



A Textron Company

TECHNICAL BULLETIN

429-20-64

19 October 2020

MODEL AFFECTED: 429

SUBJECT: GTN 750/650 NAV/COM/GPS SERIES UNIT MAIN SOFTWARE VERSION 6.21, UPGRADE TO 6.62.

HELICOPTERS AFFECTED: Serial numbers 57001 through 57389, 57392, 57394 through 57401, 57405, 57406, 57409 through 57424 and 57426 through 57429 equipped with GTN 750 and GTN 650 NAV/COM/GPS series units per 429-704-009 or 429-704-019 retrofit kits.

[Serial numbers 57390, 57391, 57393, 57402, 57403, 57404, 57407, 57408, 57425, 57430 and subsequent will have the intent of this bulletin incorporated prior to delivery]

[Serial numbers 57001 through 57185 equipped with the Garmin GNS 530W and/or GNS 430W NAV/COM/GPS series units are not affected by this bulletin.]

COMPLIANCE: Prior to 31 December 2021

DESCRIPTION:

This Technical Bulletin enables maintenance personnel to perform an “On Aircraft” Field Loadable Software (FLS) upgrade of the GTN 750/650 series units to the following software versions:

MAIN SW Version 6.62	TOUCH SW Version 2.10 (No Change from TB 429-18-56)
GPS/WAAS SW Version 5.2 (No Change from TB 429-18-56)	COM SW Version 2.30
NAV/VLOC SW Version 6.03	-----

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Approved for public release.

DESCRIPTION: (Continued)

The newly installed software versions (listed in the previously shown table) will change and/or improve the GTN 750/650 features, capabilities and/or performance as follows:

- If equipped with the GARMIN GTX345R transponder kit (Which features ADS-B “IN” and “OUT”, Traffic, FIS-B Weather) it requires the GTN 750/650 NAV/COM/GPS Main Software to be at version 6.62.
- Supports Flight Stream 510 kit (BHT-429-II-57) software version 2.32 or later.
- GTN 750/650 COM Software Version 2.30 allows for adjustment of COM radio squelch settings.
- Resolves enabling GTN features that have been inadvertently disabled (TB 429-19-59) Added support for re-enabling purchased features without the feature enablement SD card.
- Increases the maximum search-and-rescue orbit pattern radius from 10 NM to 100 NM.
- Added support for outputting primary flight instrument data to portable devices through the Flight Stream 510.
- Details of additional changes or improvements regarding the GTN 750/650 Main software (up to) version 6.62 are available from the Garmin Dealer Resource Center website. In addition the latest Pilot’s Guides, Upgrade Supplements, and Cockpit Reference Guides can be downloaded from the Garmin website.

This Technical Bulletin also permits operators who acquire the software card listed in the MATERIAL section of this bulletin to subsequently perform (on aircraft) software version upgrades or downgrades of spare or replacement GTN 750/650 units intended to be installed on the Bell 429 to meet or maintain the Bell 429 Type Certificate (TC) software version requirements.

Applicability of this bulletin to any spare part shall be determined prior to installing the part on any affected Bell model 429 helicopter.

DESCRIPTION: (Continued)

PART 1: Record the current GTN 750 configuration settings.

PART 2: Record the current GTN 650 configuration settings.

PART 3: GTN 750 version 6.62 software suite upload and navigation database verification.

PART 4: GTN 650 version 6.62 software suite upload and navigation database verification.

PART 5: GTN 750 software version verification and configuration set-up.

PART 6: GTN 650 software version verification and configuration set-up.

PART 7: Operational checks, restoration and aircraft maintenance records.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 8.0 man-hours are required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

MATERIAL:**Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>
010-00969-3G	Loader card with loader software 006-B1367-3G	1

Consumable Material:

None required.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

Bell Model 429 Maintenance Manual (PMC-429-97499-020000-00) Chapter 97
BHT-429-IPBS-9, Illustrated Parts Breakdown

PUBLICATIONS AFFECTED:

Bell Model 429 Maintenance Manual (PMC-429-97499-020000-00) Chapter 97
BHT-429-FMS-19, Flight Manual Supplement.

ACCOMPLISHMENT INSTRUCTIONS:

CAUTION

Loading GTN Main software after energizing the GTN unit with an inserted loader card that contains different GTN Main software may corrupt the GTN configuration settings. It is recommended to perform the accomplishment instructions of this Technical Bulletin in numerical order.

CAUTION

Both the GTN 750 and GTN 650 units must be successfully upgraded to Main Software Version **6.62** and appropriately configured for operation in a Bell 429 prior to being released for service or flight. Dual GTN installations with mixed main software versions are incompatible and are not approved for service or flight.

-NOTE-

This Technical Bulletin should be printed and filed with the helicopter records once complied with.

-NOTE-

New format Navigation databases were introduced for GTN Main Software Version **6.21** (TB 429-18-56) and are required. Older format Navigation databases will **NOT** work with GTN Main Software Version 6.62. A Navigation database update may be required. Current Navigation database cycles include both the new and old formats. Make sure to select the Navigation databases for GTN Main Software Version 6.21 or later when downloading databases from fly.garmin.com.

-NOTE-

For installations with GDL 88, GTN Main Software Version 6.62 is compatible with GDL 88 Software Version 2.05 and later. Please contact Garmin for any additional details.

PART 1: Record the current GTN 750 configuration settings.
(Step 1 through 44)

1. Prepare the helicopter for maintenance.
2. Press and hold the **GTN 750** "HOME" key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the "HOME" key once the screen brightly displays "GARMIN".

-NOTE-

If the aircraft has optional (429-706-XXX) and/or custom equipment installed (429-799-XXX and/or 429-899-XXX) and/or 3rd party supplemental type certificated (STC) equipment; it is possible some GTN configuration settings may be different from the settings defined in the following tables. If it is the case, and as instructed in Step 3; note the "as displayed" setting nomenclature in the "**PART 1**" column.

Let it be noted that any change to the defined GTN unit parameter settings should be justified either by approved data or by an applicable "flight crew parameter" option" from the "Home/System" page. Consult the applicable optional equipment Installation Instruction (II), Maintenance Manual (MM), or custom equipment drawings and/or Instruction for Continued Airworthiness (ICA) for these specific configuration setting approvals.

3. Using the following tables, record the current **GTN 750** configuration settings in the "**PART 1**" column by making a check mark (✓) and by circling (or writing) the current setting nomenclature.

Additionally, record the aircraft serial number at the bottom of each page of this Technical Bulletin.

EXAMPLE

Parameter	Input (selection)	Output (selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
RS-232 1	GTX w/TIS + #1 (or) GTX Mode S+ #1	GTX w/TIS + #1 (or) GTX Mode S+ #1	✓	I
RS-232 2	Fuel Format 2	Off	✓	
RS-232 3	Off (or) Traffic Format 8	Off (or) Traffic Format 8	✓	
RS-232 4	Off	Off	✓	
RS-232 5	Off	Off	✓	
RS-232 6	Off	Off	✓	

4. From the *Configuration Mode* page. (Figure 1)

GTN Setup (key) -Press.

View the *GTN Setup* page. (Figure 2)

ARINC 429 (key) – Press.

View the *ARINC 429 Configuration* page.

Parameter	Speed (selection)	Data (selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
ARINC 429 In 1	Low	EFIS Format 2		
ARINC 429 In 2	Low	Off		
ARINC 429 In 3	Low	Off		
ARINC 429 In 4	Low	Off		
ARINC 429 Out 1	Low	GAMA Format 7		
ARINC 429 Out 2	Low	Off		
ARINC 429 Out 3	Low	Off		
SDI	-	LNAV 1		

5. From the *GTN Setup* page using the “back” key.

RS-232 (key) – Press.

View the *RS-232 Configuration* page.

