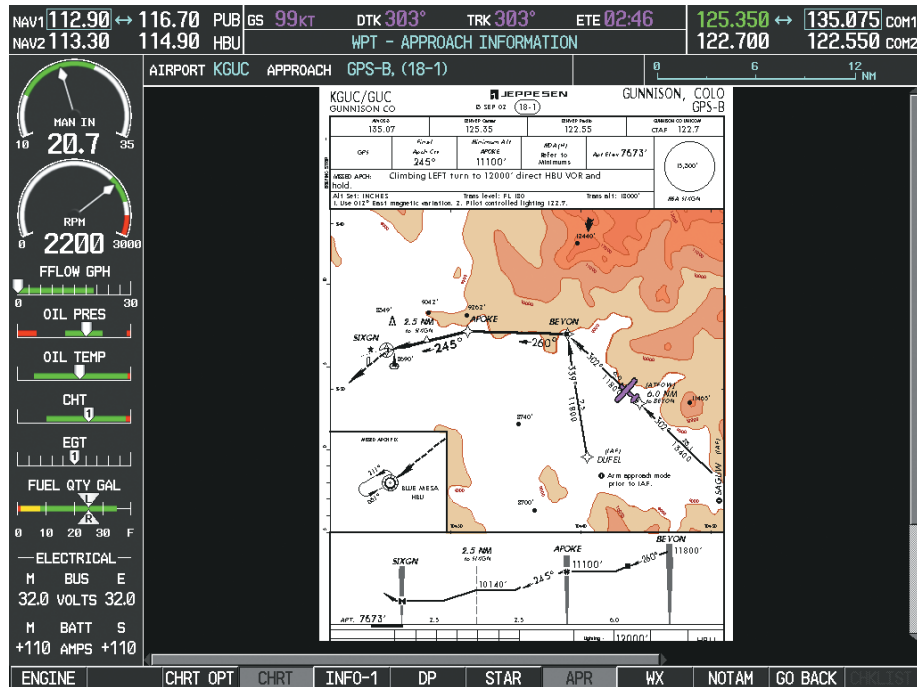


Figure 8-31 Weather Information Page

NOTE: A subdued softkey label indicates the function is disabled.

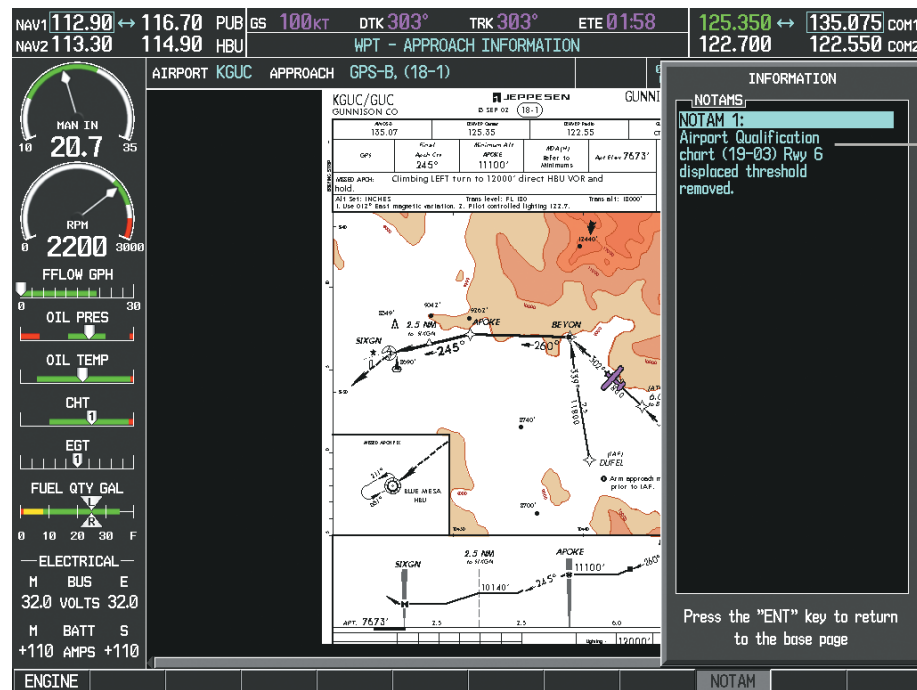
NOTE: Only NOTAMS applicable to specific information conveyed on the displayed Jeppesen chart are available when the NOTAM Softkey is selected. There may be other NOTAMS available pertaining to the flight that may not be displayed. Contact Jeppesen for more information regarding Jeppesen database-published NOTAMS.

Recent NOTAMS applicable to the current ChartView cycle are included in the ChartView database. Pressing the **NOTAM** Softkey shows the local NOTAM information for selected airports, when available. When NOTAMS are not available, the **NOTAM** Softkey label appears subdued and is disabled as shown in Figure 8-31. The **NOTAM** Softkey may appear on the Airport Information Page and all of the chart page selections.



NOTAM Softkey Appears for Selected Airports

Figure 8-32 NOTAM Softkey Highlighted



Local NOTAM on This Airport

NOTAM Softkey Selected

Figure 8-33 Airport Information Page, Local NOTAMS

Pressing the **NOTAM** Softkey again removes the NOTAMS information.

Pressing the **GO BACK** Softkey reverts to the previous page (Navigation Map Page, Nearest Pages, or Flight Plan Page).

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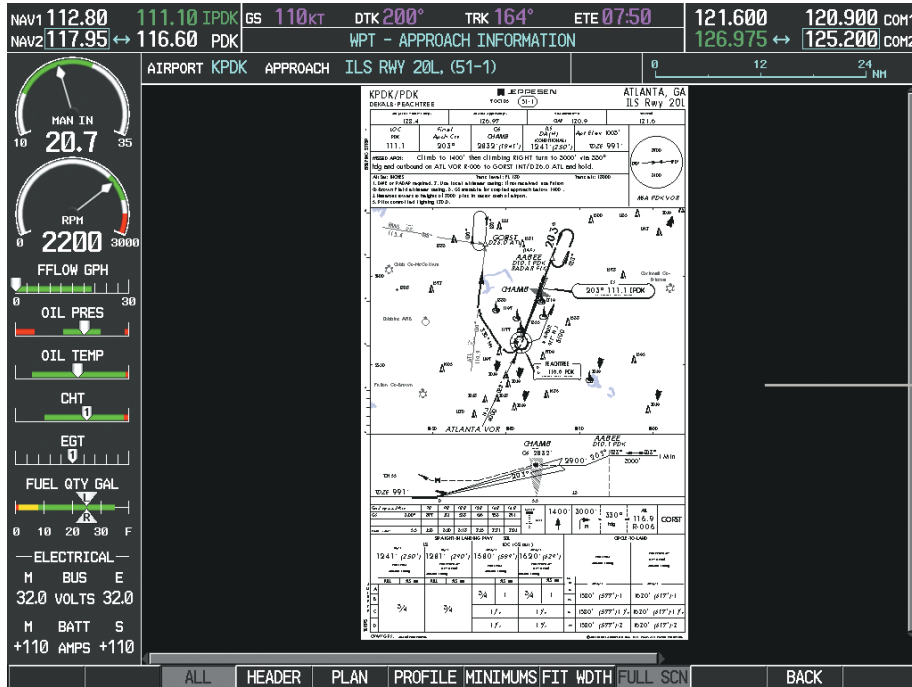
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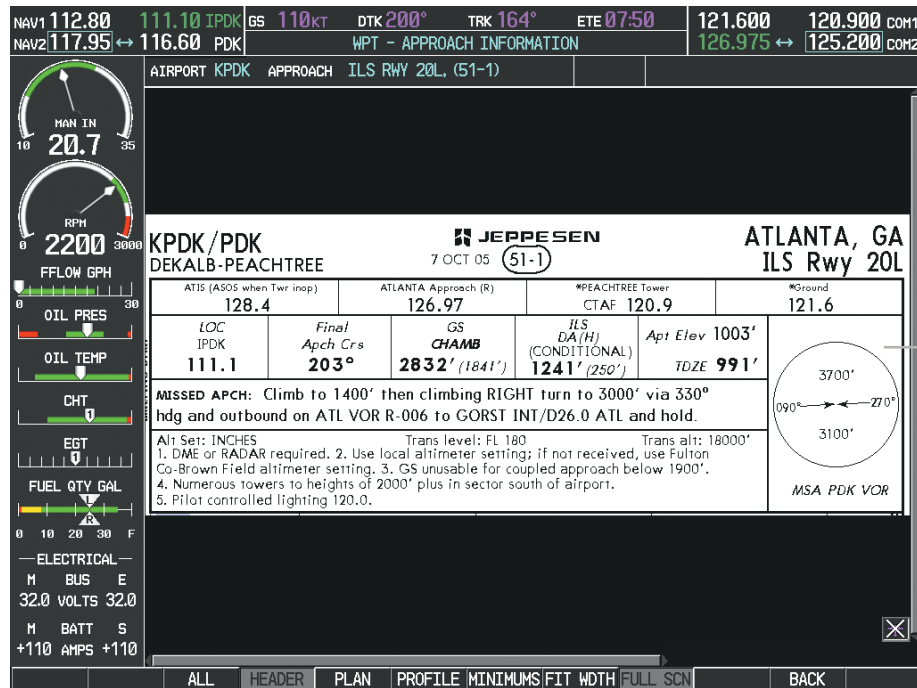
Pressing the **CHRT OPT** Softkey displays the next level of softkeys, the chart options level (Figure 8-20). Pressing the **ALL** Softkey shows the complete approach chart on the screen.



Complete Chart Shown

Figure 8-34 Approach Information Page, ALL View

Pressing the **HEADER** Softkey shows the header view (approach chart briefing strip) on the screen.



Approach Chart Briefing Strip

Figure 8-35 Approach Information Page, Header View

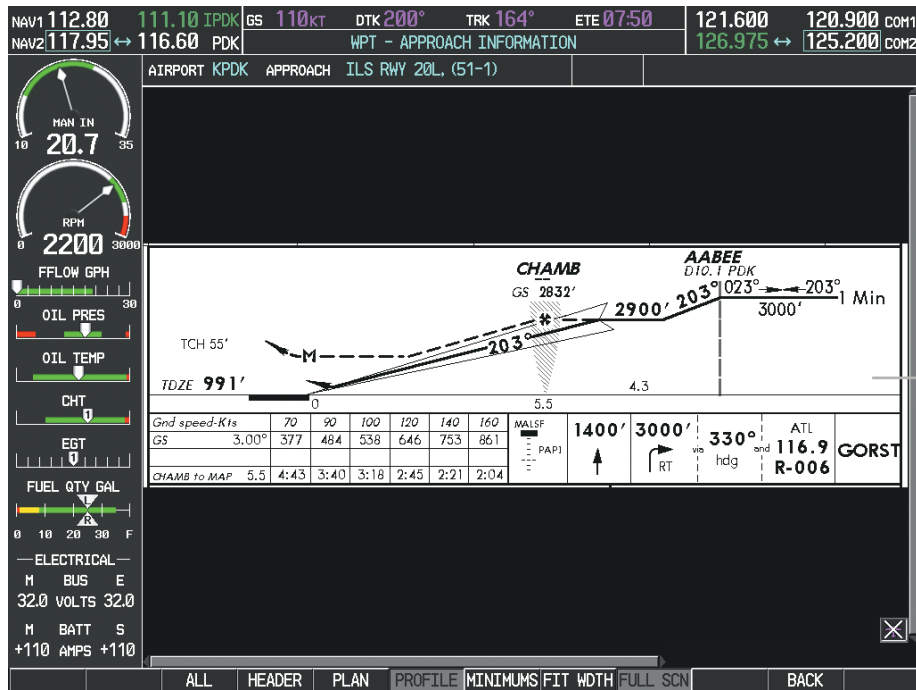
Pressing the **PLAN** Softkey shows the approach chart two dimensional plan view.



Approach Chart Plan View

Figure 8-36 Approach Information Page, Plan View

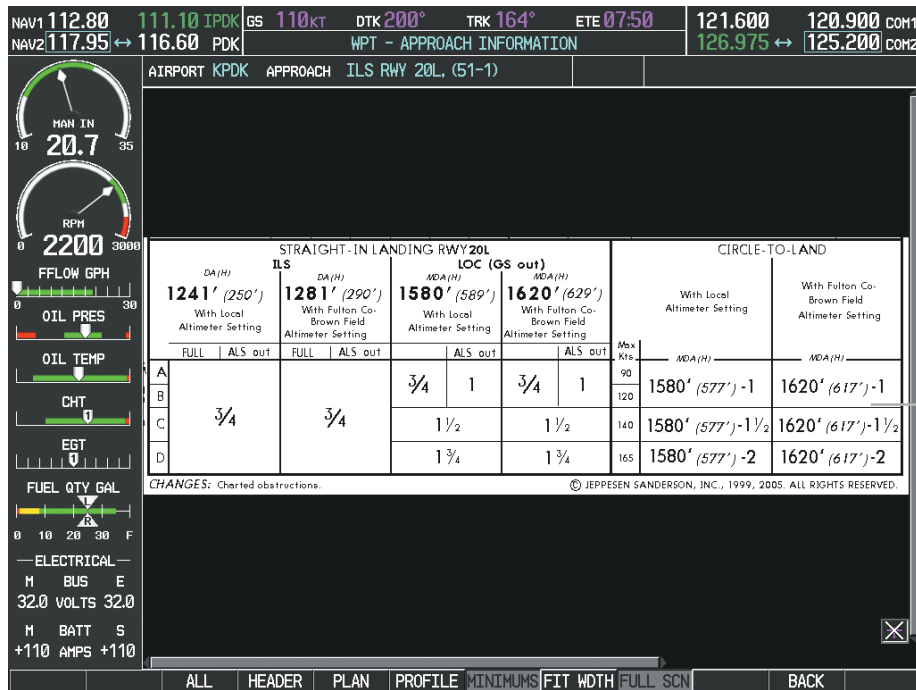
Pressing the **PROFILE** Softkey displays the approach chart descent profile strip.



Approach Chart Descent Profile Strip

Figure 8-37 Approach Information Page, Profile View, Full Screen Width

Pressing the **MINIMUMS** Softkey displays the minimum descent altitude/visibility strip at the bottom of the approach chart.



Minimum Descent Altitude/Visibility Strip

Figure 8-38 Approach Information Page, Minimums View, Full Screen Width

If the chart scale has been adjusted to view a small area of the chart, pressing the **FIT WIDTH** Softkey changes the chart size to fit the available screen width.



Press **FIT WIDTH** Softkey to Show Full Chart Width

Figure 8-39 Airport Information Page, FIT WIDTH Softkey Selected

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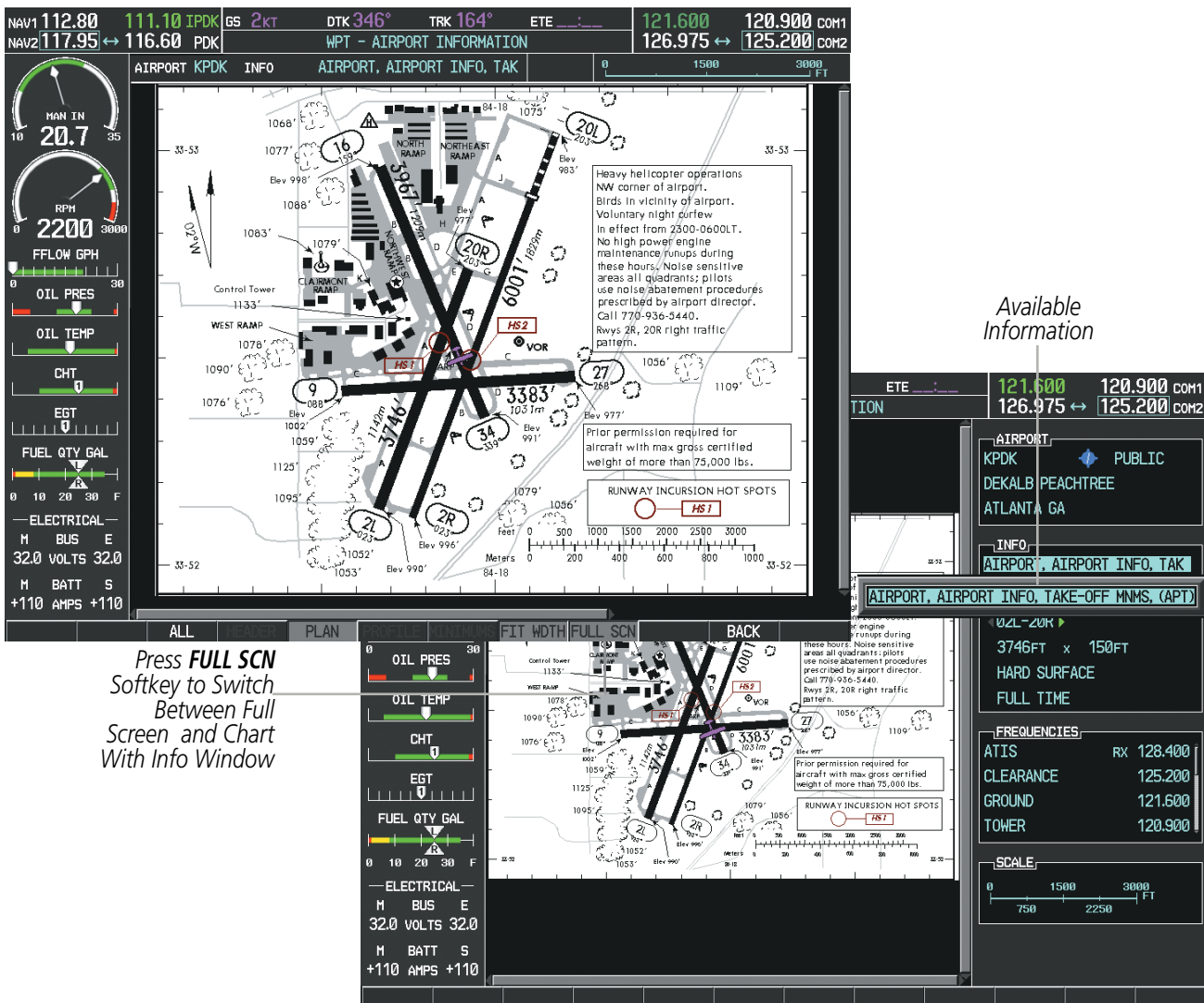
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Pressing the **FULL SCN** Softkey alternates between removing and replacing the data window to the right.