Parameter	Input (selection)	Output (selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
RS-232 1	GTX w/TIS + #1 (or) GTX Mode S+ #1	GTX w/TIS + #1 (or) GTX Mode S+ #1		
RS-232 2	Fuel Format 2	Off		
RS-232 3	Off (or) Traffic Format 8	Off (or) Traffic Format 8		
RS-232 4	Off	Off		
RS-232 5	Off	Off		
RS-232 6	Off	Off		

More RS-232 Setup (key) – Press

Forward ALT to GTX (6.62)	Enabled (if <u>not</u> equipped with GTX345R) Disabled (if equipped with GTX345R)	N/A - Not Displayed	
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-NOTE-

As required, use the up or down arrow keys to view all the parameters fields.

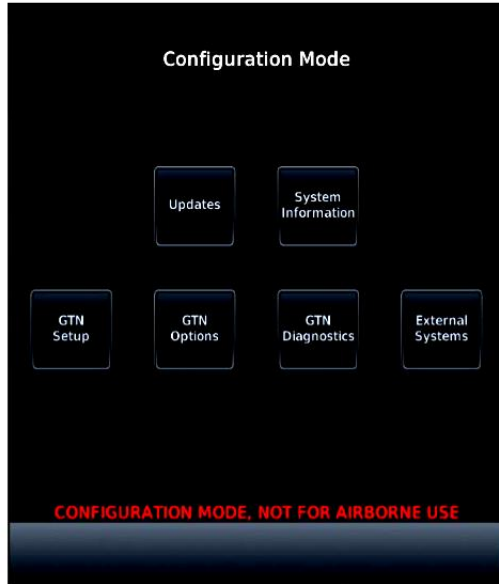


Figure 1 - Configuration Mode page



Figure 2 - GTN Setup page

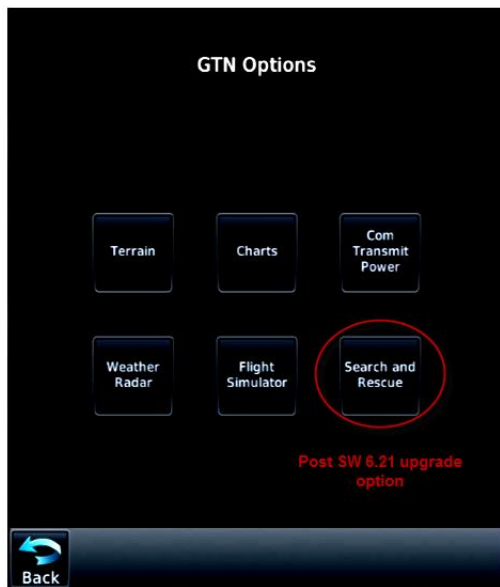


Figure 3 - GTN Options page



Figure 4 - External Systems page

6. From the *GTN Setup* page using the “back” key.
HSDB (Ethernet) (key) – Press.
 View the *HSDB Port Utilization* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Ethernet Port 1	Connected		
Ethernet Port 2	Not Connected		
Ethernet Port 3	Not Connected		
Ethernet Port 4	Not Connected		

7. From the *GTN Setup* page using the “back” key.
Interfaced Equipment (key) – Press.
 View the *Interfaced Equipment* page.

Unit	Present (selection)	Type (selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Crosside-Navigator	Present			
GDL 69/69A	Not Present			
GDL 88	Not Present			
ADS-B in Source	Not Present			
GDU # 1	Not Present			
GDU # 2	Not Present			
GDU # 3	Not Present			
GDU # 4	Not Present			
Transponder # 1	Present	GTX w/TIS+ (or) GTX Mode S+		
Transponder # 2	Not Present			
GSR 56	Not Present			
GWX	Not Present			

-NOTE-

As required, use the up or down arrow keys to view all the parameters fields.

8. From the *GTN Setup* page using the “back” key.
Main Indicator (Analog) (key) – Press.
 View the *Main Indicator (Analog) Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Selected Course	----		
Calibrate OBS Resolver	Calibrate		
CDI Key	Disabled		
Selected Course for GPS	Ignored		
Selected Course for VLOC	Ignored		
V-Flag State	Normal		

9. From the *GTN Setup* page using the “back” key.
Main System (key) – Press.
 View the *Main System Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Airframe Type	Rotorcraft		
Air / Ground Threshold	30 KT		
Air / Ground Discrete	Active for Ground		
GPS Antenna Height Above Ground	7.8 FT		
Fuel Type	Jet A		
Synchro Heading Input	Not Connected		
GSP Select	Auto		
Heading Source Input	Connected		
Radio Altimeter Input	Not Connected		
Altitude Source Input	Connected		
Enhanced Lighting Mode	Disabled		
Pilot Position	Right		
Crossfill Status Alert	Enabled		
System ID	GTN 1		
Database SYNC	Pilot Control		
Airspace Labels	Enabled		
Checklist Page Title	Task List		
Blackout Mode	Disabled		
External Flight Plan (6.62)	Disabled	N/A - Not Displayed	
Remote Database Confirmation (6.62)	Enabled	N/A - Not Displayed	

10. From the *GTN Setup* page using the “back” key.

Lighting (key) – Press.

View the *Lighting Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Source (Display)	Photocell		
Minimum Level (Display)	1.00%		
Source (Keys)	Photocell		
Minimum Level (Keys)	1.00%		

11. *Configure Lighting Bus.* (Reserved)

12. From the *Lighting Configuration* page.

Configure Photocell (key) – Press.

View the *Photocell Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Response Time	2 SEC		
Slope	50		
Offset	50		
Key Backlight Cutoff (Photocell Override)	75%		
Photocell Transition (Photocell Override)	5%		

13. From the *GTN Setup* page using the “back” key twice.

Audio (key) – Press.

View the *Audio Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Alert Volume	60%		
Test Sound	Altitude		

14. From the *GTN Setup* page using the “back” key.

Traffic (key) – Press.

View the *Traffic Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Traffic Intruder Symbol Color	Cyan		
GTN Control of Traffic System	Yes		

15. From the *GTN Setup* page using the “back” key.

Com (key) – Press.

View the *Com Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Com Radio	Enabled		
RX Squelch Mode (6.62)	Basic		
RX Squelch (6.62)	45%		
Carrier Squelch (6.62)	Configure 25 KHz Carrier Squelch 0% 8.33 KHz Carrier Squelch 0%	N/A - Not Displayed	
Mic 1 Gain	+ 12 DB		
Sidetone Source	External		
Sidetone Volume	+ 55 DB		
Sidetone Pilot Control (6.62)	Disabled	N/A - Not Displayed	

16. From the *GTN Setup* page using the “back” key.

VOR/LOC/GS (key) – Press.

View the *VOR/LOC/GS Configuration* page.

Parameter	(selection)	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Nav Radio	-	Enabled		
Selected Course	-	---		
Calibrate OBS Resolver	-	Calibrate		
ARINC 429 Configuration	(Tx Speed) LOW	(SDI) VOR/ILS 1		
DME Mode	-	Directed Freq 1		
DME Channel Mode	-	King Serial		
Filtered LOC/GS (6.62)	-	Disabled	N/A - Not Displayed	
NAV Radio Display Timeout (6.62)	-	Enabled	N/A - Not Displayed	

17. From the *GTN Setup* page using the “back” key.

ARINC 708 (key) – Press.

View the *ARINC 453/708 Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
ARINC 453/708 Configuration	N/A	N/A - Not Displayed	

Parameter	Device	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
ARINC 453/708 Configuration			
Port 1: External Weather Radar	Off	N/A - Not Displayed	

18. From the *GTN Setup* page using the “back” key.

Discrete (key) – Press.

View the *Discrete Configuration* page.