Selecting Additional Information:

- 1) While viewing the Airport Taxi Diagram, press the **FULL SCN** Softkey to display the information windows (AIRPORT, INFO).
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the AIRPORT, INFO, RUNWAYS, or FREQUENCIES Box (INFO Box shown).
- 4) Turn the small **FMS** Knob to select the INFO Box choices. If multiple choices are available, scroll to the desired choice with the large **FMS** Knob and press the **ENT** Key to complete the selection.
- 5) Press the **FMS** Knob again to deactivate the cursor.



Press **FULL SCN** Softkey to Switch Between Full Screen and Chart With Info Window

Figure 8-40 Airport Information Page, Full Screen and Info Window

Pressing the **BACK** Softkey, or waiting for 45 seconds reverts to the chart selection softkeys.

The full screen view can also be selected by using the page menu option.

Selecting full screen On or Off:

- 1) While viewing a terminal chart press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the Chart Setup Menu Option and press the **ENT** Key.
- 3) Turn the large **FMS** Knob to move between the FULL SCREEN and COLOR SCHEME Options.
- 4) Turn the small **FMS** Knob to choose between the On and Off Full Screen Options.

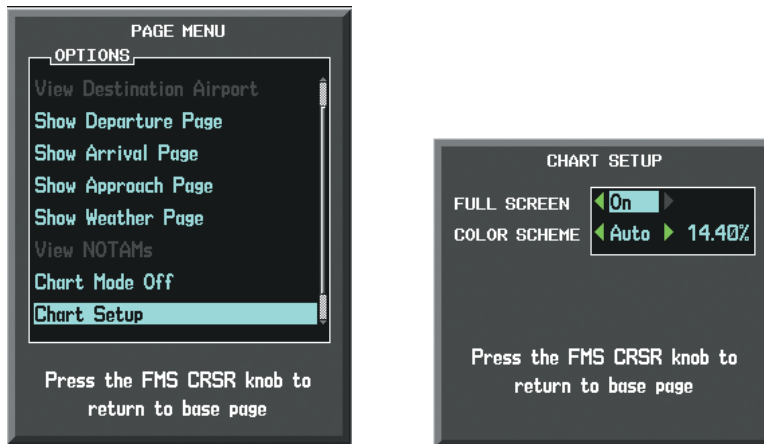


Chart Setup Option

Full Screen On/Off Selection

Figure 8-41 Page Menus

DAY/NIGHT VIEW

ChartView can be displayed on a white or black background for day or night viewing. The Day View offers a better presentation in a bright environment. The Night View gives a better presentation for viewing in a dark environment. When the CHART SETUP Box is selected the G1000 softkeys are blank.

Selecting Day, Night, or Automatic View:

- 1) While viewing a terminal chart press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the Chart Setup Menu Option and press the **ENT** Key.

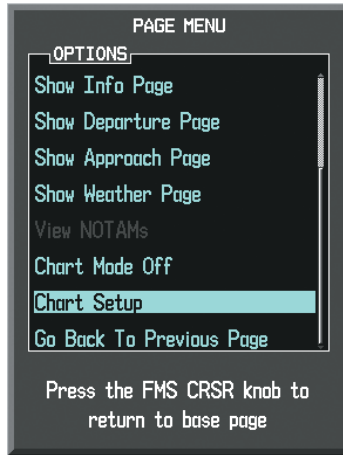


Figure 8-42 Waypoint Information Page, OPTIONS Menu

- 3) Turn the large **FMS** Knob to move to the COLOR SCHEME Option (Figure 8-43).
- 4) Turn the small **FMS** Knob to choose between Day, Auto, and Night Options.
- 5) If Auto Mode is selected, turn the large **FMS** Knob to select the percentage field. Use the small **FMS** Knob to change the percentage value. The percentage value is the day/night crossover point based on the percentage of backlighting intensity. For example, if the value is set to 15%, the day/night display changes when the display backlight reaches 15% of full brightness.

The display must be changed in order for the new setting to become active. This may be accomplished by selecting another page or changing the display range.

- 6) Press the **FMS** Knob when finished to remove the Chart Setup Menu.

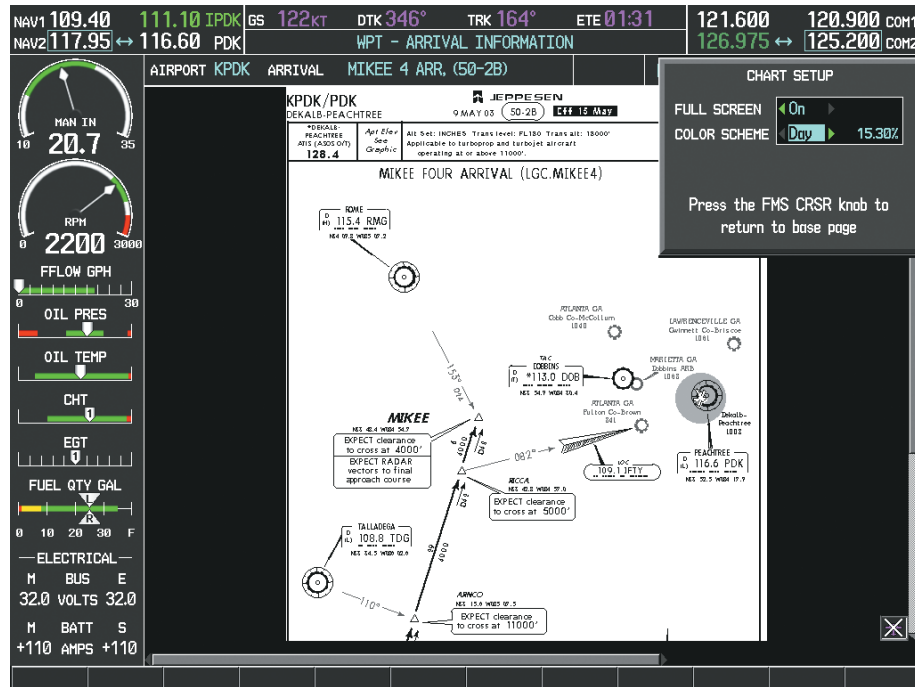


Figure 8-43 Arrival Information Page, Day View

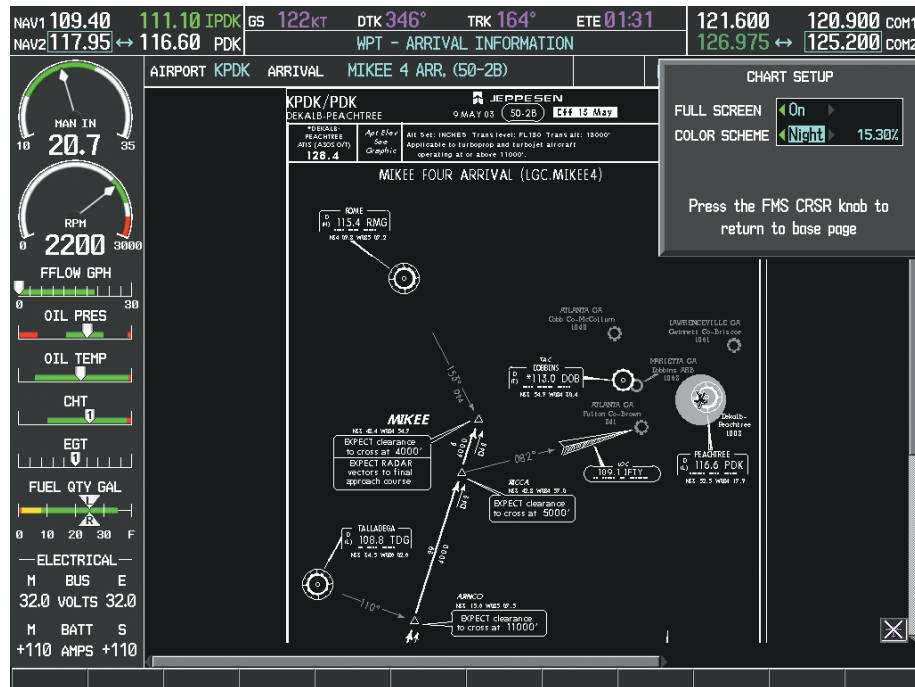


Figure 8-44 Arrival Information Page, Night View

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CHARTVIEW CYCLE NUMBER AND EXPIRATION DATE

ChartView database is revised every 14 days. Charts are still viewable during a period that extends from the cycle expiration date to the disables date. ChartView is disabled 70 days after the expiration date and is no longer available for viewing. When turning on the system, the Power-up Page displays the current status of the ChartView database. See the table below for the various ChartView Power-up Page displays and the definition of each.

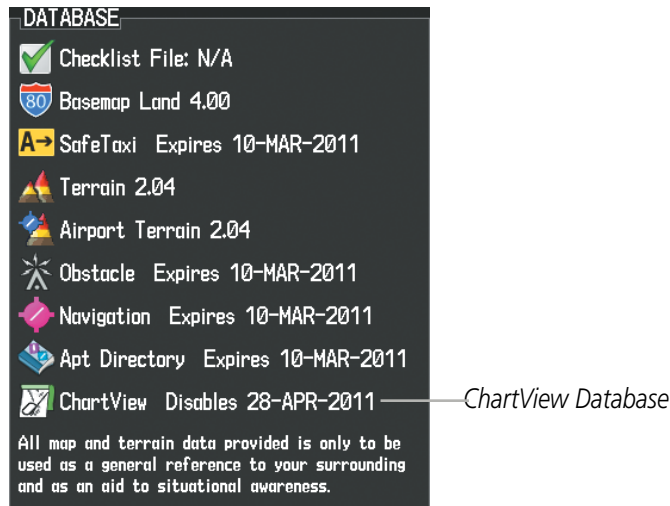



Figure 8-45 Power-up Page, ChartView Database

Power-up Page Display	Definition
[Blank Line]	Blank Line. system is not configured for ChartView. Contact a Garmin-authorized service center for configuration.
[Chart Data: N/A]	System is configured for ChartView but no chart database is installed. Contact Jeppesen for a ChartView database.
[ChartView Disables 28-APR-2011]	Normal operation. ChartView database is valid and within current cycle.
[Chart data update available.]	ChartView database is within 1 week after expiration date. A new cycle is available for update.
[Chart data is out of date!]	ChartView database is beyond 1 week after expiration date, but still within the 70 day viewing period.
[Chart data is disabled.]	ChartView database has timed out. Database is beyond 70 days after expiration date. ChartView database is no longer available for viewing.
[Verify chart database cycle.]	System time is not available. GPS satellite data is unknown or the system has not yet locked onto satellites. Check database cycle number for effectivity.
[Verifying Chart data]	System is verifying chart database when new cycle is installed for the first time.
[Chart Data is Corrupt!]	After verifying, chart database is found to be corrupt. ChartView is not available.

Table 8-2 ChartView Power-up Page Annunciations and Definitions

The ChartView time critical information can also be found on the AUX - System Status page. The database CYCLE number, EXPIRES, and DISABLES dates of the ChartView subscription appear in either blue or yellow text. When the ChartView EXPIRES date is reached, ChartView becomes inoperative 70 days later. This is shown as the DISABLES date. When the DISABLES date is reached, charts are no longer available for viewing. The **SHW CHRT** Softkey label then appears subdued and is disabled until a revised issue of ChartView is installed.

 **NOTE:** A subdued softkey label indicates the function is disabled.

Press the **MFD1 DB** Softkey to place the cursor in the DATABASE window. Scroll through the listed information by turning the **FMS** Knob or pressing the **ENT** Key until the ChartView database information is shown.

The ChartView database cycle number shown in the figure, 1103, is deciphered as follows:

11 – Indicates the year 2011

03 – Indicates the third issue of the ChartView database for the year

The EXPIRES date 17-FEB-11 is the date that this database should be replaced with the next issue.

The DISABLES date 28-APR-11 is the date that this database becomes inoperative.

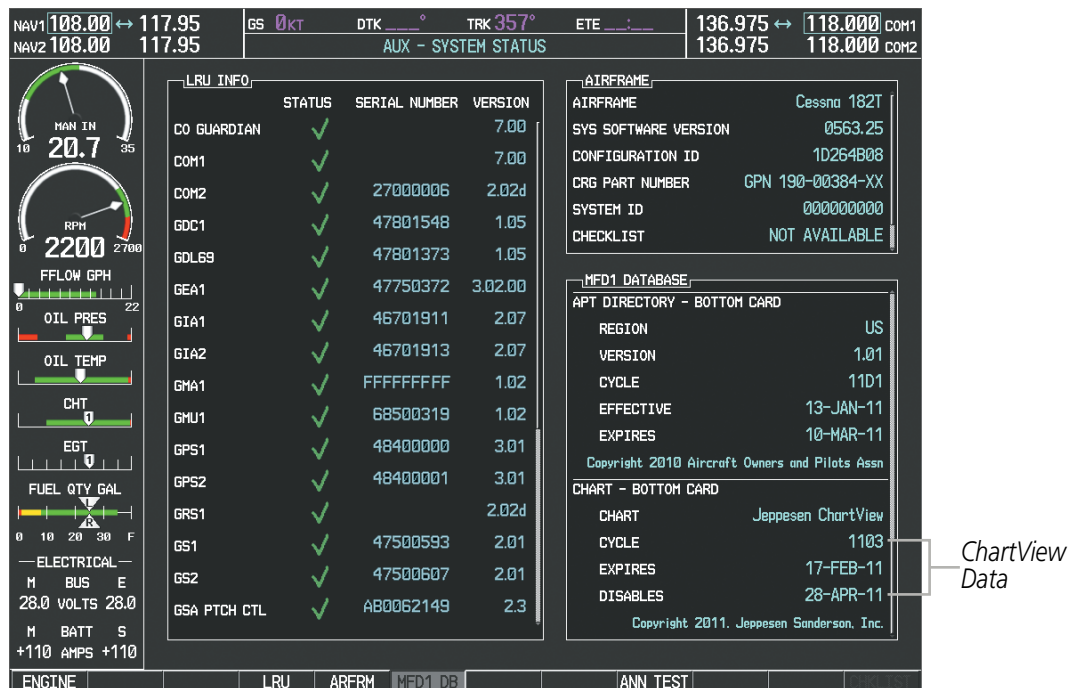


Figure 8-46 AUX – System Status Page, ChartView Current and Available

The ChartView database is provided directly from Jeppesen. Refer to Updating Jeppesen Databases in Appendix B for instructions on revising the ChartView database.

The ChartView database is obtained directly from Jeppesen. Refer to Updating Jeppesen Databases in Appendix B for instructions on revising the ChartView database.

Other possible AUX - System Status page conditions are shown in Figure 8-47. The EXPIRES date, in yellow, is the revision date for the next database cycle. The DISABLES date, in yellow, is the date that this database cycle is no longer viewable. CYCLE NOT AVAILABLE in blue, indicates no ChartView data is available on the database card or no database card is inserted.

MFD1 DATABASE	MFD1 DATABASE	MFD1 DATABASE
APT DIRECTORY - BOTTOM CARD	APT DIRECTORY - BOTTOM CARD	REGION US
REGION US	REGION US	VERSION 1.01
VERSION 1.01	VERSION 1.01	CYCLE 11D1
CYCLE 11D1	CYCLE 11D1	EFFECTIVE 13-JAN-11
EFFECTIVE 13-JAN-11	EFFECTIVE 13-JAN-11	EXPIRES 10-MAR-11
EXPIRES 10-MAR-11	EXPIRES 10-MAR-11	Copyright 2010 Aircraft Owners and Pilots Assn
Copyright 2010 Aircraft Owners and Pilots Assn	Copyright 2010 Aircraft Owners and Pilots Assn	CHART - UNKNOWN
CHART - BOTTOM CARD	CHART - BOTTOM CARD	CHART Jeppesen ChartView
CHART Jeppesen ChartView	CHART Jeppesen ChartView	REGION NOT AVAILABLE
CYCLE 1103	CYCLE 1103	CYCLE NOT AVAILABLE
EXPIRES 17-FEB-11	EXPIRES 17-FEB-11	EFFECTIVE -- -- -- --
DISABLES 28-APR-11	DISABLES 28-APR-11	EXPIRES -- -- -- --
Copyright 2011. Jeppesen Sanderson, Inc.	Copyright 2011. Jeppesen Sanderson, Inc.	DISABLES -- -- -- --

ChartView has Expired, but is not Disabled

ChartView Database is Disabled

ChartView Database is Not Available

Figure 8-47 AUX – System Status Page, ChartView Database Status

8.4 FLITECHARTS

FliteCharts resemble the paper version of AeroNav Services terminal procedures charts. The charts are displayed with high-resolution and in color for applicable charts. FliteCharts database subscription is available from Garmin. Available data includes:

- Arrivals (STAR)
- Departure Procedures (DP)
- Approaches
- Airport Diagrams

FLITECHARTS SOFTKEYS

FliteCharts functions are displayed on three levels of softkeys. While on the Navigation Map Page, Nearest Airports Page, or Flight Plan Page, pressing the **SHW CHRT** Softkey displays the available terminal chart and advances to the chart selection level of softkeys: **CHRT OPT**, **CHRT**, **INFO-1**, **DP**, **STAR**, **APR**, **WX**, and **GO BACK**. The chart selection softkeys appear on the Airport Information Page.

Pressing the **GO BACK** Softkey reverts to the top level softkeys and previous page.

Pressing the **CHRT OPT** Softkey displays the available terminal chart and advances to the next level of softkeys: **ALL**, **FIT WPTH**, **FULL SCN**, and **BACK**.

While viewing the **CHRT OPT** Softkeys, after 45 seconds of softkey inactivity, the system reverts to the chart selection softkeys.

NOTAMs are not available with FliteCharts. The NOTAM Softkey label appears subdued and is disabled.

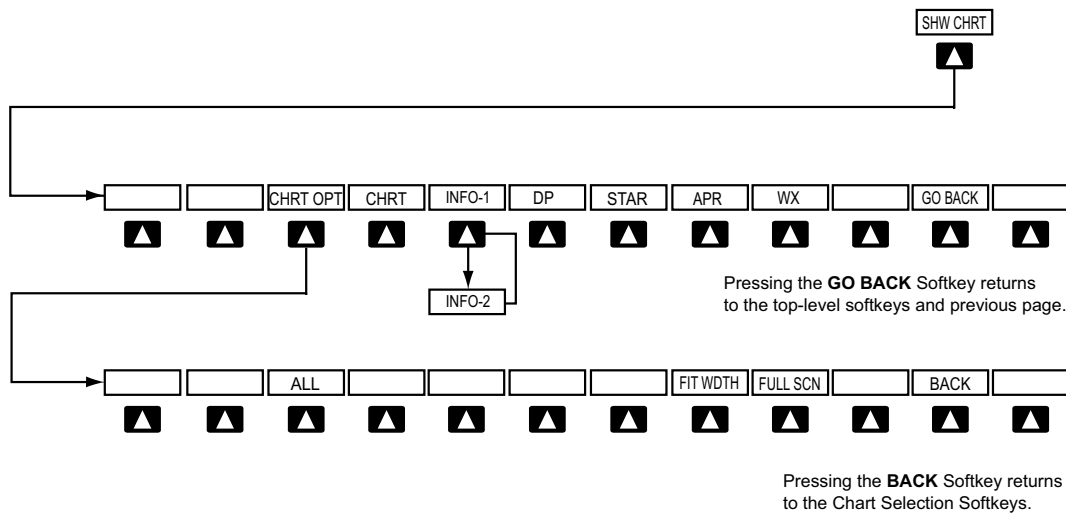


Figure 8-48 FliteCharts SHW CHRT, Chart Selection, and Chart Option Softkeys

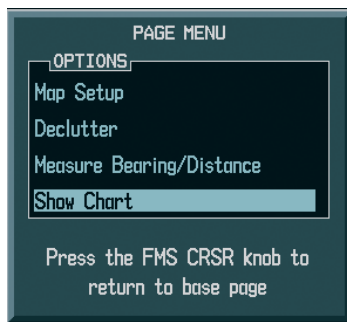
TERMINAL PROCEDURES CHARTS

Selecting Terminal Procedures Charts:

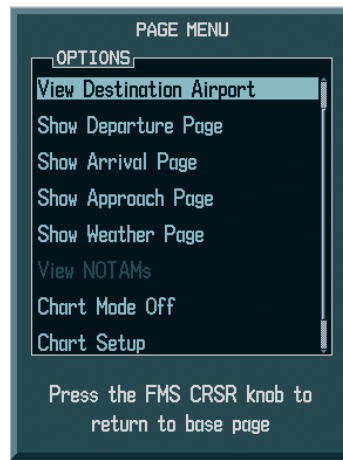
While viewing the Navigation Map Page, Nearest Airport Page, or Flight Plan Page, press the **SHW CHRT** Softkey.

Or:

- 1) Press the **MENU** Key to display the PAGE MENU.
- 2) Turn the large **FMS** Knob to scroll through the OPTIONS Menu to Show Chart.
- 3) Press the **ENT** Key to display the chart.



Navigation Map Page OPTIONS Menu



Waypoint Airport Information Page OPTIONS Menu

Figure 8-49 Option Menus

When no terminal procedure chart is available, the banner **CHART NOT AVAILABLE** appears on the screen. The **CHART NOT AVAILABLE** banner does not refer to the FliteCharts subscription, but rather the availability of a particular airport chart selection or procedure for a selected airport.



Figure 8-50 Chart Not Available Banner

If there is a problem in rendering the data (such as a data error or a failure of an individual chart), the banner **UNABLE TO DISPLAY CHART** is then displayed.



Figure 8-51 Unable To Display Chart Banner

When a chart is not available by pressing the **SHW CHRT** Softkey or selecting a Page Menu Option, charts may be obtained for other airports from the WPT Pages or Flight Plan Pages.

If a chart is available for the destination airport, or the airport selected in the active flight plan, the chart appears on the screen. When no flight plan is active, or when not flying to a direct-to destination, pressing the **SHW CHRT** Softkey displays the chart for the nearest airport, if available.

The chart shown is one associated with the WPT – Airport Information page. Usually this is the airport runway diagram. Where no runway diagram exists, but Take Off Minimums or Alternate Minimums are available, that page appears. If Airport Information pages are unavailable, the Approach Chart for the airport is shown.

Selecting a chart:

- 1) While viewing the Navigation Map Page, Flight Plan Page, or Nearest Airports Page, press the **SHW CHRT** Softkey. The airport diagram or approach chart is displayed on the Airport Information Page.
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to select either the Airport Identifier Box or the Approach Box. (Press the **APR** Softkey if the Approach Box is not currently shown).
- 4) Turn the small and large **FMS** Knob to enter the desired airport identifier.
- 5) Press the **ENT** Key to complete the airport selection.
- 6) Turn the large **FMS** Knob to select the Approach Box.
- 7) Turn the small **FMS** Knob to show the approach chart selection choices.
- 8) Turn either **FMS** Knob to scroll through the available charts.
- 9) Press the **ENT** Key to complete the chart selection.

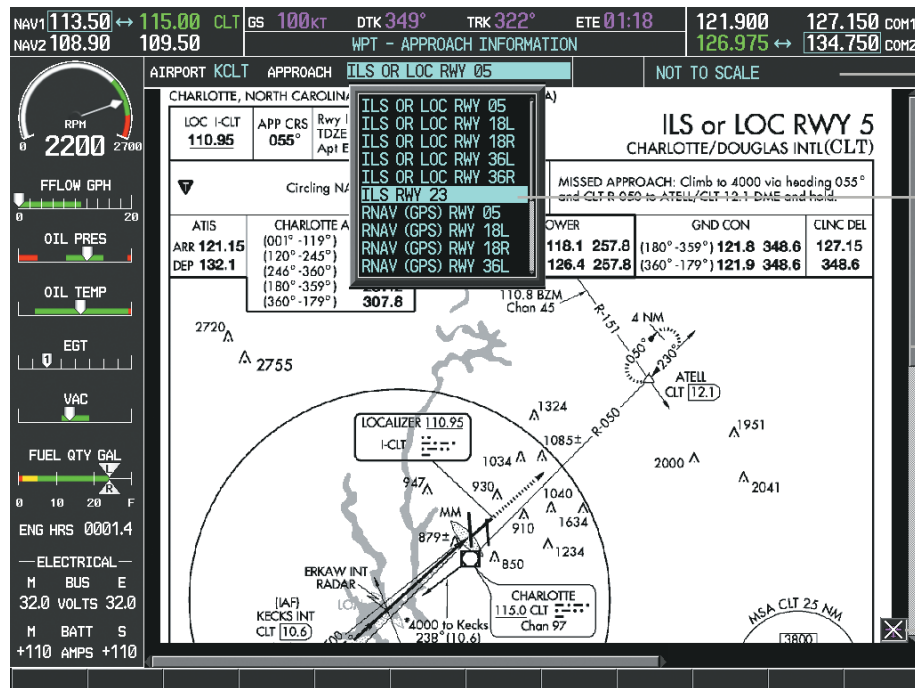


Chart Not To Scale

Select Desired Approach Chart from Menu

Pan Chart With the Joystick

Aircraft Not Shown Icon

Figure 8-52 Approach Information Page, Chart Selection

While the APPROACH Box is selected using the **FMS** Knob, the G1000 softkeys are blank. Once the desired chart is selected, the chart scale can be changed and the chart can be panned using the **Joystick**. Pressing the **Joystick** centers the chart on the screen.

The aircraft symbol is not shown on FliteCharts. The Chart Scale Box displays a banner NOT TO SCALE, and the Aircraft Not Shown Icon is displayed in the lower right corner of the screen.

Pressing the **CHRT** Softkey alternates between the FliteCharts diagram and the associated map in the WPT page group. In the example shown, the **CHRT** Softkey switches between the Charlotte, NC (KCLT) Airport Diagram and the navigation map on the WPT – Airport Information page.

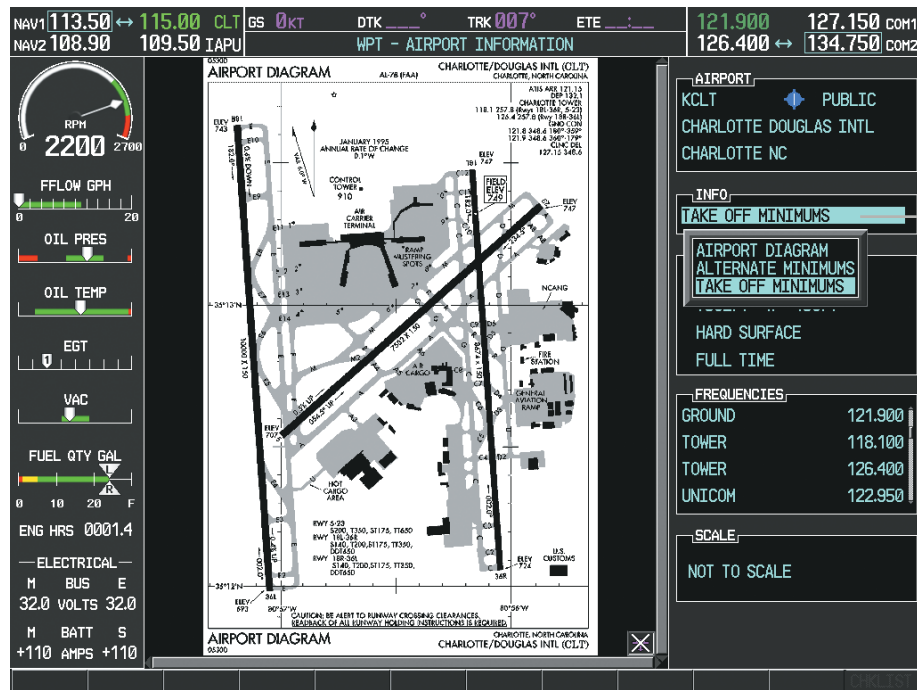


Press **CHRT** Softkey to Switch Between FliteCharts and Navigation Map Page

Figure 8-53 CHRT Softkey, Airport Information Page

Pressing the **INFO-1** or **INFO-2** Softkey returns to the airport diagram when the view is on a different chart. If the displayed chart is the airport diagram, the **INFO-1** or **INFO-2** Softkey has no effect.

Another source for additional airport information is from the INFO Box above the chart (Figure 8-52) or to the right of the chart (Figure 8-54) for certain airports. This information source is not related to the **INFO-1** or **INFO-2** Softkey. When the INFO Box is selected using the **FMS** Knob, the G1000 softkeys are blank. The Charlotte, NC airport has three additional charts offering information; the Airport Diagram, Alternate Minimums, and Take-off Minimums.



Info Box Selected

Figure 8-54 Airport Information Page, INFO View with Airport Information

In the example shown in Figure 8-54, TAKE OFF MINIMUMS is selected. Pressing the ENT Key displays the Take-off Minimums and Departure Procedures Chart (Figure 8-55).

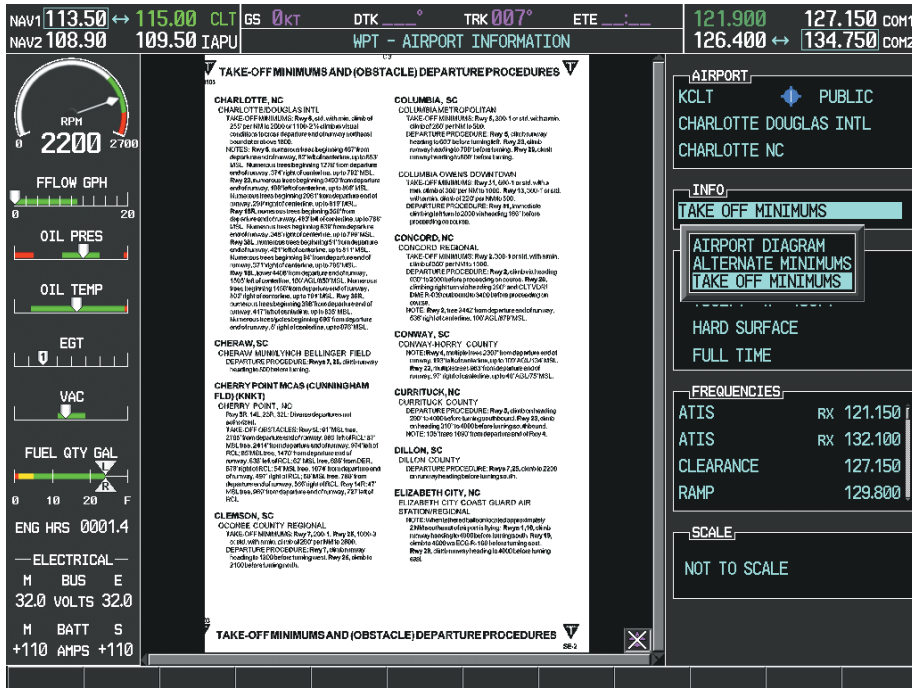


Figure 8-55 Airport Information Page, TAKE OFF MINIMUMS Selected from INFO View

Pressing the DP Softkey displays the Departure Procedure Chart if available.

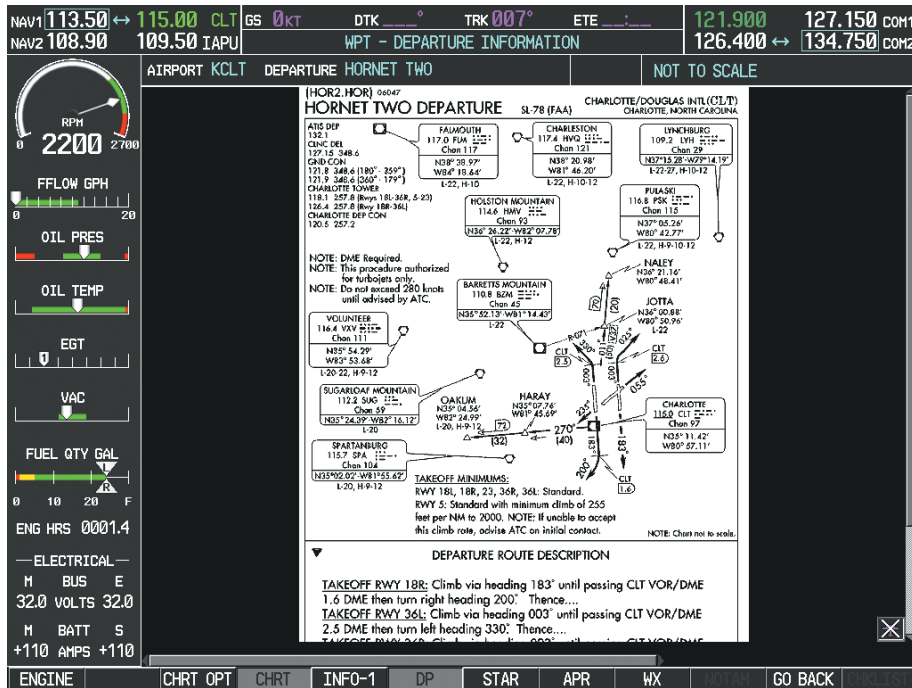


Figure 8-56 Departure Procedure Page

Pressing the **STAR** Softkey displays the Standard Terminal Arrival Chart if available.