-NOTE-

J1002-01, J1005-33, J1005-54, J1001-15, J1001-52 and J1001-56 are non-configurable default settings. (Greyed-out)

Pin	Function (selection)	Direction	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
J1001-16	Day/Night	In		
J1001-36	TAWS Audio Inhibit	In		
J1001-37	Off	In		
J1001-38	Air/Ground	In		
J1001-39	Mark on Target	In		
J1002-10	Off	In		
J1002-11	Off	In		
J1005-53	Off	In		
J1001-14	Off	Out		
J1001-33	Off	Out		
J1001-34	Off	Out		
J1001-35	TAWS Audio Active Annunciate	Out		
J1001-53	Off	Out		
J1001-54	Off	Out		
J1001-55	Off	Out		
J1001-57	Off	Out		
J1001-71	TAWS Warning Annunciate	Out		
J1001-72	Off	Out		
J1001-73	TAWS Caution Annunciate	Out		
J1001-74	Off	Out		
J1001-75	Off	Out		
J1001-76	Off	Out		
J1002-03	Off	Out		
J1002-12	Off	Out		
J1005-13	Off	Out		
J1005-34	Off	Out		

19. From the *GTN Setup* page using the “back” key.

Navigation Features (key) – Press.

View the *Navigation Features Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Mark On Target	Disabled		
RF Procedure Legs	Disabled		
Vertical Navigation Type (6.62) (Vertical Navigation Options)	VNAV (green bar active)	N/A - Not Displayed	
Transition to Approach (6.62) (Vertical Navigation Options)	Disabled (GRAY bar = disable)	N/A - Not Displayed	
Transition Altitude (6.62) (Vertical Navigation Options)	FL200	N/A - Not Displayed	
VDI Scale (6.62) (Vertical Navigation Options)	500 FT	N/A - Not Displayed	

20. From the *GTN Setup* page using the “back” key.

Ownship (key) – Press.

View the *Ownship Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Color Ownship	Enabled (green bar = active)		
Ownship Icon	4-Blade Rotorcraft (Highlighted in blue)		

21. From the *GTN Setup* page using the “back” key.

Flight Stream (key) – Press.

View the *Flight Stream Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Stream Active Flight Data (6.62)	Disabled (no green bar)	N/A - Not Displayed	
Transfer Past Flight Data Logs (6.62)	Disabled (no green bar)	N/A - Not Displayed	

22. From the ***GTN Setup*** page.

PART 1 / SW version 6.21 (configuration record)

This Step is not applicable. Proceed to Step 23.

PART 5 / SW version 6.62 (configuration set-up/verification)

IMPORTANT: This Step ensures the parameter selections made prior to this point are saved.

Update Config Module (key) – Press (Figure 5)

The “Update Config Module?” window will be displayed. **Press “YES”.**

Confirm the “*Config Module Update Complete*” window is displayed. **Press “OK”.**



Figure 5 - Update Config Module key

23. From the *Configuration Mode* page using the “back” key.

GTN Options (key) -Press.

View the *GTN Options* page (Figure 3)

Terrain (key) – Press.

View the *Terrain Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Terrain Mode (green bar = active)	HTerrain Proximity (or) HTAWS (This is an optional feature. Enablement card required) (429-706-639-101)		HTAWS: As required, refer to the applicable 429-MM and/or 429-II after this Technical Bulletin has been complied with
HTAWS Audio (HTAWS Configuration)	Audio Clips		
Airport Criteria (HTAWS Configuration)	Runway Surface Hard/Soft		
	Minimum Length 0 FT		

24. From the *GTN Options* page using the “back” key.

Charts (key) – Press.

View the *Chart Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Charts Configured (green bar = active)	FliteCharts (or) None (or) ChartView (This is an optional feature. Enablement card required) (429-706-639-103)		FliteCharts: For Canadian/US/European registered aircraft. Otherwise set to “NONE”. ChartView: As required, refer to the applicable 429-MM section after this Technical Bulletin has been complied with

25. From the *GTN Options* page using the “back” key.

Com Transmit Power (key) – Press.

View the *Com Transmit Power Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Com transmit Power (green bar = active)	Normal (or) 16W NOTE: optional feature. Enablement card required (429-706-639-105)		

26. From the *GTN Options* page using the “back” key.

Search and Rescue (key) – Press.

View the *Search and Rescue Configuration* page.

NOTE: SAR Pattern is an optional feature. Enablement card required (429-706-639-107)

Parameter	(selection)	PART 1 GTN 750 configuration RECORD SW version 6.21	PART 5 GTN 750 SET-UP / VERIFICATION SW version 6.62
Search and Rescue (green bar = active)	Enabled Or Disabled	N/A - Not Displayed	
Parallel Track (SAR Patterns)	Enabled Or Disabled	N/A - Not Displayed	
Sector Search (SAR Patterns)	Enabled Or Disabled	N/A - Not Displayed	
Expanding Square (SAR Patterns)	Enabled Or Disabled	N/A - Not Displayed	
Orbit (SAR Patterns)	Enabled Or Disabled	N/A - Not Displayed	

-NOTE-

The following step (27) is only applicable to the GTX 33H. The GTX 345R must be configured via the GTX 345R Install Tool. Refer to the 429-MM, GTX 345R configuration procedure if required.

-NOTE-

Re-verify “External Systems” settings in the event the external Line Replaceable Unit (e.g. XPDR GTX 33H) is replaced after initial GTN configuration as the external settings are not stored by the GTN.

-NOTE-

It is possible the Port 1 and/or Port 2 “Baud” rate field may not appear to be set at 19200, and/or may not be highlighted to change its setting. If this is the case, it is recommended to proceed forward and return to this page to verify it is properly set after the GTN 650 SET-UP / VERIFICATION is completed (PART 6)

27. From the *Configuration Mode* page using the “back” key.

External Systems (key) – Press.

View the *External Systems* page. (Figure 4)

XPDR (key) – Press.

View the *XPDR 1 Configuration* page.

Inputs and Outputs (key) – Press.

View the *XPDR 1 Inputs/Outputs* page.

-NOTE-

This step is only applicable to the GTX 33H. The GTX 345R must be configured via the GTX 345R Install Tool. Refer to the 429-MM, GTX 345R configuration procedure if required.

RS-232 Configuration						
Parameter	Input	Output	Baud (rate)	Parity	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Port 1	Remote	Remote w/TIS (or) Remote	19200	No Parity		
Port 2	Remote	Remote w/TIS (or) Remote	19200	No Parity		

If TCAS Kit installed, set RS232 port 1 to GTX Mode S+ #1, set RS 232 port 3 to Traffic Format 8, check Interfaced Equipment for Transponder #1 is GTX Mode S+, External Systems XPDR RS232 Ports 1 & 2 Output is Remote, and set TIS Alert to Off.

ARINC 429 Configuration						
Parameter	Input	Speed	Output	Speed	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Port 1	AHRS	High	Off	High		
Port 2	Off	Low	Off	High		
Port 3	Off	Low	-	-		
Port 4	Off	High	-	-		

28. From the *XPDR 1 Configuration* page using the “back” key.

Installation Settings (key) – Press.

View the *XPDR 1 Installation Settings* page.

Parameter	(selection)		PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
VFR Button Code	1200			
Aircraft Weight	Rotorcraft			
Auto Standby Delay	24 SEC			
Altitude Climb Rate For Airborne Transition	500 FPM			
Air/Ground Logic	Squat Switch			
Squat Switch Sense	Low			
Max Speed	<=150 KT			
Address Type	US TAIL (for US registered) or HEX ID (for all others)			
Address	(Enter the US Tail number otherwise enter the mode S, 6-digit Hexadecimal address)			
Flight ID Type	SAME AS TAIL (US) or CONFIG ENTRY (All others)			
Flight ID	(Enter the aircraft registration tail number)			
Aircraft Length	LE_15			
Aircraft Width	LE_11_5			
Enhance Surveillance	Disabled			
Surveillance Integrity Level	10 ⁻⁷			
Temperature Switch Installed	No			
ADS-B Out	Pilot Select			
1090 Input	Disabled			
UAT Input	Disabled			
GPS Antenna Longitudinal Offset	2M			
GPS Antenna Lateral Offset	0M	Left		
Auto ALT	Enabled		N/A - Not Displayed	N/A - Not Displayed
Aircraft Stall Speed	GTX Default		N/A - Not Displayed	N/A - Not Displayed

29. From the *XPDR 1 Configuration* page using the “back” key.

Audio Config (key) – Press.