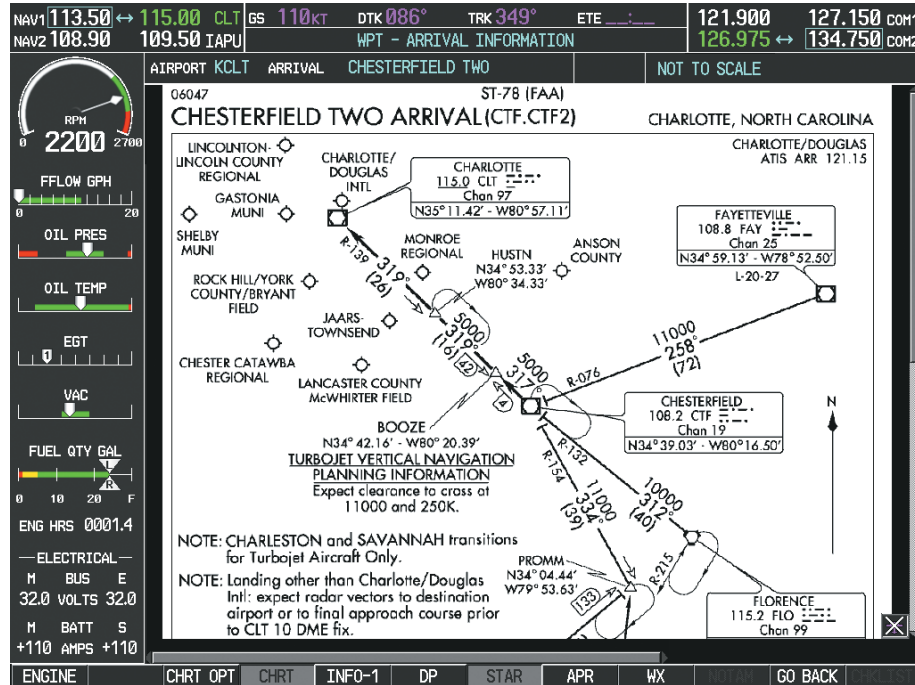


Figure 8-57 Arrival Information Page

Pressing the **APR** Softkey displays the approach chart for the airport if available.

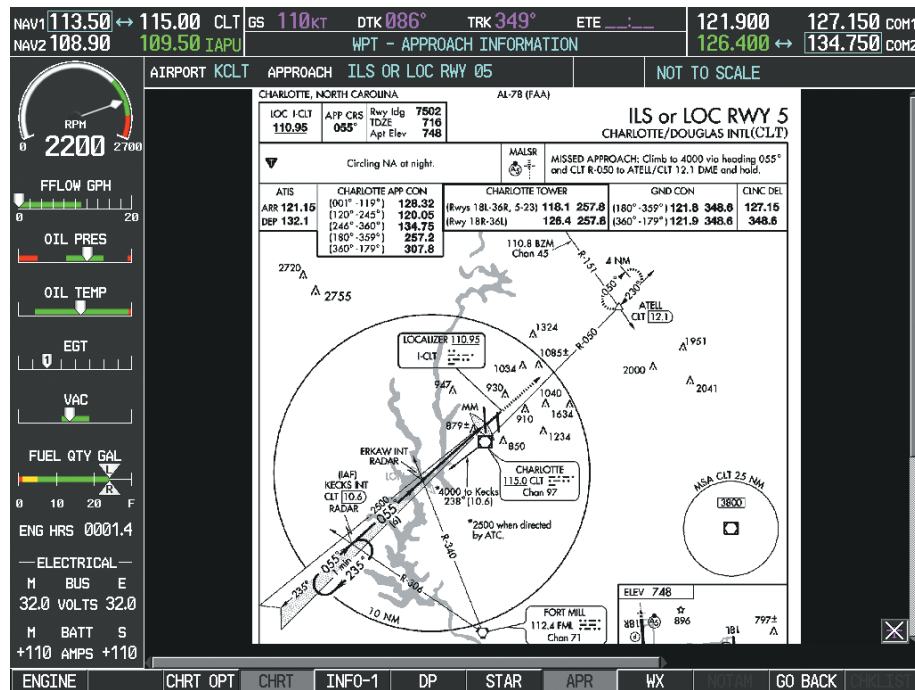


Figure 8-58 Approach Information Page

Pressing the **WX** Softkey shows the airport weather frequency information, when available, and includes weather data such as METAR and TAF from the XM Data Link Receiver. Weather information is available only when an XM Data Link Receiver is installed and the XM WX Satellite Weather subscription is current.

Selecting Additional Information:

- 1) While viewing the Airport Taxi Diagram, press the **WX** Softkey to display the information windows (AIRPORT, INFO).
- 2) Press the **FMS** Knob to activate the cursor.
- 3) Turn the large **FMS** Knob to highlight the INFO Box.
- 4) Turn the small **FMS** Knob to select the INFO Box choices. When the INFO Box is selected the G1000 softkeys are blank. If multiple choices are available, scroll to the desired choice with the large **FMS** Knob and press the **ENT** Key to complete the selection.
- 5) Press the **FMS** Knob again to deactivate the cursor.

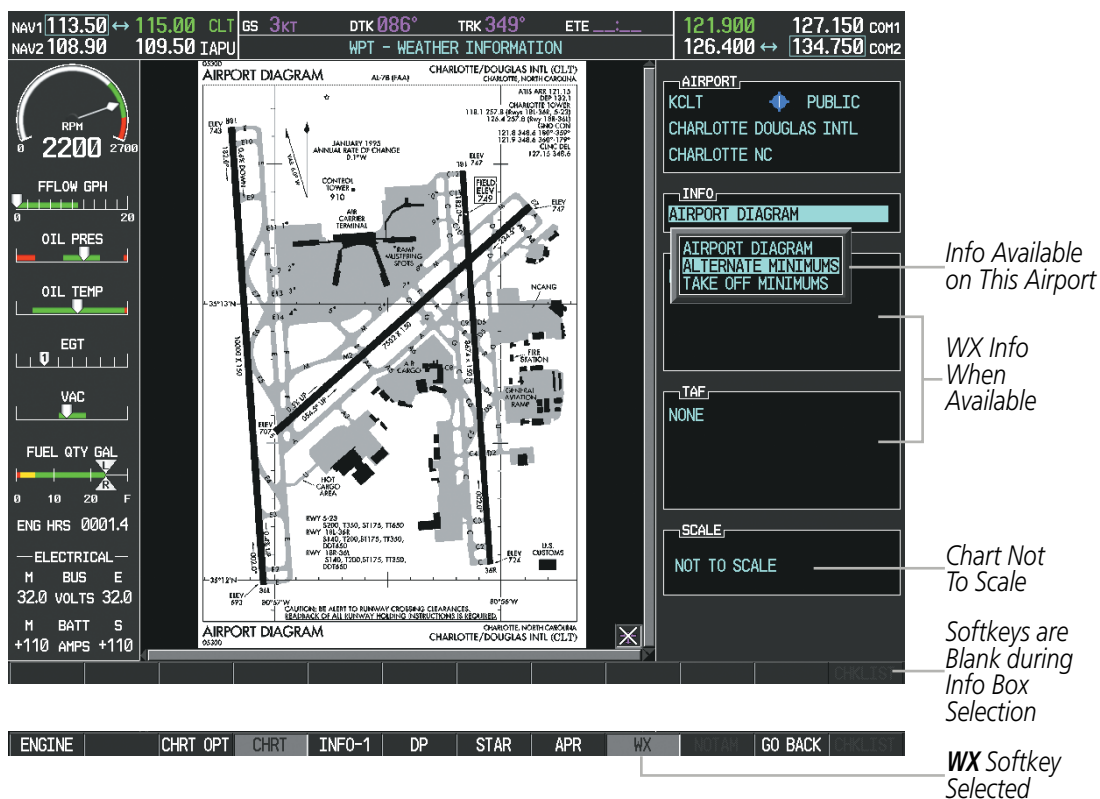


Figure 8-59 Weather Information Page, WX Softkey Selected

Pressing the **GO BACK** Softkey reverts to the previous page (Navigation Map Page or Flight Plan Page).

CHART OPTIONS

Pressing the **CHRT OPT** Softkey displays the next level of softkeys, the chart options level (Figure 8-48). Pressing the **ALL** Softkey shows the complete chart on the screen.



Complete Chart Shown

Figure 8-60 Airport Information Page, ALL View Selected

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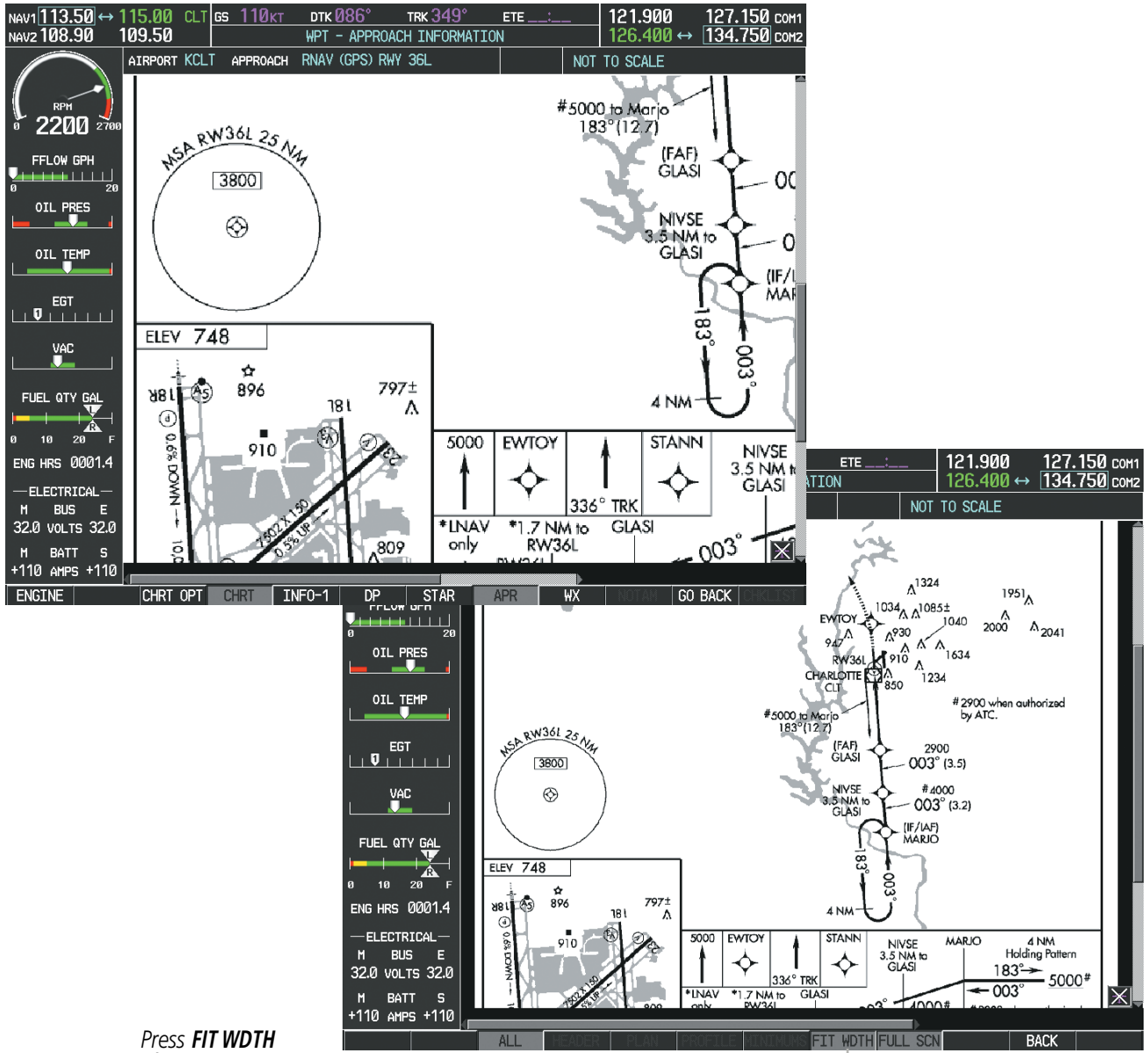
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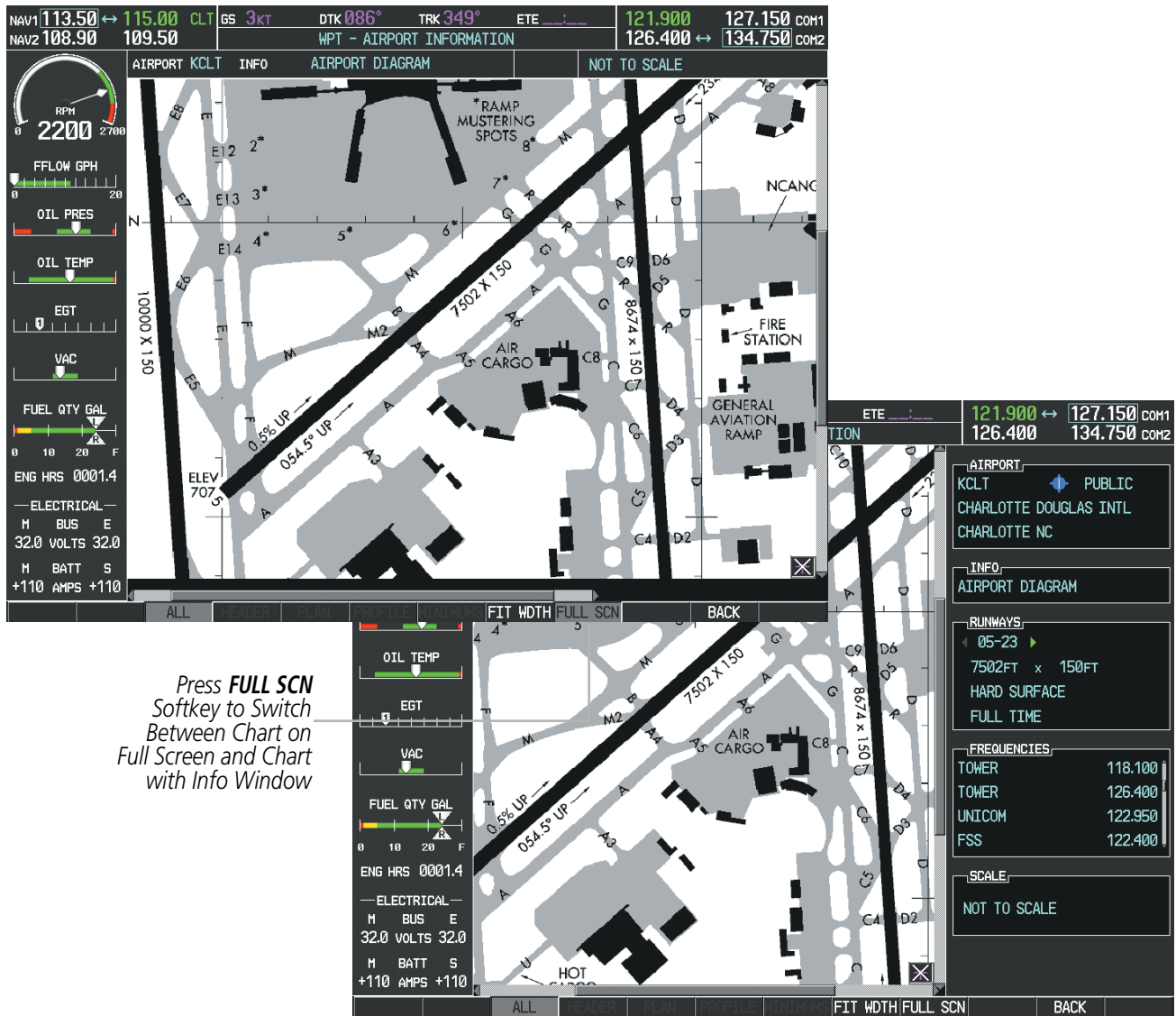
Pressing the **FIT WIDTH** Softkey fits the width of the chart in the display viewing area. In the example shown, the chart at close range is replaced with the full width chart.



Press **FIT WIDTH** Softkey to Show Full Chart Width

Figure 8-61 Approach Information Page, FIT WIDTH Softkey Selected

Pressing the **FULL SCN** Softkey alternates between removing and replacing the data window to the right.