View the *XPDR 1 Audio Configuration* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Altitude Monitor	Off		
Count Down	Off		
TIS Alert	Message (or) Off		
Voice Setting	FEMALE		
Volume	+47 DB		
Test Tone	500 HZ Tone (or) “As desired”		
Test Audio	Leaving Altitude (or) “As desired”		

30. From the *XPDR 1 Configuration* page using the “back” key.

Force Airborne Test	N/A during this procedure– Used to set transponder for testing
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31. Cycle the **GTN 750** power.

Allow time for the unit to power-up normally (Figure 6 and 7)

Press the “HOME” button twice to display the HOME page (Figure 8)



Figure 6 - Initial screen (a)



Figure 7 - Initial screen (b)



Figure 8 - Home screen



Figure 9 - System page

32. From the *HOME* page.

System (key) – Press.

View the *System* page (Figure 9).

Setup (key) – Press.

View the *System-Setup* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
CDI Scale (CDI)	Auto		
ILS CDI Capture (CDI)	Auto Switch		

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Runway Surface (Nearest Airport Criteria)	Any		
Minimum Runway Length (Nearest Airport Criteria)	0 FT		
Include user Airport (6.62)	Green Bar = Active	N/A - Not Displayed	

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Local Offset (Date / Time)	(Adjust from GMT)		
Time Format (Date / Time)	Local 24 hour		

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Com Channel Spacing	(As required by local civil aviation authorities) 25 KHz (or) 8.33 KHz		
Reverse Frequency Lookup	ON (green bar = active)		

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Keyboard (6.62)	QWERTY	N/A - Not Displayed	
Crossfill	ON (green bar = active)		

33. Use the “back” key to view the *System* Page.

Units (key) – Press.

View the *System-Units* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Altitude/Vertical Speed	Feet (FT/FPM) (or) Meters (M/MPM)		
Distance/Speed	Nautical Miles (NM/KT)		
Fuel	Pounds (LB) (or) Kilograms (KG)		
NAV Angle	Magnetic (°)		
Position Format	LAT/LON		
Pressure	Inches of Mercury (IN) (or) Millibar (Mb)		
Magnetic Variation	XX X	(Default)	
Temperature	Celsius (°C)		

34. Use the “back” key to view the *System* Page.

Audio (key) – Press.

View the *System-Audio* page.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Click Volume	40%		
HTAWS Alert Voice	HTAWS: (Requires an enablement card) (429-706-639-101)		HTAWS: If applicable, refer to MM or MMS, after this bulletin has been complied with.
Voice Callouts	(Same as above)		

35. From the *HOME* page.

MAP (key) – Press.

View the *MAP* page.

Menu (key) – Press. (Figure 10)

View the *Map Menu* page.

Map Setup (key) – Press.

View the *Map Setup* page.



Figure 10 - MAP page / Menu (key)

(Step 35 – Continued)

Map (tab) – Should be displayed by default.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Orientation Heading	Up		
North Up Above	40 NM		
Auto Zoom	ON		
Auto Zoom Min	1.5 NM		
Auto Zoom Max	25 NM		
Track Vector Length	60 SEC		
Altitude Constraints (6.62)	Selected and Active	N/A - Not Displayed	
NAV Range Ring	ON		
Fuel Range Ring	ON		
Fuel Reserve Time (Note: Fuel Range Ring must be set to "ON" first)	30 MIN		
TOPO Scale	Off		
Point Obstacle Range	5 NM		
Wire Obstacle Range /	1.5 NM		
Chart Color Scheme	Day		

Visual APPR Selector	10 NM		
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36. From the *Map Setup* page.

Traffic (tab) – Press.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Traffic Range	25 NM		
Traffic Type	All Traffic		

37. From the *Map Setup* page.

Aviation (tab) – Press.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Airport Range	25 NM		
Heliports	ON		
Safe Taxi Diagrams	1 NM		
Runway Extensions	5 NM		
Intersection Range	4 NM		
NDB Range	5 NM		
VOR Range	10 NM		
User Waypoint Range	5 NM		
Airway Range	25 NM		

VPR Range*	4 NM		
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*VPR Range setting will be present depending on the navigation database installed

-NOTE-

As required, use the up or down arrow keys to view all the parameters fields.

38. From the *Map Setup* page.

Land (tab) – Press.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Road Detail	Normal		
City Detail	Normal		
State/Province Names	ON		
River/Lake Detail	Normal		

39. From the *Map Setup* page.

Airspace (tab) – Press.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Airspace Label Range	25 NM		
Smart Airspace	OFF		
Show Airspaces	Below 12000 FT		
CL B/TMA/AWY Range	150 NM		
CL C/CTA Range	150 NM		
CL A/D Range	150 NM		
Restricted Range	150 NM		
MOA (Military) Range	40 NM		
OTHER Range	150 MN		

40. From the *Map Menu* page using the “back” key.

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
TOPO (Map Overlays)	ON (green bar = active)		
Terrain (Map Overlays)	ON (green bar = active)		
Airways (Map Overlays)	Low		
Charts (Map Overlays)	ON (green bar = active)		
Traffic (Map Overlays)	ON (green bar = active)		
Map Detail	Most (Slide the screen cursor)		

41. From the *HOME* page using the “back” key.

Traffic (key) – Press

View the *Traffic* page. (Figure 11)

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.62)
Altitude Filter	Unrestricted		



Figure 11 - Traffic page



Figure 12 - Configure Nav Data Fields page

42. From the *HOME* page using the “back” key.

Map (key) – Press.

View the *Map* page.

Menu (key) – Press.

View the *Menu* page.

Change user fields (key) – Press (6.21)

View the *Configure Nav Data Fields* page. (Figure 12)

Parameter	(selection)	PART 1 GTN 750 configuration RECORD (SW version 6.21)	PART 5 GTN 750 SET-UP / VERIFICATION (SW version 6.21)
Upper left key (Figure 12)	Wind - Wind Speed and Direction		
Lower left key (Figure 12)	ETE to Dest - ETE to Destination		
Upper right key (Figure 12)	Fuel Flow - Total Fuel Flow		
Lower right key (Figure 12)	ETA at Dest - ETA at Destination		

43. Press the *HOME* button.

44. Turn OFF aircraft electrical power.

PART 2: Record the current [GTN 650](#) configuration settings

PART 2: Record the current [GTN 650](#) configuration settings (Step 45 through 88)

45. Press and hold the [GTN 650](#) “HOME” key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the “HOME” key once the [GTN 650](#) screen brightly displays “GARMIN”.

-NOTE-

If the aircraft has optional (429-706-XXX) and/or custom equipment installed (429-799-XXX and/or 429-899-XXX) and/or 3rd party supplemental type certificated (STC) equipment; it is possible some GTN configuration settings may be different from the settings defined in the following tables. If it is the case, and as instructed in Step 45; note the “as displayed” setting nomenclature in the “PART 2” column.

Let it be noted that any change to the defined GTN unit parameter settings should be justified either by approved data or by an applicable “flight crew parameter option” from the “Home/System” page. Consult the applicable optional equipment Installation Instruction (II), Maintenance Manual (MM), Maintenance Manual Supplement (MMS) or custom equipment drawings and/or Instruction for Continued Airworthiness (ICA) for these specific configuration setting approvals.

46. Using the following tables, record the current [GTN 650](#) configuration settings in the “**PART 2**” column by making a check mark (✓) or by writing the exact (current) setting nomenclature.

EXAMPLE

Parameter	Input (selection)	Output (selection)	PART 2 GTN 650 CONFIGURATION RECORD (SW version 4.0)	PART 5 GTN 650 SET-UP / VERIFICATION (SW version 6.21)
RS-232 1	GTX w/TIS + #1 (or) GTX Mode S+ #1	GTX w/TIS + #1 (or) GTX Mode S+ #1	✓	
RS-232 2	Fuel Format 2	Off	✓	
RS-232 3	Off (or) Traffic Format 8	Off (or) Traffic Format 8	✓	
RS-232 4	Off	Off	✓	

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47. From the *Configuration Mode* page (Figure 13)

GTN Setup (key) - Press.

View the *GTN Setup* page (Figure 14)

ARINC 429 (key) – Press.

View the *ARINC 429 Configuration* page.

Parameter	Speed (selection)	Data (selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
ARINC 429 In 1	Low	EFIS Format 2		
ARINC 429 In 2	High	Off (or) Traffic Format 5		
ARINC 429 Out 1	Low	GAMA Format 7		
ARINC 429 Out 2	Low	Off		
SDI	-	LNAV 2		



Figure 13 - Configuration Mode page



Figure 14 - GTN Setup page

48. From the *GTN Setup* page using the “back” key.

RS-232 (key) – Press.

View the *RS-232 Configuration* page.

Parameter	Input (selection)	Output (selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
RS-232 1	GTX w/TIS + #1 (or) GTX Mode S+ #1	GTX w/TIS + #1 (or) GTX Mode S+ #1		
RS-232 2	Fuel Format 2	Off		
RS-232 3	Off	Off		
RS-232 4	Off	Off		

More RS-232 Setup (key) – Press

Forward ALT to GTX (6.62)	Enabled (if <u>not</u> equipped with GTX345R) Disabled (if equipped with GTX345R)	N/A - Not Displayed	
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49. From the *GTN Setup* page using the “back” key.

HSDB (Ethernet) (key) – Press.

View the *HSDB Port Utilization* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Ethernet Port 1	Connected		
Ethernet Port 2	Not Connected		
Ethernet Port 3	Not Connected		
Ethernet Port 4	Not Connected		

50. From the *GTN Setup* page using the “back” key.

Interfaced Equipment (key) – Press.

View the *Interfaced Equipment* page.

Unit	Present (selection)	Type (selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Crosside-Navigator	Present			
GDL 69/69A	Not Present			
GDL 88	Not Present			
ADS-B Source	Not Present			
GDU # 1	Not Present			
GDU # 2	Not Present			
GDU # 3	Not Present			
GDU # 4	Not Present			
Transponder # 1	Present	GTX w/TIS+ (or) GTX Mode S+		
Transponder # 2	Not Present			
GSR 56	Not Present			

-NOTE-

As required, use the up or down arrow keys to view all the parameters fields.

51. From the *GTN Setup* page using the “back” key.

Main Indicator (Analog) (key) – Press.

View the *Main Indicator (Analog) Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Selected Course	----		
Calibrate OBS Resolver	Calibrate		
CDI Key	Disabled		
Selected Course for GPS	Ignored		
Selected Course for VLOC	Ignored		
V-Flag State	Normal		

52. From the *GTN Setup* page using the “back” key.

Main System (key) – Press.

View the *Main System Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Airframe Type	Rotorcraft		
Air / Ground Threshold	30 KT		
Air / Ground Discrete	Active for Ground		
GPS Antenna Height Above Ground	7.8 FT		
Fuel Type	Jet A		
GSP Select	Auto		
Heading Source Input	Connected		
Radio Altimeter Input	Not Connected		
Altitude Source Input	Connected		
Enhanced Lighting Mode	Disabled		
Crossfill Status Alert	Enabled		
System ID	GTN 2		
Database SYNC	Pilot Control		
Airspace Labels	Enabled		
Checklist Page Title	Task List		
Blackout Mode	Disabled		
External Flight Plan (6.62)	Disabled	N/A - Not Displayed	
Remote Database Confirmation (6.62)	Enabled	N/A - Not Displayed	

53. From the *GTN Setup* page using the “back” key.

Lighting (key) – Press.

View the *Lighting Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Source (Display)	Photocell		
Minimum Level (Display)	1.00%		
Source (Keys)	Photocell		
Minimum Level (Keys)	1.00%		

54. Configure *Lighting Bus*. (Reserved)

55. From the *Lighting Configuration* page.

Configure Photocell (key) – Press.

View the *Photocell Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Response Time	2 SEC		
Slope	50		
Offset	50		
Key Backlight Cutoff (Photocell Override)	75%		
Photocell Transition (Photocell Override)	5%		

56. From the *GTN Setup* page using the “back” key twice.

Audio (key) – Press.

View the *Audio Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Alert Volume	60%		
Test Sound	Altitude		

57. From the *GTN Setup* page using the “back” key.

Traffic (key) – Press.

View the *Traffic Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Traffic Intruder Symbol Color	Cyan		
GTN Control of Traffic System	No		

58. From the *GTN Setup* page using the “back” key
Com (key) – Press.
View the *Com Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.21)
Com Radio	Enabled		
Com Squelch Mode	Basic		
Com RF Squelch	45%		
Mic 1 Gain	+ 12 DB		
Sidetone Source	External		
Sidetone Volume	+ 55 DB		
Sidetone Pilot Control	Disable	N/A - Not Displayed	

Carrier Squelch	Configure 25 KHz carrier squelch 0% 8.33KHz Carrier Squelch 0%	N/A - Not Displayed	
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59. From the *GTN Setup* page using the “back” key
VOR/LOC/GS (key) – Press.
View the *VOR/LOC/GS Configuration* page.

Parameter	(selection)	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Nav Radio	-	Enabled		
Selected Course	-	---		
Calibrate OBS Resolver	-	Calibrate		
ARINC 429 Configuration	(Tx Speed) LOW	(SDI) VOR/ILS 2		
DME Mode	-	Directed Freq 1		
DME Channel Mode	-	King Serial		

Filtered LOC/GS (6.62)	Disabled		N/A - Not Displayed	
NAVRadio Display Timeout (6.62)	Enabled		N/A - Not Displayed	

60. From the *GTN Setup* page using the “back” key.

Discrete (key) – Press.

View the *Discrete Configuration* page.

-NOTE-

J1002-01, J1005-33, J1005-54, J1001-15, J1001-52 and J1001-56 are non-configurable default settings.

Pin	Function (selection)	Direction	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
J1001-16	Day/Night	In		
J1001-36	Off	In		
J1001-37	Off	In		
J1001-38	Air/Ground	In		
J1001-39	Off	In		
J1002-10	OFF	In		
J1002-11	Off	In		
J1001-14	Off	Out		
J1001-33	Off	Out		
J1001-34	Off	Out		
J1001-35	Off	Out		
J1001-53	Off	Out		
J1001-54	Off	Out		
J1001-55	Off	Out		
J1001-57	Off	Out		
J1001-71	Off	Out		
J1001-72	Off	Out		
J1001-73	Off	Out		
J1001-74	Off	Out		
J1001-75	Off	Out		
J1001-76	Off	Out		
J1002-03	Off	Out		
J1002-12	Off	Out		

61. From the *GTN Setup* page using the “back” key.

Navigation Features (key) – Press.