Press **FULL SCN** Softkey to Switch Between Chart on Full Screen and Chart with Info Window

Figure 8-62 Airport Information Page, Full Screen and Info Window

Pressing the **BACK** Softkey, or waiting for 45 seconds reverts to the chart selection softkeys.

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The full screen view can also be selected by using the page menu option.

Selecting full screen On or Off:

- 1) While viewing a terminal chart press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the Chart Setup Menu Option and press the **ENT** Key.
- 3) Turn the large **FMS** Knob to move between the FULL SCREEN and COLOR SCHEME Options.
- 4) Turn the small **FMS** Knob to choose between the On and Off Full Screen Options.

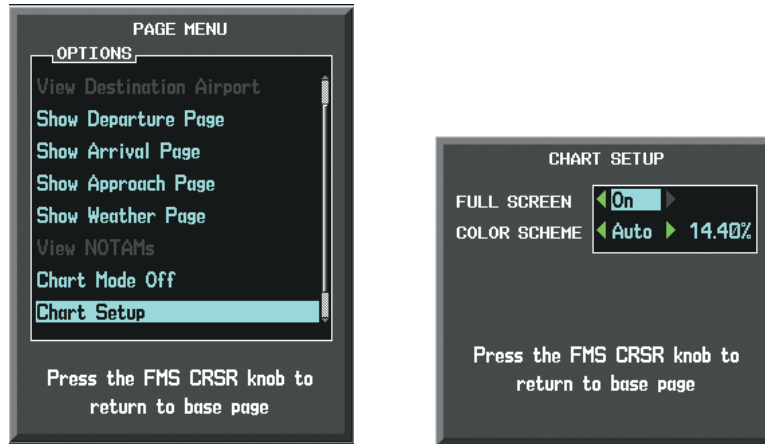


Chart Setup Option

Full Screen On/Off Selection

Figure 8-63 Page Menus

DAY/NIGHT VIEW

FliteCharts can be displayed on a white or black background for day or night viewing. The Day View offers a better presentation in a bright environment. The Night View gives a better presentation for viewing in a dark environment. When the CHART SETUP Box is selected the G1000 softkeys are blank.

Selecting Day, Night, or Automatic View:

- 1) While viewing a terminal chart press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the Chart Setup Menu Option and press the **ENT** Key.

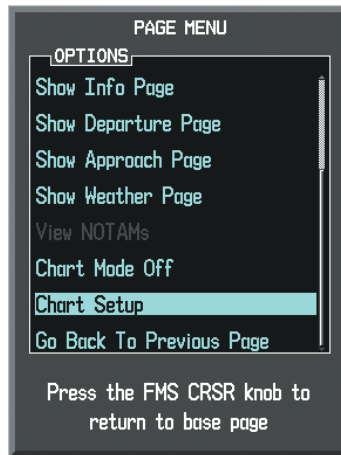


Figure 8-64 Waypoint Information Page, OPTIONS Menu

- 3) Turn the large **FMS** Knob to move to the COLOR SCHEME Option (Figure 8-65).
- 4) Turn the small **FMS** Knob to choose between Day, Auto, and Night Options.
- 5) If Auto Mode is selected, turn the large **FMS** Knob to select the percentage field. Use the small **FMS** Knob to change the percentage value. The percentage value is the day/night crossover point based on the percentage of backlighting intensity. For example, if the value is set to 15%, the day/night display changes when the display backlight reaches 15% of full brightness.

The display must be changed in order for the new setting to become active. This may be accomplished by selecting another page or changing the display range.

- 6) Press the **FMS** Knob when finished to remove the Chart Setup Menu.

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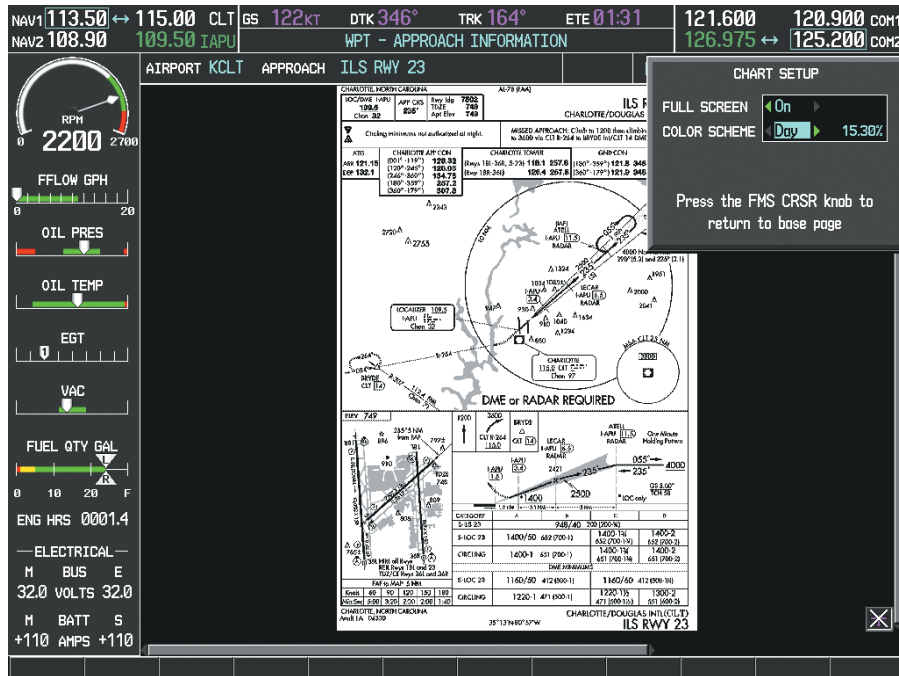


Figure 8-65 Approach Information Page, Day View

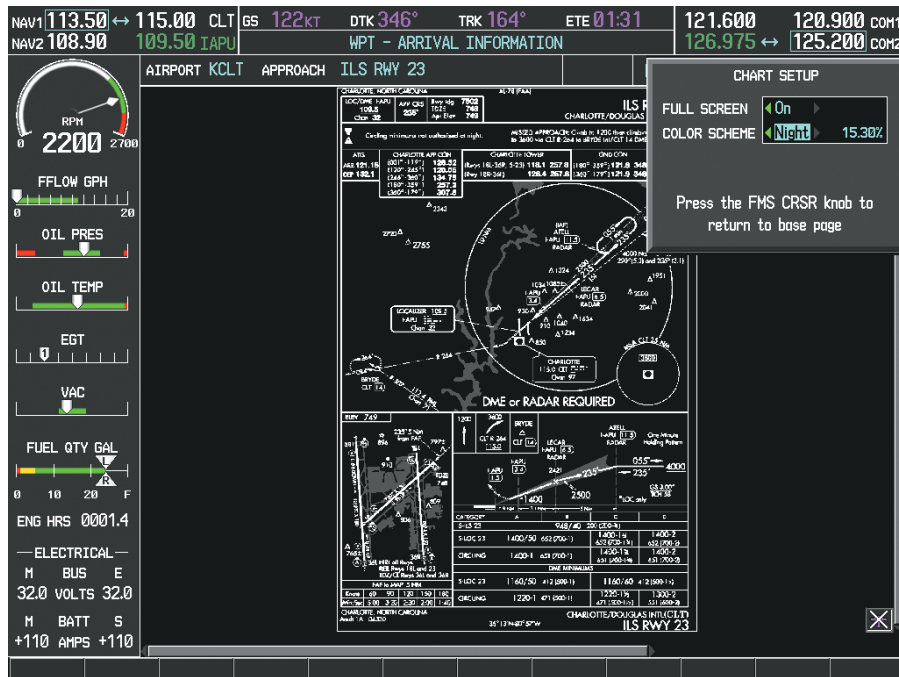


Figure 8-66 Approach Information Page, Night View

FLITECHARTS CYCLE NUMBER AND EXPIRATION DATE

FliteCharts data is revised every 28 days. Charts are still viewable during a period that extends from the cycle expiration date to the disables date. FliteCharts is disabled 180 days after the expiration date and are no longer available for viewing upon reaching the disables date. When turning on the system, the Power-up Page displays the current status of the FliteCharts database. See the table below for the various FliteCharts Power-up Page displays and the definition of each.

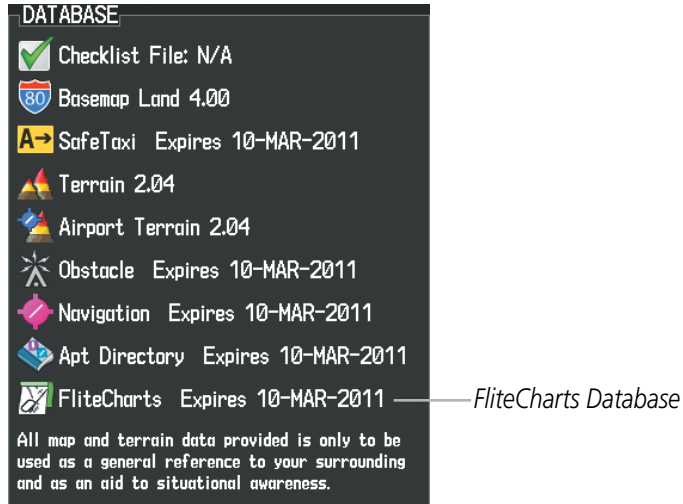


Figure 8-67 Power-up Page, FliteCharts Database

Power-up Page Display	Definition
	Blank Line. system is not configured for FliteCharts. Contact a Garmin-authorized service center for configuration.
Chart Data: N/A	System is configured for FliteCharts but no chart database is installed. Refer to Updating Garmin Databases in Appendix B for the FliteCharts database
FliteCharts Expires 10-MAR-2011	Normal operation. FliteCharts database is valid and within current cycle.
Chart data is out of date!	FliteCharts database is beyond the expiration date, but still within the 180 day viewing period.
Chart data is disabled.	FliteCharts database has timed out. Database is beyond 180 days after expiration date. FliteCharts database is no longer available for viewing.

Table 8-3 FliteCharts Power-up Page Annunciations and Definitions

Other possible AUX - System Status page conditions are shown in Figure 8-68. ‘FliteCharts Expires’ plus a date in white, indicates the chart database is current. ‘Chart data is out of date!’ in yellow, indicates charts are still viewable, but approaching the disable date.

When the 180 day grace period has expired, 'Chart data is disabled.' in yellow indicates that the FliteCharts database has expired and is no longer viewable. 'Chart Data: N/A' appears in white if no FliteCharts data is available on the database card or no database card is inserted.

FliteCharts time critical information can also be found on the AUX - System Status page. The FliteCharts database REGION, CYCLE number, EFFECTIVE, EXPIRES, and DISABLES dates of the subscription appear in either blue or yellow text. Dates shown in blue are current data. Dates shown in yellow indicate the data is not within the current subscription period.

FliteCharts becomes inoperative 180 days after the FliteCharts EXPIRES date is reached, and is no longer available for viewing. This date is shown as the DISABLES date. After the disable date the **SHW CHRT** Softkey label appears subdued and is unavailable until a revised issue of FliteCharts is installed.

NOTE: A subdued softkey label indicates the function is disabled.

Press the **MFD1 DB** Softkey to place the cursor in the DATABASE window. Scroll through the listed information by turning the **FMS** Knob or pressing the **ENT** Key until the FliteCharts database information is shown.

The FliteCharts database cycle number shown in the figure, 1102, is deciphered as follows:

11 – Indicates the year 2011

02 – Indicates the second issue of the FliteCharts database for the year

The FliteCharts EFFECTIVE date 10-FEB-11 is the first date that this database is current.

The FliteCharts EXPIRES date 10-MAR-11 is the last date that this database is current.

The DISABLES date 06-SEP-11 is the date that this database becomes inoperative.

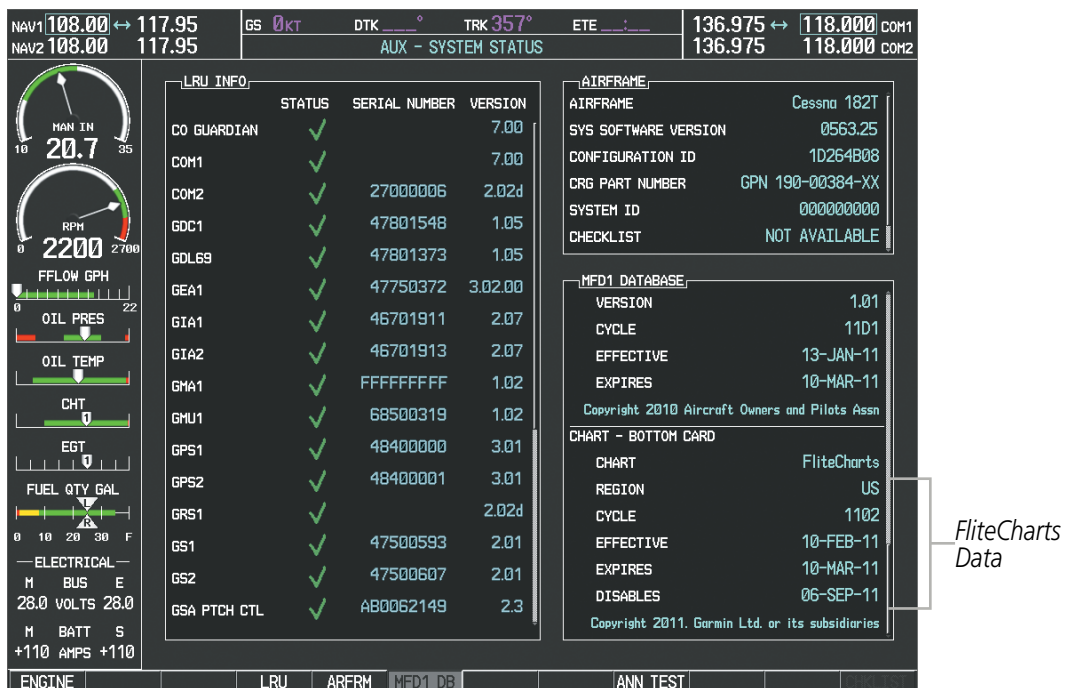


Figure 8-68 AUX – System Status Page, FliteCharts Current and Available

The FliteCharts database is provided from Garmin. Refer to Updating Garmin Databases in Appendix B for instructions on revising the FliteCharts database.

The other four possible AUX - System Status page conditions are shown here. The EFFECTIVE date, in yellow, indicates the current date precedes the date the FliteCharts database becomes effective. The EXPIRES date, in yellow, is the revision date for the next database cycle. The DISABLES date, in yellow, is the date that this database cycle is no longer viewable. NOT AVAILABLE in blue, indicate the FliteCharts database is not available on the database card or no database card is inserted.

MFD1 DATABASE	
VERSION	1.01
CYCLE	11D1
EFFECTIVE	13-JAN-11
EXPIRES	10-MAR-11
Copyright 2010 Aircraft Owners and Pilots Assn	
CHART - BOTTOM CARD	
CHART	FliteCharts
REGION	US
CYCLE	1102
EFFECTIVE	10-FEB-11
EXPIRES	10-MAR-11
DISABLES	06-SEP-11
Copyright 2011. Garmin Ltd. or its subsidiaries	

Current Date is Before Effective Date

MFD1 DATABASE	
VERSION	1.01
CYCLE	11D1
EFFECTIVE	13-JAN-11
EXPIRES	10-MAR-11
Copyright 2010 Aircraft Owners and Pilots Assn	
CHART - BOTTOM CARD	
CHART	FliteCharts
REGION	US
CYCLE	1102
EFFECTIVE	10-FEB-11
EXPIRES	10-MAR-11
DISABLES	06-SEP-11
Copyright 2011. Garmin Ltd. or its subsidiaries	

FliteCharts Expired, but is not Disabled

MFD1 DATABASE	
VERSION	1.01
CYCLE	11D1
EFFECTIVE	13-JAN-11
EXPIRES	10-MAR-11
Copyright 2010 Aircraft Owners and Pilots Assn	
CHART - BOTTOM CARD	
CHART	FliteCharts
REGION	US
CYCLE	1102
EFFECTIVE	10-FEB-11
EXPIRES	10-MAR-11
DISABLES	06-SEP-11
Copyright 2011. Garmin Ltd. or its subsidiaries	

FliteCharts Database is Disabled

MFD1 DATABASE	
VERSION	1.01
CYCLE	11D1
EFFECTIVE	13-JAN-11
EXPIRES	10-MAR-11
Copyright 2010 Aircraft Owners and Pilots Assn	
CHART - UNKNOWN	
CHART	FliteCharts
REGION	NOT AVAILABLE
CYCLE	NOT AVAILABLE
EFFECTIVE	-- -- --
EXPIRES	-- -- --
DISABLES	-- -- --

FliteCharts Database is Not Available

Figure 8-69 AUX – System Status Page, FliteCharts Database Status

8.5 AOPA AIRPORT DIRECTORY

The Aircraft Owners and Pilots Association (AOPA) Airport Directory database offers detailed information regarding services, hours of operation, lodging options, and more. This information is viewed on the Airport Directory Page as shown in Figure 8-70.

Selecting the Airport Directory Page:

- 1) Turn the large **FMS** Knob to select the 'WPT' page group.
- 2) Turn the small **FMS** Knob to select the AIRPORT INFORMATION Page. Initially, information for the airport closest to the aircraft's present position is displayed.
- 3) If necessary, press the INFO softkey until **INFO-2** is displayed.



Figure 8-70 AOPA Information on the Airport Information Page

AOPA DATABASE CYCLE NUMBER AND REVISION

The AOPA Airport Directory database is revised four times per year. Check fly.garmin.com for the current database. The Airport Directory is always available for use after the expiration date. When turning on the system, the Power-up Page indicates whether the databases are current, out of date, or not available.

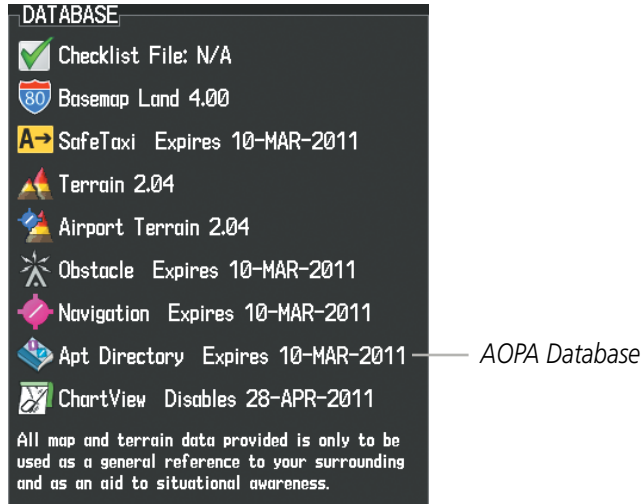


Figure 8-71 Power-up Page, Airport Directory Database

Power-up Page Display	Definition
Apt Directory Expires 10-MAR-2011	Normal operation. AOPA Airport Directory database is valid and within current cycle.
Apt Directory Expires 10-MAR-2011	AOPA Airport Directory database has expired.
Apt Directory N/A	Database card contains no AOPA Airport Directory data.

Table 8-4 Airport Directory Annunciation Definitions

The Airport Directory Region, Version, Cycle, Effective date and Expires date of the database cycle can also be found on the AUX - System Status page, as seen in Figure 8-72.

Press the **MFD1 DB** Softkey to place the cursor in the DATABASE window. Scroll through the listed information by turning the **FMS** Knob or pressing the **ENT** Key until the Airport Directory database information is shown.

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The Airport Directory database cycle number shown in the figure, 11D1, is deciphered as follows:

11 – Indicates the year 2011

D – Indicates the data is for Airport Directory

1 – Indicates the first issue of the Airport Directory database for the year

The Airport Directory EFFECTIVE date 13-JAN-11 is the beginning date for the current database cycle. The Airport Directory EXPIRES date 10-MAR-11 is the revision date for the next database cycle.



Airport Directory Data

Figure 8-72 AUX – System Status Page, Airport Directory Current Information

Airport Directory information appears in blue and yellow text. The EFFECTIVE date appears in blue when data is current and in yellow when the current date is before the effective date. The EXPIRES date appears in blue when data is current and in yellow when expired (Table 8-4). NOT AVAILABLE appears in blue in the REGION field if Airport Directory data is not available on the database card. An expired Airport Directory database is not disabled and will continue to function indefinitely.

8.6 SIRIUSXM SATELLITE RADIO (SERVICE OPTIONAL)



NOTE: Refer to the Hazard Avoidance Section for information about XM WX Satellite Weather products.

The optional SiriusXM Satellite Radio entertainment feature of the GDL 69A Data Link Receiver is available for the pilot's and passengers' enjoyment. The GDL 69A can receive SiriusXM Satellite Radio entertainment services at any altitude throughout the Continental U.S. Entertainment audio is not available on the GDL 69 Data Link Receiver.

SiriusXM Satellite Radio offers a variety of radio programming over long distances without having to constantly search for new stations. Based on signals from satellites, coverage far exceeds land-based transmissions. SiriusXM Satellite Radio services are subscription-based. For more information on specific service packages, visit www.siriusxm.com.

ACTIVATING SIRIUSXM SATELLITE RADIO SERVICES

The service is activated by providing SiriusXM Satellite Radio with either one or two coded IDs, depending on the equipment. Either the Audio Radio ID or the Data Radio ID, or both, must be provided to SiriusXM Satellite Radio to activate the entertainment subscription.

It is not required to activate both the entertainment and weather service subscriptions with the GDL 69A. Either or both services can be activated. SiriusXM Satellite Radio uses one or both of the coded IDs to send an activation signal that, when received by the GDL 69A, allows it to play entertainment programming.

These IDs are located:

- On the label on the back of the Data Link Receiver
- On the XM Information Page on the MFD (Figure 8-73)
- On the XM Satellite Radio Activation Instructions included with the unit (available at www.garmin.com, P/N 190-00355-04)

Contact the installer if the Data Radio ID and the Audio Radio ID cannot be located.



NOTE: The **LOCK** Softkey on the XM Information Page (Auxiliary Page Group) is used to save GDL 69A activation data when the SiriusXM services are initially set up. It is not used during normal SiriusXM Satellite Radio operation, but there should be no adverse effects if inadvertently pressed during flight. Refer to the GDL 69/69A SiriusXM Satellite Radio Activation Instructions (190-00355-04, Rev H or later) for further information.

Activating the SiriusXM Satellite Radio services:

- 1) Contact SiriusXM Satellite Radio. Follow the instructions provided by SiriusXM Satellite Radio services.
- 2) Select the Auxiliary Page Group.
- 3) Select the next to last page in the AUX Page Group.
- 4) Press the **INFO** Softkey to display the XM Information Page.
- 5) Verify that the desired services are activated.

- 6) Press the **LOCK** Softkey.
- 7) Turn the large **FMS** Knob to highlight YES.
- 8) To complete activation, press the **ENT** Key.



Figure 8-73 XM Information Page

If XM WX Satellite Weather services have not been activated, all the weather product boxes are blank on the XM Information Page and a yellow Activation Required message is displayed in the center of the Weather Data Link Page (Map Page Group). The Service Class refers to the groupings of weather products available for subscription.

USING SIRIUSXM RADIO

The XM Radio Page provides information and control of the audio entertainment features of the SiriusXM Satellite Radio.

Selecting the XM Radio Page:

- 1) Turn the large **FMS** Knob to select the Auxiliary Page Group.
- 2) Turn the small **FMS** Knob to select the displayed AUX - XM Information Page.
- 3) Press the **RADIO** Softkey to show the XM Radio Page where audio entertainment is controlled.



Figure 8-74 XM Radio Page

ACTIVE CHANNEL AND CHANNEL LIST

The Active Channel Box on the XM Radio Page displays the currently selected channel that the SiriusXM Radio is using.

The Channels List Box of the XM Radio Page shows a list of the available channels for the selected category. Channels can be stepped through one at a time or may be selected directly by channel number.

Selecting a channel from the channel list:

- 1) While on the XM Radio Page, press the **CHNL** Softkey.
- 2) Press the **CH +** Softkey to go up through the list in the Channel Box, or move down the list with the **CH -** Softkey.

Or:

- 1) Press the **FMS** Knob to highlight the channel list and turn the large **FMS** Knob to scroll through the channels.
- 2) Press the **ENT** Key to activate the selected channel.

Selecting a channel directly:

- 1) While on the XM Radio Page, press the **CHNL** Softkey.
- 2) Press the **DIR CH** Softkey. The channel number in the Active Channel Box is highlighted.
- 3) Press the numbered softkeys located on the bottom of the display to directly select the desired channel number.
- 4) Press the **ENT** Key to activate the selected channel.

CATEGORY

The Category Box of the XM Radio Page displays the currently selected category of audio. Categories of channels such as jazz, rock, or news can be selected to list the available channels for a type of music or other contents. One of the optional categories is PRESETS to view channels that have been programmed.

Selecting a category:

- 1) Press the **CATGRY** Softkey on the XM Radio Page.
- 2) Press the **CAT +** and **CAT -** Softkeys to cycle through the categories.

Or:

Turn the small **FMS** Knob to display the Categories list. Highlight the desired category with the small **FMS** Knob and press the **ENT** Key. Selecting All Categories places all channels in the list.



Figure 8-75 Categories List

PRESETS

Up to 15 channels from any category can be assigned a preset number. The preset channels are selected by pressing the **PRESETS** and **MORE** Softkeys. Then the preset channel can be selected directly and added to the channel list for the Presets category.

Setting a preset channel number:

- 1) On the XM Radio Page, while listening to an Active Channel that is wanted for a preset, press the **PRESETS** Softkey to access the first five preset channels (**PS1 - PS5**).
- 2) Press the **MORE** Softkey to access the next five channels (**PS6 – PS10**), and again to access the last five channels (**PS11 – PS15**). Pressing the **MORE** Softkey repeatedly cycles through the preset channels.
- 3) Press any one of the (**PS1 - PS15**) softkeys to assign a number to the active channel.
- 4) Press the **SET** Softkey on the desired channel number to save the channel as a preset.

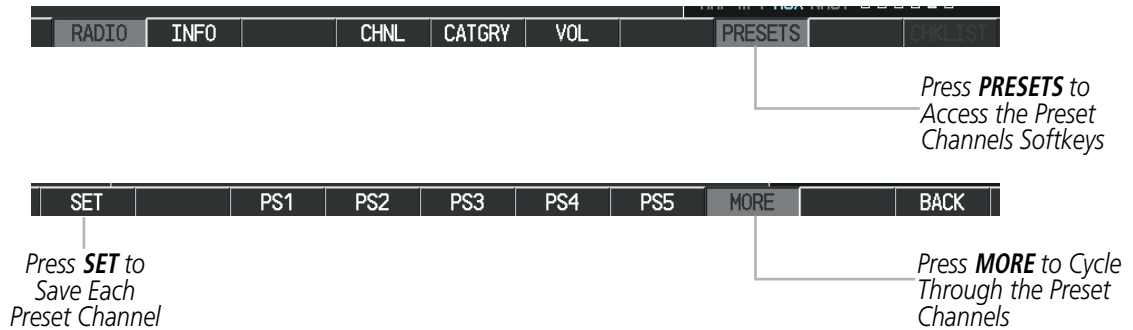


Figure 8-76 Accessing and Selecting XM Preset Channels

Pressing the **BACK** Softkey, or waiting during 45 seconds of softkey inactivity, returns the system to the top level softkeys.

VOLUME

Radio volume is shown as a percentage of full volume. Volume level is controlled by pressing the **VOL** Softkey, which brings up the **MUTE** Softkey and the volume increase and decrease softkeys.

Adjusting the volume:

- 1) With the XM Radio Page displayed, press the **VOL** Softkey.
- 2) Press the **VOL –** Softkey to reduce volume or press the **VOL +** Softkey to increase volume. (Once the **VOL** Softkey is pressed, the volume can also be adjusted using the small **FMS** Knob.)
- 3) Press the **MUTE** Softkey to mute the audio. Press the **MUTE** Softkey again to unmute the audio.

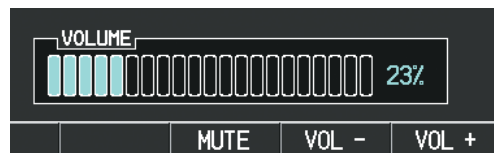


Figure 8-77 Volume Control

AUTOMATIC AUDIO MUTING

SiriusXM Satellite Radio audio is muted automatically when the aircraft groundspeed exceeds approximately 30 knots and the airspeed is less than approximately 80 knots. The audio is not unmuted automatically. The audio must be manually unmuted once the aircraft is airborne and outside the applicable speed range. Automatic Audio Muting has been implemented to meet regulatory requirements that the aural stall warning be heard.

When the aircraft is operating within the automute airspeed range, the **MUTE** Softkey and the volume softkeys are subdued, and the Unmute selection of the Page Menu is unavailable, preventing the audio from being unmuted at this time.

Audio availability conforms to the following three states:

- Audio is available on the ground until the aircraft exceeds 30 knots
- Audio is automatically muted (not available) from Airborne Status up to 80 knots airspeed
- Audio is available when airspeed is over 80 knots

Unmuting SiriusXM audio:

- 1) With the XM Radio Page displayed, press the **VOL** Softkey.
- 2) Press the **MUTE** Softkey to restore (unmute) SiriusXM Audio.

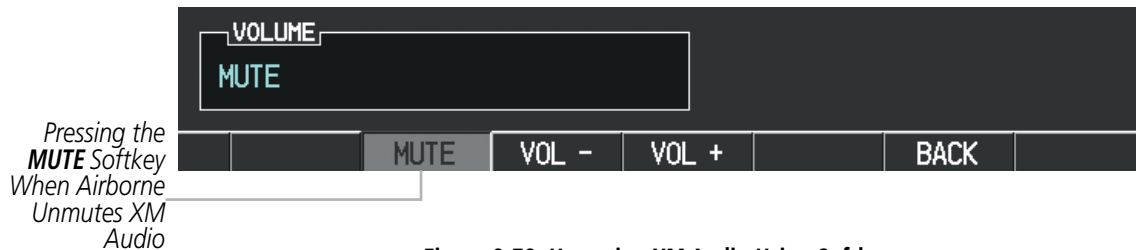


Figure 8-78 Unmuting XM Audio Using Softkeys

Or:

- 1) While on either the XM – Radio Page or the XM – Information Page, press the **MENU** Key to display the PAGE MENU.
- 2) Turn the large **FMS** Knob to select the Unmute option.
- 3) Press the **ENT** Key to restore (unmute) SiriusXM Audio.

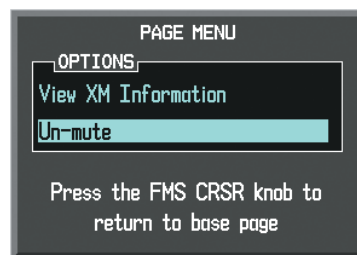


Figure 8-79 Unmuting XM Audio with the Page Menu

8.7 SCHEDULER

The Scheduler feature can be used to enter and display reminder messages (e.g., Change oil, Switch fuel tanks, or Altimeter-Transponder Check) in the Alerts Window on the PFD. Messages can be set to display based on a specific date and time (event), once the message timer reaches zero (one-time; default setting), or recurrently whenever the message timer reaches zero (periodic). Message timers set to periodic alerting automatically reset to the original timer value once the message is displayed. When power is cycled, all messages are retained until deleted, and message timer countdown is resumed.

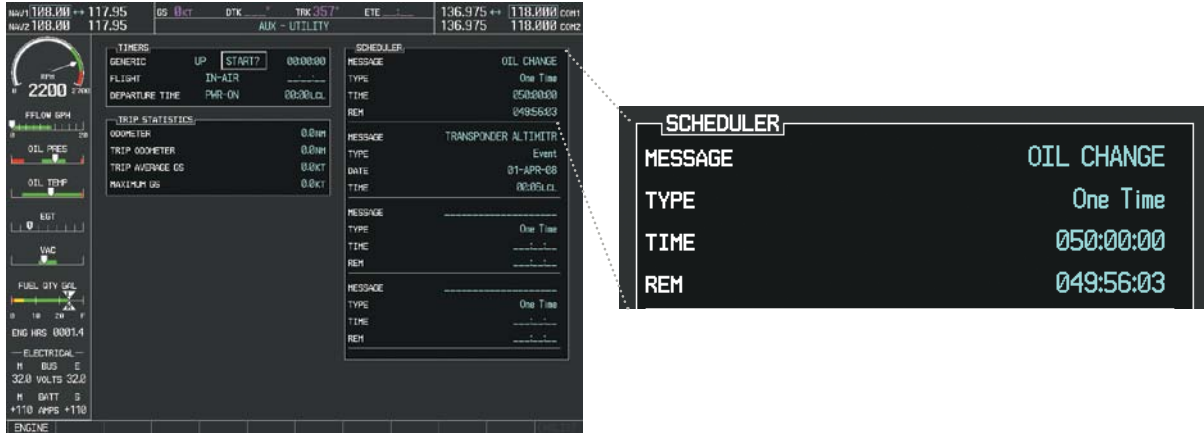


Figure 8-80 Scheduler (Utility Page)

Entering a scheduler message:

- 1) Select the AUX - Utility Page.
- 2) Press the **FMS** Knob momentarily to activate the flashing cursor.
- 3) Turn the large **FMS** Knob to highlight the first empty scheduler message naming field.
- 4) Use the **FMS** Knob to enter the message text to be displayed in the Alerts Window and press the **ENT** Key.
- 5) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the field next to Type.
- 6) Turn the small **FMS** Knob to select the message alert type:
 - Event—Message issued at the specified date/time
 - One-time—Message issued when the message timer reaches zero (default setting)
 - Periodic—Message issued each time the message timer reaches zero
- 7) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the next field.
- 8) For periodic and one-time message, use the **FMS** Knob to enter the timer value (HH:MM:SS) from which to countdown and press the **ENT** Key.