View the *Navigation Features Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Mark On Target	Disabled		
RF Procedure Legs	Disabled		
Vertical Navigation Type (6.62) (Vertical Navigation Options)	VNAV (green bar active)	N/A - Not Displayed	
Transition to Approach (6.62) (Vertical Navigation Options)	Disabled (GRAY bar = disable)	N/A - Not Displayed	
Transition Altitude (6.62) (Vertical Navigation Options)	FL200	N/A - Not Displayed	
VDI Scale (6.62) (Vertical Navigation Options)	500 FT	N/A - Not Displayed	

62. From the *GTN Setup* page using the “back” key (twice for 6.61).

Ownship (key) – Press. View the *Ownship Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Color Ownship	Enabled (green bar = active)		
Ownship Icon	4-Blade Rotorcraft (Highlighted in blue)		

63. This Step ensures selections made prior to this point are saved

From the *GTN Setup* page.

Update Config Module (key) – Press (Figure 15)

Confirm the “*Update Config module?*” window is displayed. Press **YES**.
 Confirm the “*Config Module Update Complete*” window is displayed. Press **OK**.



Figure 15 - Update Config Module key

64. From the *Configuration Mode* page using the “back” key.

GTN Options (key) – Press.

View the *GTN Options* page

Terrain (key) – Press.

View the *Terrain Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Terrain Mode (green bar = active)	HTerrain Proximity (The HTAWS feature is only installed on the GTN 750 and not on the GTN 650 per the 429-706-639-101 kit)		
HTAWS Audio (HTAWS Configuration)	(Although defaults setting is displayed, they are not enabled on the GTN 650)		
Airport Criteria (HTAWS Configuration)	(Although defaults setting is displayed, they are not enabled on the GTN 650)		
Minimum Length (HTAWS Configuration)	(Although defaults setting is displayed, they are not enabled on the GTN 650)		

65. From the *GTN Options* page using the “back” key

Com Transmit Power (key) – Press.

View the *Com Transmit Power Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Com transmit Power (green bar = active)	Normal (or) 16W (This is an optional feature. Enablement card required) (429-706-639-105)		16W: As required, refer to the applicable MM or MMS after this Technical Bulletin has been complied with.

66. From the *GTN Options* page using the “back” key.

Search and Rescue (key) – Press. View the *Search and Rescue Configuration* page.

SAR Status		Locked	Locked
Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Search and Rescue (green bar = active)	This is an optional feature. Enablement card required. (429-706-639-107)		SAR: As required, refer to the applicable Installation Instruction after this Technical Bulletin has been complied with.
Parallel Track (SAR Patterns)	Refer to note above.		
Sector Search (SAR Patterns)	Refer to note above.		
Expanding Square (SAR Patterns)	Refer to note above.		
Orbit (SAR Patterns)	Refer to note above.		

67. From the *Configuration Mode* page using the “back” key. (Twice 6.61)

External Systems (key) – Press.

View the *External Systems* page.

XPDR (key) – Press.

View the *XPDR 1 Configuration* page.

Inputs and Outputs (key) – Press.

View the *XPDR 1 Inputs/Outputs* page.

(The RS-232 Configuration page should be displayed by default)

RS-232 Configuration						
Parameter	Input	Output	Baud	Parity	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Port 1	Remote	Remote w/TIS (or) Remote	19200	No Parity		
Port 2	Remote	Remote w/TIS (or) Remote	19200	No Parity		

ARINC429 (key) – Press.

ARINC 429 Configuration						
Parameter	Input	Speed	Output	Speed	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Port 1	AHRS	High	Off	High		
Port 2	Off	Low	Off	High		
Port 3	Off	Low	-	-		
Port 4	-	-	-	-		

68. From the *XPDR 1 Configuration* page using the “back” key.

Installation Settings (key) – Press.

View the *XPDR 1 Installation Settings* page.

Parameter	(selection)		PART 2 GTN 650 configuration RECORD (SW version 6.21)		PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)	
VFR Button Code	1200					
Aircraft Weight	Rotorcraft					
Auto Standby Delay	24 SEC					
Altitude Climb Rate For AirborneTransition	500 FPM					
Air/Ground Logic	Squat Switch					
Squat Switch Sense	Low					
Max Speed	<=150 KT					
Address Type	US TAIL (for US registered) or HEX ID (for all others)					
Address	Enter the US tail number otherwise enter the mode S, 6-digit Hexadecimal address.					
Flight ID Type	SAME AS TAIL (US) or CONFIG ENTRY (All others)					
Flight ID	(Enter the aircraft registration tail number)					
Aircraft Length	LE_15					
Aircraft Width	LE_11_5					
Enhance Surveillance	Disabled					
Surveillance Integrity Level	10^-7					
Temperature Switch Installed	No					
ADS-B Out	Pilot Select					
1090 Input	Disabled					
UAT Input	Disabled					
GPS Antenna Longitudinal Offset	2M					
GPS Antenna Lateral Offset	0M	Left				
Auto ALT	Enabled					
Aircraft Stall Speed	GTX Default					

69. From the *XPDR 1 Configuration* page using the “back” key.

Audio Config (key) – Press.

View the *XPDR 1 Audio Configuration* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Altitude Monitor	Off		
Count Down	Off		
TIS Alert	Message (or) Off		
Voice Setting	FEMALE		
Volume	+47 DB		
Test Tone	500 HZ Tone (or) “As desired”		
Test Audio	Leaving Altitude (or) “As desired”		

70. Cycle the **GTN 650** power. Allow time for the unit to power-up normally.

71. Depress the “**HOME**” button twice to display the HOME page.



Figure 16 - System-Setup page (version 4.0)



Figure 17 - System -Setup page (version 6.21)

72. From the *HOME* page
System (key) – Press.

View the *System* page

Setup (key) – Press.

View the *System - Setup* page (Figure 16 for PART 2, Figure 17 for PART 6)

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Crossfill (key)	ON (green bar = active)		
Keyboard (6.62)	QWERTY	N/A - Not Displayed	

73. From the *System - Setup* page.

CDI (key) – Press.

View the *System - Setup CDI* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
CDI Scale	Auto		
ILS CDI Capture	Auto Switch		

74. From the *System-Setup* page using the “back” key.

Date / Time (key) – Press.

View the *System – Setup Date/Time* page

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Local Offset	Adjust from GMT as required.		
Time Format	Local 24-hour		

75. From the *System-Setup* page using the “back” key.

Nearest Airport (key) – Press.

View the *System – Setup Nearest Airport* page

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Runway Surface	Any		
Minimum Runway Length	0 FT		
Include user airport (6.62)	(green bar = active)		

76. From the *System-Setup* page using the “back” key.

COM / NAV (key) – Press.

View the *System – Setup COM / NAV* page. (PART 6 only)

Com Channel Spacing (As required by local civil aviation authorities)	25.0 KHz (or) 8.33 KHz		
Reverse Frequency Lookup	ON (green bar = active)	N/A	
Comm Sidetone control	(green bar = active)		
Offset	Slide control 0%		

77. Use the “back” key to view the *System* Page.

Units (key) – Press.

View the *System*-Units page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Altitude/Vertical Speed	Feet (FT/FPM) (or) Meters (M/MPM)		
Distance/Speed	Nautical Miles (NM/KT)		
Fuel	Pounds (LB) (or) Kilograms(KG)		
NAV Angle	Magnetic (°)		
Position Format	LAT/LON		
Pressure	Inches of Mercury (IN) (or) Millibar (Mb)		
Magnetic Variation	XX X	(Default)	
Temperature	Celsius (°C)		

78. Use the “back” key to view the *System* Page.

Audio (key) – Press.

View the *System*-Audio page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Click Volume	40%		

79. From the *HOME* page.

MAP (key) – Press.

View the *MAP* page

Menu (key) – Press.

View the *Map Menu* page.

Map Setup (key) – Press.