- 9) For event-based messages:
 - a) Use the **FMS** Knob to enter the desired date (DD-MM-YY) and press the **ENT** Key.
 - b) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to the next field.
 - c) Use the **FMS** Knob to enter the desired time (HH:MM) and press the **ENT** Key.
- 10) Press the **ENT** Key again or use the large **FMS** Knob to move the cursor to enter the next message.

Deleting a scheduler message:

- 1) Select the AUX - Utility Page.
- 2) Press the **FMS** Knob momentarily to activate the flashing cursor.
- 3) Turn the large **FMS** Knob to highlight the name field of the scheduler message to be deleted.
- 4) Press the **CLR** Key to clear the message text. If the **CLR** Key is pressed again, the message is restored.
- 5) Press the **ENT** Key while the message line is cleared to clear the message time.

Scheduler messages appear in the Alerts Window on the PFD. When a scheduler message is waiting, the **ALERTS** Softkey label changes to **ADVISORY**. Pressing the **ADVISORY** Softkey opens the Alerts Window and acknowledges the scheduler message. The softkey label reverts to **ALERTS** when pressed, the Alerts Window is removed from the display, and the scheduler message is deleted from the message queue.



Figure 8-81 PFD Alerts Window

8.8 ELECTRONIC CHECKLISTS

NOTE: The checklists presented here are for example only and may not reflect checklists actually available for the Cessna NAV III Aircraft. This material is not intended to replace the checklist information presented in the AFM or the Pilot Safety and Warning Supplements document.

NOTE: Garmin is not responsible for the content of checklists. Checklists are created by the aircraft manufacturer. Modifications or updates to the checklists are coordinated through the aircraft manufacturer. The user cannot edit these checklists.

The optional checklist functions are displayed on two levels of softkeys that are available on any MFD page.

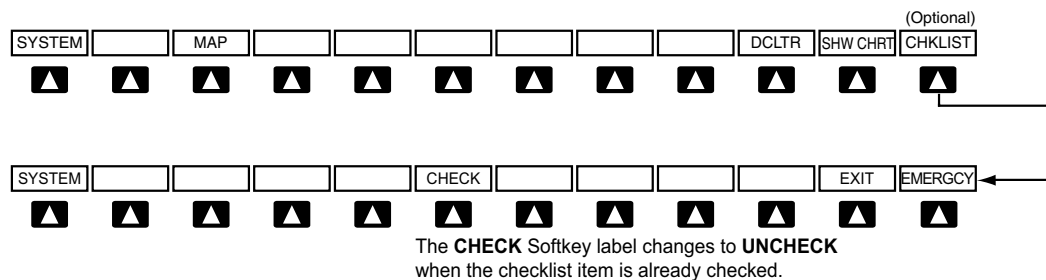


Figure 8-82 Checklist Softkeys

The MFD is able to display optional electronic checklists which allow a pilot to quickly find the proper procedure on the ground and during each phase of flight. The system accesses the checklists from an SD card inserted into the bezel slot. If the SD card contains an invalid checklist file or no checklist, the Power-up Page messages display 'Checklist File: Invalid' or 'Checklist File: N/A (not available)' and the **CHKLIST** Softkey is not available.

Accessing and navigating checklists:

- 1) From any page on the MFD, press the **CHKLIST** Softkey or turn the large **FMS** Knob to select the Checklist Page.
- 2) Turn the large **FMS** Knob to select the 'GROUP' field.
- 3) Turn the small **FMS** Knob to select the desired procedure and press the **ENT** Key.
- 4) Turn the large **FMS** Knob to select the 'CHECKLIST' field.
- 5) Turn the **FMS** Knob to select the desired checklist and press the **ENT** Key. The selected checklist item is indicated with white text surrounded by a white box.
- 6) Press the **ENT** Key or **CHECK** Softkey to check the selected checklist item. The line item turns green and a checkmark is placed in the associated box. The next line item is automatically selected for checking.

Either **FMS** Knob can be used to scroll through the checklist and select the desired checklist item.

Press the **CLR** Key or **UNCHECK** Softkey to remove a check mark from an item.

- 7) When all checklist items have been checked, '*Checklist Finished*' is displayed in green text at the bottom left of the checklist window. If all items in the checklist have not be checked, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.\

- 8) Press the **ENT** Key. 'GO TO NEXT CHECKLIST?' will be highlighted by the cursor.
- 9) Press the **ENT** Key to advance to the next checklist.
- 10) Press the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed.

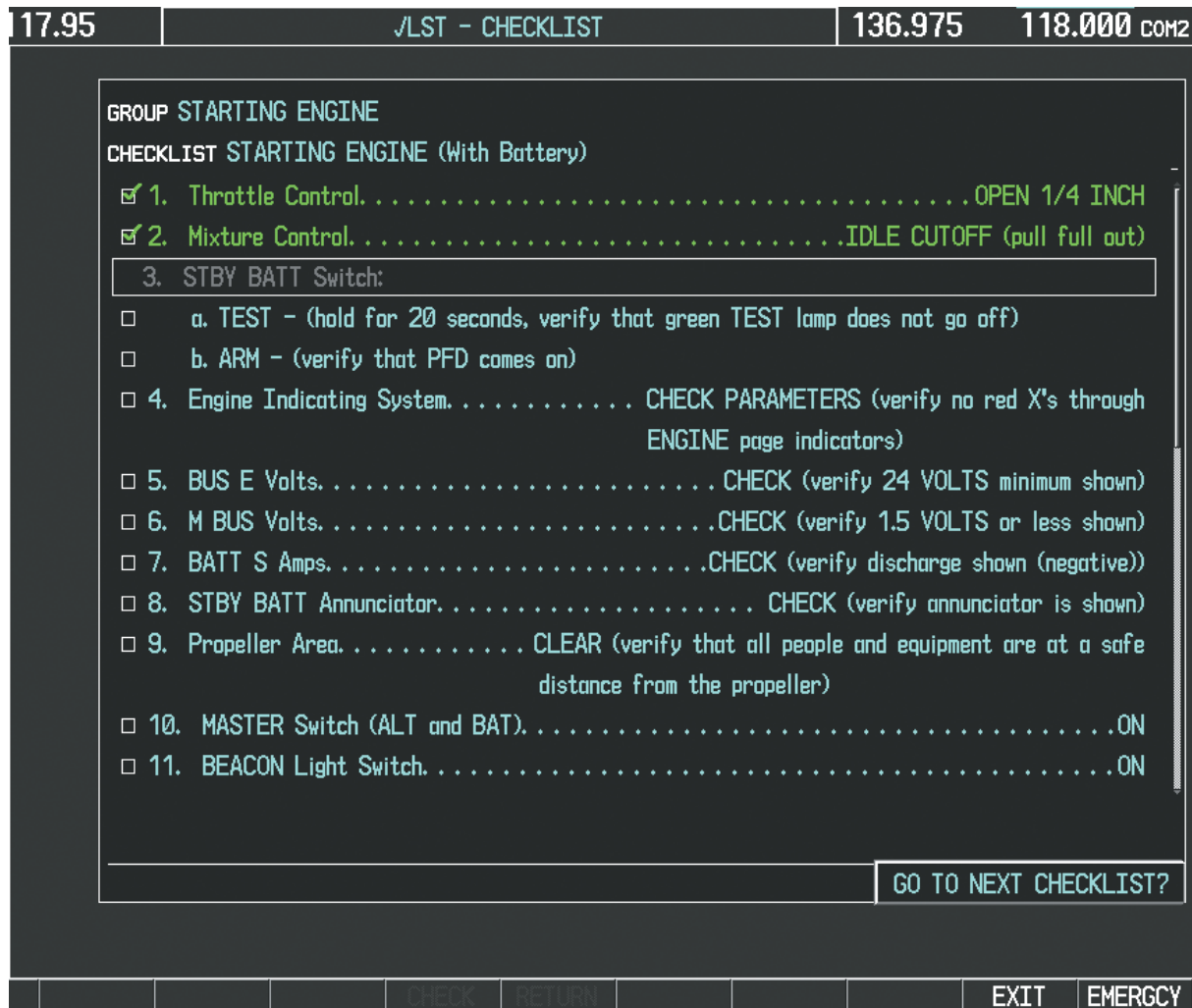


Figure 8-83 Sample Checklist

Accessing emergency procedures:

- 1) From any page on the MFD, press the **CHKLST** Softkey or turn the large **FMS** Knob to select the Checklist Page.
- 2) Press the **EMERGCY** Softkey.
- 3) Turn the **FMS** Knob to select the desired emergency checklist and press the **ENT** Key.
- 4) Press the **ENT** Key or **CHECK** Softkey to check the selected emergency checklist item. The line item turns green and a checkmark is placed in the box next to it. The next line item is automatically highlighted for checking. Either **FMS** Knob can be used to scroll through the checklist and select the desired checklist item. Press the **CLR** Key or **UNCHECK** Softkey to remove a check mark from an item.

- 5) When all checklist items have been checked, '*Checklist Finished*' is displayed in green text at the bottom left of the checklist window. If all items in the checklist have not be checked, '*CHECKLIST NOT FINISHED*' will be displayed in yellow text.\
- 6) Press the **ENT** Key. 'GO TO NEXT CHECKLIST?' will be highlighted by the cursor.
- 7) Press the **ENT** Key to advance to the next checklist.
- 8) Press the **RETURN** Softkey to return to the previous checklist.
- 9) Press the **EXIT** Softkey to exit the Checklist Page and return to the page last viewed.

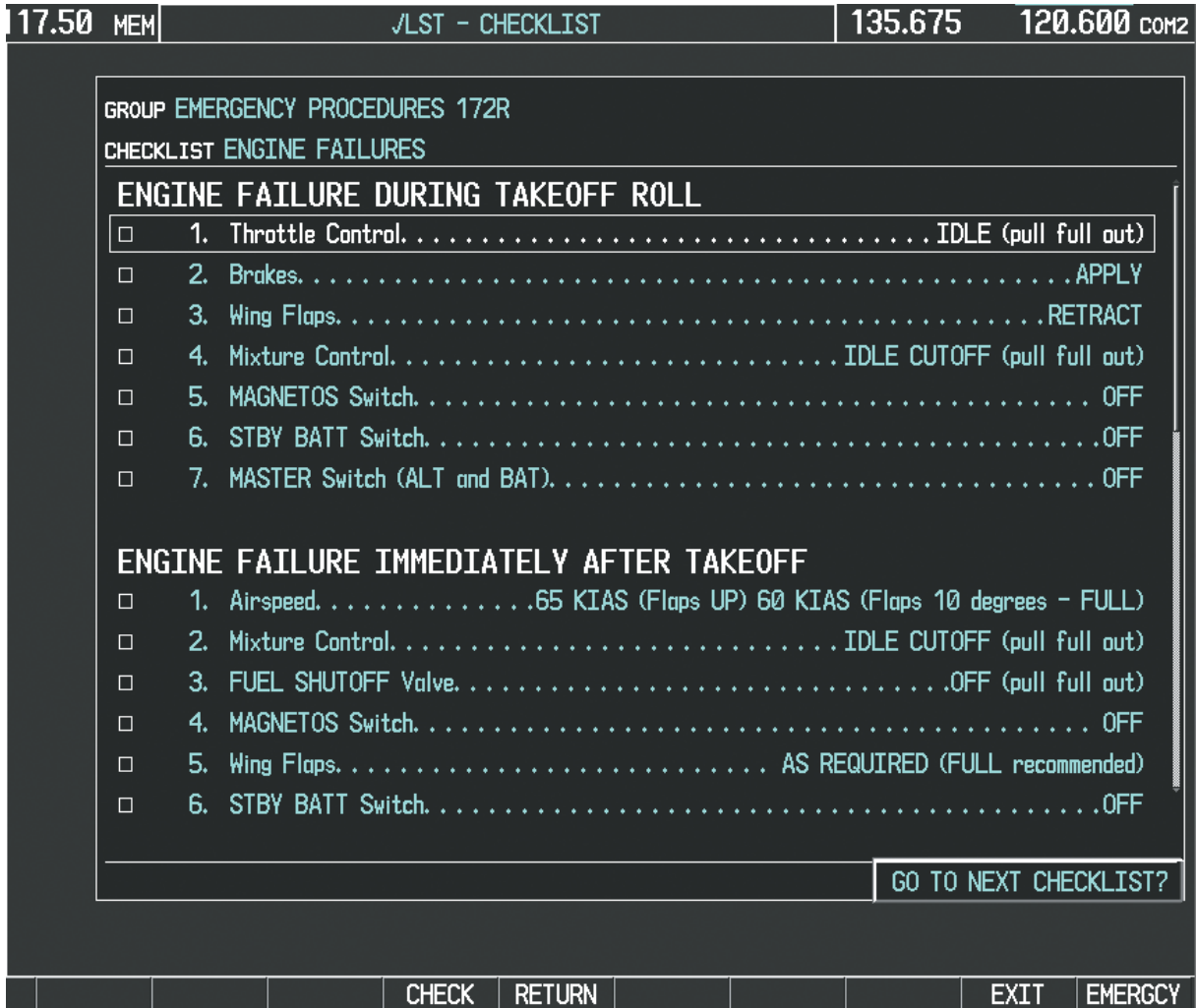


Figure 8-84 Emergency Checklist Page Example

8.9 FLIGHT DATA LOGGING



NOTE: *Some aircraft installations may not provide all aircraft/engine data capable of being logged by the system.*

The Flight Data Logging feature will automatically store critical flight and engine data on an SD data card inserted into the top card slot of the MFD. Approximately 4,000 flight hours can be recorded on the card.

Data is written to the SD card once each second while the MFD is powered on. All flight data logged on a specific date is stored in a file named in a format which includes that date (dataYYYY_MM_DD.csv). The file is created automatically each time the G1000 system is powered on, provided an SD card has been inserted.

The status of the Flight Data Logging feature can be viewed on the AUX-UTILITY Page. If no SD card has been inserted, “NO CARD” is displayed. When data is being written to the SD card, “LOGGING DATA” is displayed.

The .csv file may be viewed with Microsoft Excel® or other spreadsheet applications.

The following is a list of data parameters the G1000 system is capable of logging for the Cessna Nav III aircraft.

- Date
- Time
- GPS altitude (MSL)
- GPS altitude (WGS84 datum)
- Baro-Corrected altitude (feet)
- Baro Correction (in/Hg)
- Indicated airspeed (kts)
- Vertical speed (fpm)
- GPS vertical speed (fpm)
- OAT (degrees C)
- True airspeed (knots)
- Pitch Attitude Angle (degrees)
- Roll Attitude Angle (degrees)
- Lateral and Vertical G Force (g)
- Ground Speed (kts)
- Ground Track (degrees magnetic)
- Latitude (degrees; geodetic; +North)
- Longitude (degrees; geodetic; +East)
- Magnetic Heading (degrees)
- HSI source
- Selected course
- Com1/Com2 frequency
- Nav1/Nav2 frequency
- CDI deflection
- VDI/GP/GS deflection
- Wind Direction (degrees)
- Wind Speed (knots)
- Active Waypoint Identifier
- Distance to next waypoint (nm)
- Bearing to next waypoint (degrees)
- Magnetic variation (degrees)
- Autopilot On/Off
- AFCS roll/pitch modes
- AFCS roll/pitch commands
- GPS fix
- GPS horizontal alert limit
- GPS vertical alert limit
- SBAS GPS horizontal protection level
- SBAS GPS vertical protection level
- Fuel Qty (right & left)(gals)
- Fuel Flow (gph)
- Fuel Pressure (psi)
- Voltage 1 and/or 2
- Amps 1 and/or 2
- Engine RPM
- Oil Pressure (psi)
- Oil Temperature (deg. F)
- TIT (deg. F)
- Manifold Pressure (in. Hg)
- CHT
- EGT

The file containing the recorded data will appear in the format shown in Figure 8-85. This file can be imported into most computer spreadsheet applications.

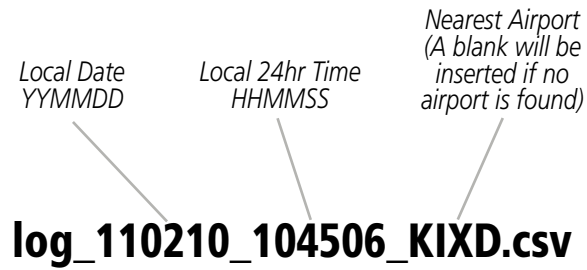


Figure 8-85 Log File Format

Data logging status can be monitored on the AUX-UTILITY Page.

8.10 AUXILIARY VIDEO (OPTIONAL)

The G1000 system provides a control and display interface to an optional auxiliary video system. The system can display video for up to two inputs.

There are four modes of operation of the auxiliary video display: Full-Screen, Full-Screen with Digital Zoom, Split-Screen with Map, and Split-Screen with Map and Digital Zoom.

Displaying auxiliary video:

- 1) Turn the large **FMS** Knob to select the AUX page group.
- 2) Turn the small **FMS** Knob to select VIDEO and display the AUX-VIDEO Page.

The video display softkeys shown below appear on the AUX - VIDEO Page.