View the *Map Setup* page (Figure 18)

Map (tab) – Should be displayed by default



Figure - 18 Map Setup page

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Orientation	Heading Up		
North Up Above	40 NM		
Auto Zoom	ON		
Auto Zoom Min	1.5 NM		
Auto Zoom Max	25 NM		
Track Vector Length	60 SEC		
NAV Range Ring	ON		
Fuel Range Ring	ON		
Fuel Reserve Time	30 MIN		
TOPO Scale	Off		
Point Obstacle Range	5 NM		
Wire Obstacle Range /	1.5 NM		
Visual APPR Selector	10 NM		
Altitude Constrain	Selected and Active	N/A - Not Displayed	

80. From the *Map Setup* page.
Traffic (tab) – Press.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Traffic Range	25 NM		
Traffic Type	All Traffic		

81. From the *Map Setup* page.
Aviation (tab) – Press.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Airport Range	25 NM		
Heliports	ON		
Safe Taxi Diagrams	1 NM		
Runway Extensions	5NM		
Intersection Range	4 NM		
NDB Range	5 NM		
VOR Range	10 NM		
VRP Range (6.62)	4 NM		
User Waypoint Range	5 NM		
Airway Range	25 NM		

82. From the *Map Setup* page.
Land (tab) – Press.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Road Detail	Normal		
City Detail	Normal		
State/Province Names	ON		
River/Lake Detail	Normal		

83. From the *Map Setup* page.

Airspace (tab) – Press.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Airspace Label Range	25 NM		
Smart Airspace	OFF		
Show Airspaces	Below 12000 FT		
CL B/TMA/AWY Range	100 NM		
CL C/CTA Range	100 NM		
CL A/D Range	100 NM		
Restricted Range	100 NM		
MOA (Military) Range	40 NM		
OTHER Range	100 MN		

-NOTE-

As required, use the up or down arrow keys to view all the parameters fields.

84. From the *Map Menu* page using the “back” key.

Map Overlays (key) – Press.

View the *Map Overlays* window.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
TOPO	ON (green bar = active)		
Terrain	ON (green bar = active)		
Airways	Low		
Traffic	ON (green bar = active)		

85. From the *HOME* page using the “back” key.

Traffic (key) – Press. (Figure 19)

View the *Traffic* page. (Figure 20)

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Altitude Filter	Unrestricted		



Figure 19 - Traffic key



Figure 20 - Traffic page / Altitude Filter key

86. From the *HOME* page using the “back” key.

Map (key) – Press.

View the *Map* page.

Menu (key) – Press (Figure 21)

View the *Map Menu* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Map Detail (Figure 22)	Most (Slide the screen cursor)		

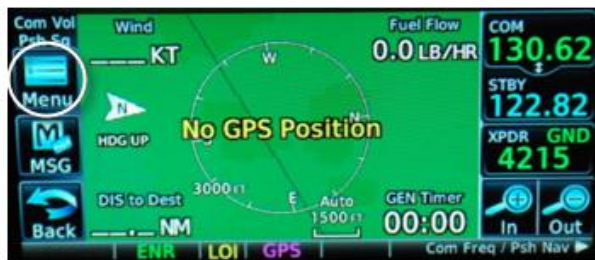


Figure 21 - Map page / Menu key



Figure 22 - Map Menu page

87. *Change data fields* (key) – Press. (Figure 22)

View the *Configure Nav Data Fields* page.

Parameter	(selection)	PART 2 GTN 650 configuration RECORD (SW version 6.21)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.62)
Upper left key (Press to configure)	Wind - Wind Speed and Direction		
Lower left key (Press to configure)	DIS to Dest – Distance to Destination		
Upper right key (Press to configure)	Fuel Flow - Total Fuel Flow		
Lower right key (Press to configure)	Generic Timer – Timer (Utilities)		

88. Remove electrical power from the aircraft

PART 3: GTN 750 version 6.62 software suite upload and navigation database verification.

PART 4: GTN 650 version 6.62 software suite upload and navigation database verification.

PART 5: GTN 750 software verification and configuration set-up.

PART 6: GTN 650 Software verification and configuration set-up.

PART 7: Operational checks, restoration and aircraft maintenance records.

PART 3: GTN 750 version 6.62 software suite upload and navigation database verification. (Step 90 through 108)

-NOTE-

If upgrading from an older version of GTN Main Software (which is the main intent of this bulletin) from version 4.0 up to software version 6.62; proceed to Step 89.

-NOTE-

If backloading from a newer version of GTN Main Software (Example 8.2) down to version 6.62; it is recommended to first set the GTN system configuration settings to their default values by selecting the “*GTN diagnostics* key” (from the GTN Configuration page), to select the “*Clear Config Settings*” key and to select “*OK*” to confirm.

89. Before applying Electrical power to the aircraft, pull the GTN 650, unit Radio No.2 NAV/GPS (3450CB4) and COM (Radio) (3450CB2) circuit breakers located on the forward RHS circuit breaker panel (3940A2).

90. Remove the NAV DATA card from the **GTN 750**, unit SD card slot.

91. Insert the Loader Card (P/N 010-00969-3G) into the GTN unit SD card slot

92. Press and hold the **GTN 750** “HOME” key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the “HOME” key once the screen displays “GARMIN”.

93. From the *Configuration Mode* page.
Update (key) – Press.

94. Verify and confirm the “On Card” depiction software versions are as follows:

GTN 750	“On Card” Version Displayed	√
MAIN Board Software	6.62	
COM Board Software	2.30	
NAV Board Software	6.03	
WAAS Board Software	5.2 (No Change)	

95. From the *Updates* page (Figure 23)
Select All (key) – Press.

-NOTE-

If backloading from a newer version of GTN Main Software (Example 8.2) down to version 6.62; select only the version displayed “On Card” which do not match the version displayed as “Installed”. Then proceed to Step 96.

96. From the *Updates* page (Figure 23)
Update (key) – Press.



Figure 23 - Updates page

97. The GTN will then display a “*Start GTN Software Updates?*” window.
OK (key) – Press. (Expect a 10 to 15 minute uploading time)
98. Once the “Update Complete” window is displayed; press “OK”.

99. Remove electrical power from the aircraft.
100. Remove the version 6.62 Loader Card from the **GTN 750** unit SD card slot.
101. Insert the NAV DATA card (previously removed) into the **GTN 750** unit SD card slot.
102. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU) and allow the **GTN 750** to power-up normally.
103. Following the Navigation database validation, press the “Continue” key twice.



Figure 24 - Incoming Databases from Datacard page

-NOTE-

If a new format Navigation database is already present on the database card, it can be installed. Otherwise, a database update must be downloaded from your provider.

104. Remove electrical power from the aircraft
105. Push/set the **GTN 650** unit Radio No.2 NAV/GPS (3450CB4) and COM (3450CB2) circuit breakers located on the forward RHS circuit breaker panel (3940A2).

PART 4: [GTN 650](#) version 6.62 software suite upload and navigation database verification. (Step 109 through 127)

-NOTE-

If backloading from a newer version of GTN Main Software (Example 8.2) down to version 6.62; it is recommended to first set the GTN system configuration settings to their default values by selecting the “*GTN diagnostics* key” (from the GTN Configuration page), to select the “*Clear Config Settings*” key and to select “*OK*” to confirm.

106. Before applying Electrical power to the aircraft, pull the **GTN 750** unit Radio No.1 NAV/GPS (3450CB3) and COM (Radio) (3450CB1) circuit breakers located on the forward LHS circuit breaker panel (3940A1).
107. Remove the NAV DATA card from the [GTN 650](#) unit SD card slot.
108. Insert the Loader Card (P/N 010-00969-3G) into the [GTN 650](#) unit SD card slot

-NOTE-

GTN Unit may be long to start-up (1 ~ 3 Seconds Approximately)

109. Press and hold the [GTN 650](#) “HOME” key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the “HOME” key once the screen displays “GARMIN”.
110. From the *Configuration Mode* page.
Updates (key) – Press.
111. Verify and confirm the “On Card” software versions are as follows:

GTN 650	“On Card’ Version Displayed	√
MAIN Board Software	6.62	
COM Board Software	2.30	
NAV Board Software	6.03	
WAAS Board Software	5.2(No Change)	

112. From the *Updates* page (Figure 25)
Select All (key) – Press.

-NOTE-

If upgrading from an older version of GTN Main Software (which is the main intent of this bulletin) from version 4.0 up to software version 6.62; proceed to Step 114.

-NOTE-

If backloading from a newer version of GTN Main Software (Example 8.2) down to version 6.62; select only the version displayed “On Card” which do not match the version displayed as “Installed”. Then proceed to Step 114.

113. From the *Updates* page (Figure 25)
Update (key) – Press.



Figure 25 - Updates page

114. The [GTN 650](#) will then display a “Start GTN Software Updates?” window.
OK (key) – Press. (Expect a 10 to 15 minute uploading time)
115. Once the “Update Complete” window is displayed; press “OK”.

116. Remove electrical power from the aircraft.
117. Remove the version 6.62 Loader Card from the [GTN 650](#) unit SD card slot
118. Re-install the NAV DATA card (previously removed) into the [GTN 650](#) unit SD card slot.
119. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU) and allow the [GTN 650](#) to power-up normally.
120. Following the Navigation database verification, press the “Continue” key twice.



Figure 26 - Datacard Updates page

-NOTE-

If a new format Navigation database is already present on the database card, it can be installed. Otherwise, a database update must be downloaded.

121. Remove electrical power from the aircraft.
122. Push/Set the **GTN 750** unit Radio No.1 NAV/GPS (3450CB3) and COM (3450CB1) circuit breakers located on the forward LHS circuit breaker panel (3940A1).

PART 5: GTN 750 software verification and configuration set-up.

123. Before applying Electrical power to the aircraft, pull the [GTN 650](#) unit Radio No.2 NAV/GPS (3450CB4) and COM (3450CB2) circuit breakers located on the forward RHS circuit breaker panel (3940A2).
124. Press and hold the **GTN 750** “HOME” key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the “HOME” key once the screen displays “GARMIN”.
125. From the *Configuration Mode* page.
System Information (key) -Select.
 View the *System Information* page.

Verify and confirm the GTN 750 software versions are as follows:	GTN 750
Main Board	Verify (✓)
Software Version: 6.62	
FPGA Version: 2.2	
Touch Controller Board	Verify (✓)
Software Version: 2.10 (No Change)	
GPS/WAAS Board	Verify (✓)
Board Software: 5.2 (No Change)	
COM Board	Verify (✓)
Software Version: 2.30	
FPGA Version: 2.4	
NAV Board	Verify (✓)
Software Version: 6.03	
FPGA Version: 1.1	

126. Use the **GTN 750** configuration setting table’s “**PART 5**” column (**Step 3 through 45**) to confirm each parameter selection is identical to the Part 1 record or reflects the approved settings for software version 6.62. Press the “Update Config Module” (key) as often as required to save your settings. Track your progress by making a check mark (✓) or by writing the exact setting nomenclature.

EXAMPLE

Parameter	Input (selection)	Output (selection)	PART 1 GTN 750 configuration RECORD (SW version 4.0)	PART 5 GTN 750 SET UP VERIFICATION (SW version 5.25)
RS-232 1 (NOTE 1)	GTN w/IIS + #1 (or) GTN Mode S+ #1	GTN w/IIS + #1 (or) GTN Mode S+ #1	✓	✓
RS-232 2	Fuel Format 2	Off	✓	✓
RS-232 3 (NOTE 1)	Off (or) Traffic Format 8	Off (or) Traffic Format 8	✓	✓
RS-232 4	Off	Off	✓	✓
RS-232 5	Off	Off	✓	✓
RS-232 6	Off	Off	✓	✓

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127. Push/Set the [GTN 650](#) unit Radio No.2 NAV/GPS (3450CB4) and COM (3450CB2) circuit breakers located on the forward RHS circuit breaker panel (3940A2).

PART 6: [GTN 650](#) Software verification and configuration set-up.

128. Before applying Electrical power to the aircraft, pull the **GTN 750** unit Radio No.1 NAV/GPS (3450CB3) and COM (3450CB1) circuit breakers located on the forward RHS circuit breaker panel (3940A1).
129. Press and hold the [GTN 650](#) “HOME” key. Apply electrical power (28 VDC) to the aircraft using an aircraft grade Ground Power Unit (GPU). Release the “HOME” key once the screen displays “GARMIN”.
130. From the *Configuration Mode* page.
System Information (key) -Select.
 View the *System Information* page.

Verify and confirm the GTN 650 software versions are as follows:	GTN 650
Main Board	Verify (✓)
Software Version: 6.62	
FPGA Version: 2.2	
Touch Controller Board	Verify (✓)
Software Version: 2.10 (No Change)	
GPS/WAAS Board	Verify (✓)
Board Software: 5.2 (No Change)	
COM Board	Verify (✓)
Software Version: 2.30	
FPGA Version: 2.4	
NAV Board	Verify (✓)
Software Version: 6.03	
FPGA Version: 1.1	

131. Use the [GTN 650](#) configuration setting table’s “**PART 6**” column (**Step 47 through 89**) to confirm each parameter selection is identical to the PART 2 record or reflects the approved settings for software version 6.62. Press the “Update Config Module” (key) as often as required to save your settings. Track your progress by making a check mark (✓) or by writing the exact setting nomenclature.

EXAMPLE

Parameter	Input (selection)	Output (selection)	PART 2 GTN 650 configuration RECORD (SW version 4.0)	PART 6 GTN 650 SET-UP / VERIFICATION (SW version 6.23)
RS-232 1	GTX w/TIS + #1 (or) GTX Mode S+ #1	GTX w/TIS + #1 (or) GTX Mode S+ #1	✓	✓
RS-232 2	Fuel Format 2	Off	✓	✓
RS-232 3	Off (or) Traffic Format 8	Off (or) Traffic Format 8	✓	✓
RS-232 4	Off	Off	✓	✓

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132. Push/Set the **GTN 750** unit Radio No.1 NAV/GPS (3450CB3) and COM (3450CB1) circuit breakers located on the forward RHS circuit breaker panel (3940A1).

PART 7: Operational checks, restoration and aircraft maintenance records.

WARNING

Both GTN 750 and GTN 650 units must have been successfully upgraded to Main Software Version 6.62 (as described in this Technical Bulletin) and appropriately configured for operation in a Bell 429 prior to be released for service or flight. Dual GTN installation with mixed main software versions are incompatible and are not approved for service or flight.

133. Verify that each applicable GTN optional feature (Ex: Chartview, HTAWS, 16 W, etc.) that requires an Enablement card. ([DMC-429-A-97-00-00-00A-00SA-A](#)) is (or are) enabled. If installed at the factory; these Enablement cards were packed or bundled with the loose equipment of the aircraft during delivery.
134. Do an operational check of the GTN 750 NAV/COM/GPS.
([DMC-429-A-97-60-00-00A-320A-A](#))
135. Do an operational check of the GTN 650 NAV/COM/GPS.
([DMC-429-A-97-60-00-02A-320A-A](#))
136. Do an operational check of the GTX 33H ES Transponder.
([DMC-429-A-97-60-00-03A-320A-A](#))
137. Do an operational check of the TCAS system (if installed)
([DMC-429-A-97-40-00-00A-320A-A](#))
138. Return the aircraft to flight configuration.
139. Make an entry in the helicopter logbook and/or service records indicating compliance with this Technical Bulletin.
140. PSE recommends annexing the printed working copy of this Technical Bulletin to the aircraft records for future reference.

At your discretion and to enable Product Support Engineering to gather statistical data on Bell 429 field campaigns; please send an email to product@bellflight.com with the following information:

"B429 Serial number and registration markings indicating this Technical Bulletin (429-20-64) has been complied with"