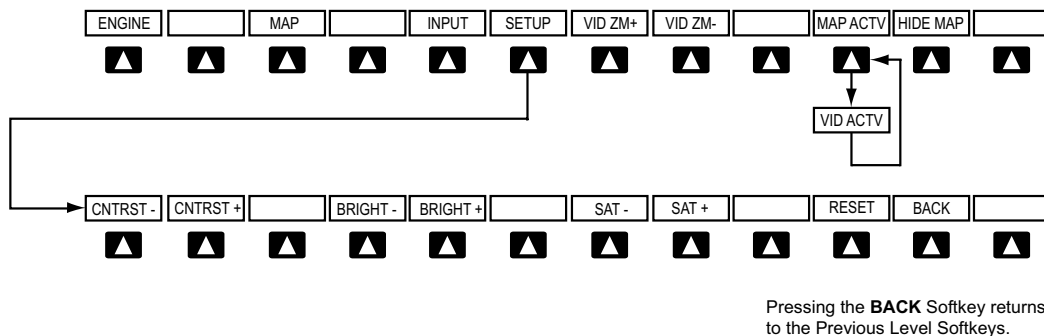


Figure 8-86 Video Display Softkeys

Control of the AUX - VIDEO Page can also be accessed through the Page Menu.



Figure 8-87 AUX - VIDEO Page Menu

Selecting video menu options:

- 1) While viewing the AUX - VIDEO Page press the **MENU** Key to display the Page Menu OPTIONS.
- 2) Turn the large **FMS** Knob to highlight the desired video adjustment option and press the **ENT** Key.

Once the **ENT** key is pressed on any option, the page menu closes and returns to the AUX - VIDEO Page.

VIDEO SETUP

Video brightness, contrast, and saturation may be adjusted by selecting the setup function. While viewing the setup function softkeys, after 45 seconds of softkey inactivity, the system reverts to the AUX - VIDEO Page softkeys.

Adjusting the video settings:

- 1) With the AUX-VIDEO Page displayed, press the **SETUP** Softkey.
- 2) Press the **BRIGHT -** or **BRIGHT +**, to adjust display brightness in five percent increments from 0 to 100%.
- 3) Press the **CNTRST-** or **CNTRST +**, to adjust display contrast in five percent increments from 0 to 100%.
- 4) Press the **SAT -** or **SAT +**, to adjust display saturation in five percent increments from 0 to 100%.
- 5) If desired, return the display to the default settings by pressing the **RESET** Softkey.
- 6) Press the **BACK** Softkey to return to the previous softkey level.

DISPLAY SELECTION

Pressing the **HIDE MAP** Softkey removes the map and displays video on the full screen. The softkey label changes to grey with black characters. Pressing the **HIDE MAP** Softkey again restores the map view and the small video image. The softkey label returns to white characters on a black background.

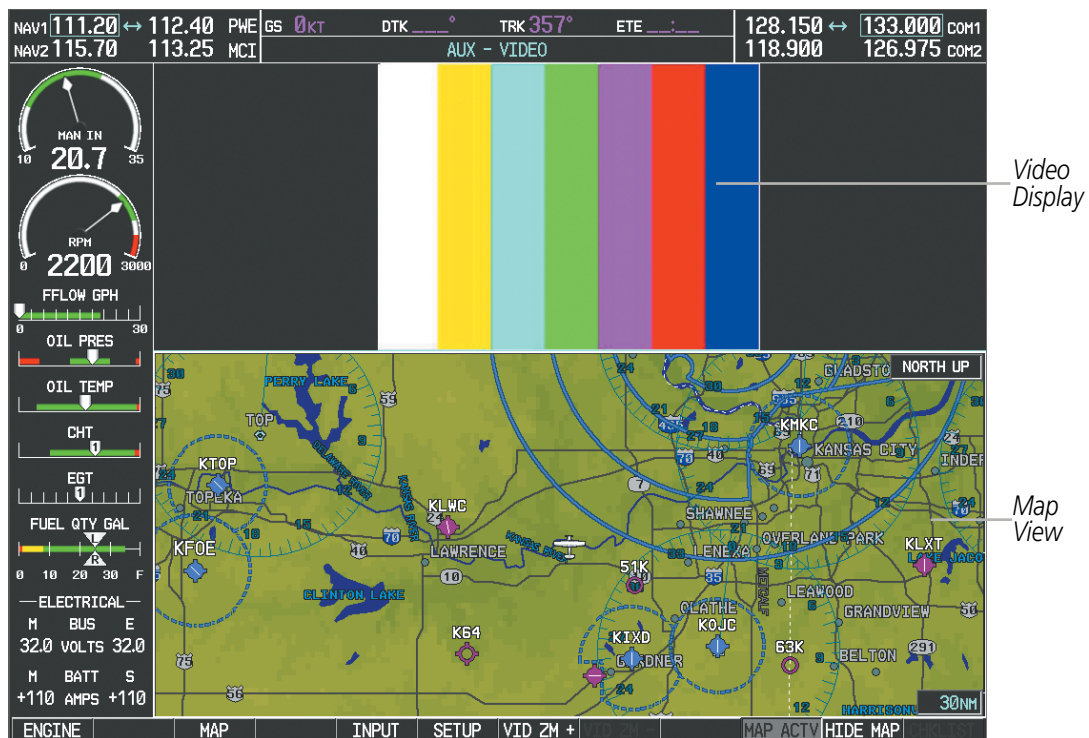


Figure 8-88 AUX - Video Split-Screen

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- AUDIO PANEL & CNS
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- HAZARD AVOIDANCE
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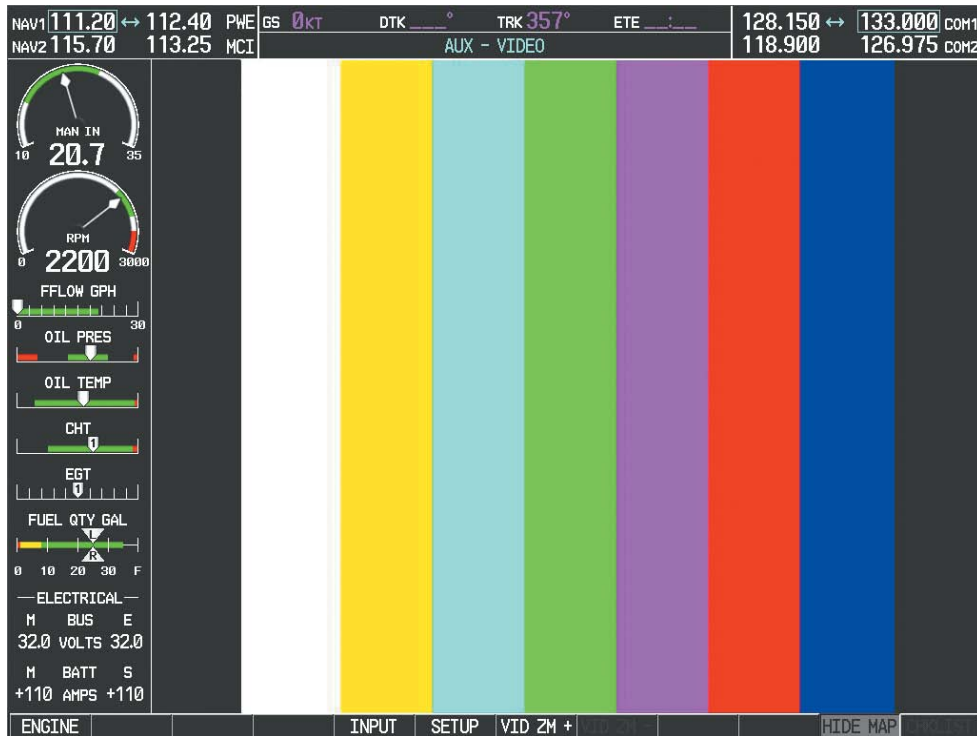


Figure 8-89 Full Screen Video Display

INPUT SELECTION

While on the AUX - VIDEO Page, press the **INPUT** Softkey to select the EVS or AUX video source.

ZOOM/RANGE

Pressing the **VID ZM +** or **VID ZM -** Softkeys increases or decreases video display magnification between 1x and 10x.

The **RANGE** Knob can be used to increase or decrease the range setting on the map display or zoom in and out on the video display. While in the Split-Screen mode, pressing the **MAP ACTV** or **VID ACTV** Softkey determines which display the **RANGE** Knob adjusts. Pressing the softkey to display MAP ACTV allows the **RANGE** Knob to control the range setting of the map display. Pressing the softkey to display VID ACTV allows the **RANGE** Knob to control the zoom setting of the video display.

When zooming in on the video display, a Zoom Window will appear in the upper right of the display. A box within this window indicates the portion of the display currently being viewed. The currently displayed portion of the full display may be adjusted by using Joystick.

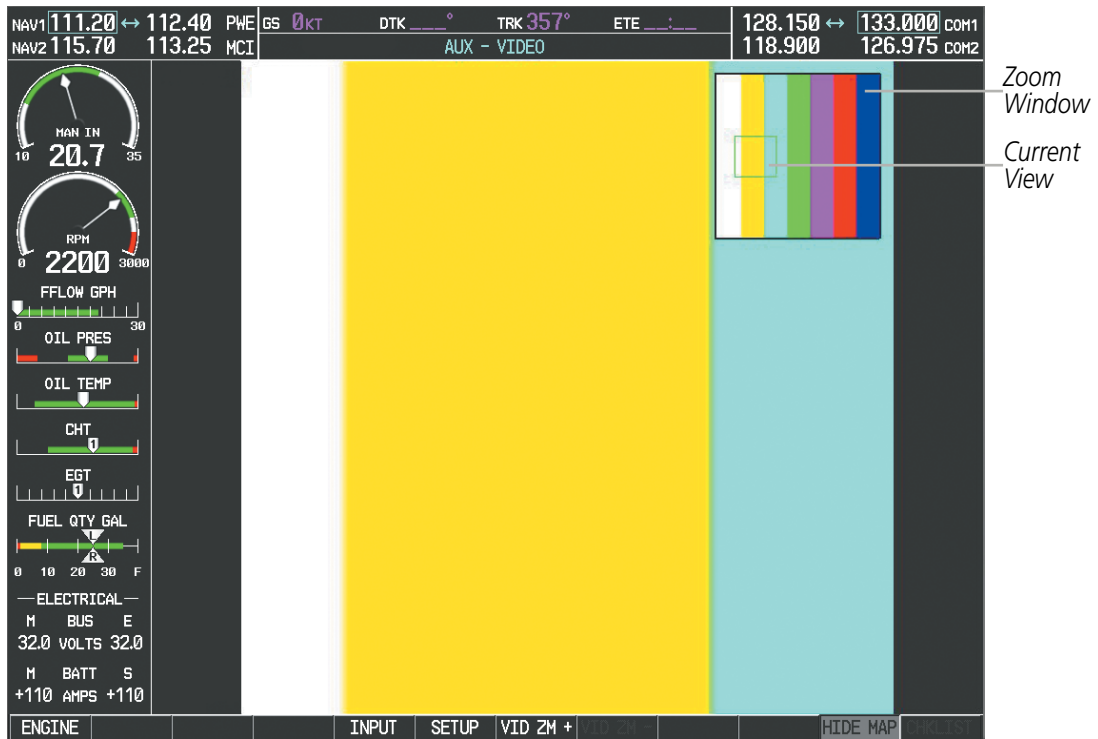


Figure 8-90 Zoom Window

8.11 ABNORMAL OPERATION

SVS TROUBLESHOOTING

SVS is intended to be used with traditional attitude, heading, obstacle, terrain, and traffic inputs. SVS is disabled when valid attitude or heading data is not available for the display. In case of invalid SVS data, the PFD display reverts to the standard blue-over-brown attitude display.

SVS becomes disabled without the following data resources:

- Attitude data
- Heading data
- GPS position data
- 9 Arc-second Terrain data
- Obstacle data
- TAWS function is not available, in test mode, or failed
- The position of the aircraft exceeds the range of the terrain database.

REVERSIONARY MODE

SVS can be displayed on the Multifunction Display (MFD) in Reversionary Mode. If it is enabled when switching to Reversionary Mode, SVS will take up to 30 seconds to be displayed. The standard, non-SVS PFD display will be shown in the interim.



Figure 8-91 SVS Reversionary Mode

UNUSUAL ATTITUDES

Unusual attitudes are displayed with red chevrons overlaid on the display indicating the direction to fly to correct the unusual attitude condition. The display shows either a brown or blue colored bar at the top or bottom of the screen to represent earth or sky. This is intended to prevent losing sight of the horizon during extreme pitch attitudes.

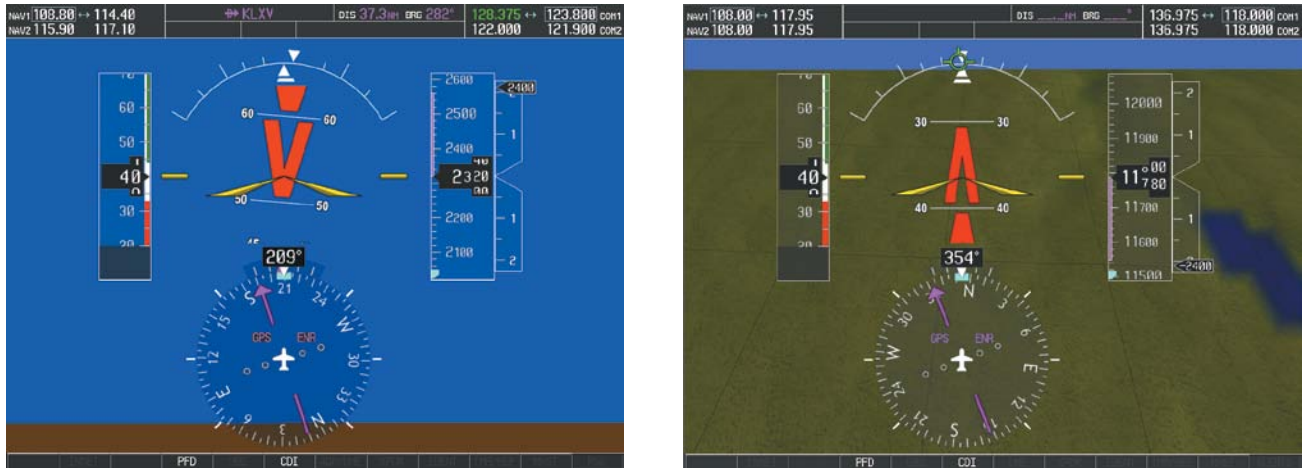


Figure 8-92 Unusual Attitude Display

The blue colored bar is also displayed when terrain gradient is great enough to completely fill the display.



Figure 8-93 Blue Sky Bar with Full Display Terrain

GDL 69/69A DATA LINK RECEIVER TROUBLESHOOTING

Some quick troubleshooting steps listed below can be performed to find the possible cause of a failure.

- Ensure the owner/operator of the aircraft in which the Data Link Receiver is installed has subscribed to SiriusXM services
- Ensure the SiriusXM subscription has been activated
- Perform a quick check of the circuit breakers to ensure that power is applied to the Data Link Receiver

For troubleshooting purposes, check the LRU Information Box on the AUX - System Status Page for Data Link Receiver (GDL 69/69A) status, serial number, and software version number. If a failure has been detected in the GDL 69/69A the status is marked with a red X.

Selecting the System Status Page:

- 1) Turn the large **FMS** Knob to select the AUX Page Group.
- 2) Turn the small **FMS** Knob to select the System Status Page (the last page in the AUX Page Group).

LRU INFO			
	STATUS	SERIAL NUMBER	VERSION
COM1	✓		7.00
COM2	✓		7.00
GDC1	✓	47801548	1.05
GDL69	✓	47750372	3.02.00
GEA1	✓	46701911	2.07
GIA1	✓	0000001	0.50
GIA2	✓	48400000	3.01
GMA1	✓	48400001	3.01
GMU1	✓	47500607	2.01
GPS1	✓	0000001	0.50
GPS2	✓	0000002	0.50
GRS1	✗	-----	----
GS1	✗	-----	----
GS2	✗	-----	----
GTX1	✗	-----	----
MFD1	✓	0000002	8.20

Figure 8-94 LRU Information Window on System Status Page

If a failure still exists, the following messages may provide insight as to the possible problem:

Message	Message Location	Description
CHECK ANTENNA	XM Radio Page - active channel field	Data Link Receiver antenna error; service required
UPDATING	XM Radio Page - active channel field	Data Link Receiver updating encryption code
NO SIGNAL	XM Radio Page - active channel field Weather Datalink Page - center of page	Loss of signal; signal strength too low for receiver
LOADING	XM Radio Page - active channel field	Acquiring channel audio or information
OFF AIR	XM Radio Page - active channel field	Channel not in service
---	XM Radio Page - active channel field	Missing channel information
WEATHER DATA LINK FAILURE	Weather Datalink Page - center of page	No communication from Data Link Receiver within last 5 minutes
ACTIVATION REQUIRED	Weather Datalink Page - center of page	SiriusXM subscription is not activated

Table 8-5 GDL 69/69A Data Link Receiver Error Messages

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