ADVISORY WIRE

You. First.

REFERENCE NO:	AW700-23-0576	INFORMATION TYPE:	Maintenance Operational
ATA:	23-23	EFFECTIVITY:	Global Express / XRS (9002 - 9312, 9314 - 9380, 9384 - 9429) Global 5000 (9127 to 9383, 9389 to 9400, 9404 to 9431 and 9998) Global 5000 feat. Vision Flight Deck (9386, 9401, 9445 - 9997) Global 6000 (9313, 9381, 9432 -9997)
SUBJECT:	**SITA US and Canada POA Frequency Migration**		

1. REFERENCES:

   1.1 RIU-4000 SIL 16-1, RIU-4000 RADIO INTERFACE UNIT – SITA datalink frequency change for North America (CPN 523-0824010-001000) – available on CIC website, Technical Library > Service Bulletins > By Vendor > Rockwell Collins

   1.2 Service Bulletin 700-34-5017 / 700-34-6017, Modification – General – Avionic System Updates and Removal of SVS Limitation, Rev. 4, released August 27, 2014

   1.3 Service Bulletin 700-23-5013 / 700-23-6012, Modification – General – Update to Support Implementation of ATN CPDLC Capability, Rev. 2, released November 13, 2014

   1.4 Service Bulletin 700-34-5018 / 700-34-6018, Modification – General – Installation of Automatic Dependent Surveillance – Broadcast Out (ADS-B Out) (DO-260B) and Aeronautical Telecommunications Network (ATN) Controller Pilot Datalink Communications (CPDLC) Capability (Link2000+) – scheduled for release in Q1/2017

   1.5 Service Bulletin 700-34-5021 / 700-34-6021, Modification – General – Implementation of Global Vision Flight Deck Avionics Software Version 5 – scheduled for release in Q1/2017

   1.6 Service Bulletin 700-23-005 / 700-1A11-23-005, Modification - Airborne Data Link System (ADLS) – Installation. Each SB released, Rev. 2, 16 July/2001 and Basic January 31/2005 respectively

   References 1.2 to 1.6 are or will be available on the CIC website, Technical Library > Service Bulletins > By Bombardier > Global

2. INTRODUCTION:

   This Advisory Wire is to inform Operators about an expected change to the Aircraft Comm Addressing And Reporting System (ACARS) base frequency used by Société Internationale de Télécommunications Aéronautiques (SITA) Very High Frequency (VHF) ground stations in the United States (US) and Canada.

3. DESCRIPTION:

The Aeronautical Frequency Committee (AFC) needed to free-up additional VDL (VHF Digital Link) frequencies in the upper aeronautical band (136.500 -136.975MHZ) to support the FAA DataComm Program. Consequently, in June 2017 the SITA VHF network will migrate their current North America (US and Canada) base frequency from 136.850MHz to 131.725MHz (both supporting Plain Old ACARS (POA) (VDL Mode 0/A)). All aircraft operating in North America could be affected whether or not the operator is a user of SITA POA service.

This SITA Frequency migration has the following impact, specific to each Global platform:

<u>Global 5000 featuring Vision Flight Deck and Global 6000 (Rockwell Collins):</u>

Non-SITA users may no longer be able to avoid using SITA POA service while in or near the affected region. This could occur because the datalink system may have the 131.725 MHZ base frequency enabled in the RIU scan table for use in other regions.

Table 1 identifies all possible datalink software configurations with their respective operational impact and associated work around or long term solutions. The Ref. 1.1 SIL was used to build the quick reference in Table 1, without the need for operators to go through the validation and testing process (Decision Tree) proposed in the SIL. Once a customer determines the impact on its current software configuration, it should be noted that any further implementation of a service bulletin (i.e. Ref. 1.3 or Ref. 1.4 or Ref. 1.5) will require that the impact is re-assessed as per the Table 1 below.

		A/C configuration			
		V4.5.8 with RIU-4010 P/N 822-1863-174 post SB700-34-5017/6017	V4.9 with RIU-4010 P/N 822-1863-175 post SB700-23-5013/6012	V5 with RIU-4010 P/N 822-1863-174 post SB700-34-5021/6021	V5 with RIU-4010 P/N 822-1863-178 post SB700-34-5018/6018
SITA Users	Flight Deck Effect	Inability to use SITA (Frequency 131.725) automatically in U.S and Canada	Inability to use SITA (Frequency 131.725) automatically in U.S and Canada	Inability to use SITA (Frequency 131.725) automatically in U.S and Canada	Delay in achieving initial datalink connection after power up (Refer to RIU-4000 SIL 16-1 para 7.1 (2)) Note (2)
	Work Around	Yes Note (1)	Yes Note (1)	Yes Note (1)	Yes Note (3)
	Solution	SB700-34-5018/6018 Note (2) & (3)	SB700-34-5018/6018 Note (2) & (3)	SB700-34-5018/6018 Note (2) & (3)	N/A
Non-SITA Users	Flight Deck Effect	Potentially establish comm with SITA while in US or Canada (Refer to RIU-4000 SIL 16-1 para 8.0)	Potentially establish comm with SITA while in US or Canada (Refer to RIU-4000 SIL 16-1 para 8.0)	Potentially establish comm with SITA while in US or Canada (Refer to RIU-4000 SIL 16-1 para 8.0)	Potentially establish comm with SITA while in US or Canada (Refer to RIU-4000 SIL 16-1 para 7.2)
	Work Around	Enable Desired DSPs and disable the rest (Refer to RIU-4000 SIL 16-1 para 8.0 and 9.0)	Enable Desired DSPs and disable the rest (Refer to RIU-4000 SIL 16-1 para 8.0 and 9.0)	Enable Desired DSPs and disable the rest (Refer to RIU-4000 SIL 16-1 para 8.0 and 9.0)	Yes Note (4)
	Solution	SB700-34-5018/6018 Note (4)	SB700-34-5018/6018 Note (4)	SB700-34-5018/6018 Note (4)	N/A

Table 1

Notes: (1) If the SITA frequency cannot be automatically tuned and if ARINC coverage is available and ARINC DSP is setup for usage, the Datalink will tune to the available ARINC frequency.

If the SITA frequency cannot be automatically tuned and if there is no ARINC coverage, the Datalink will transition to SATCOM.
When operating in and near the US and Canada, the crew could manually tune the VHF “SITA” (131.725) frequency rather than "SITA-NA". Refer to RIU-4000 SIL 16-1 para 9.0

(2) After the June 30, 2017 hard switch date, if the RIU -178’s are still set to have both “SITA-NA” and “SITA” VHF scan table selections active then the crew could see a delay (longer duration for display of “NO COMM”) in achieving initial connection upon power up. The delay is due to frequency scan order within the RIU where “SITA-NA” is attempted before “SITA” if the selection is active. The frequency scan order algorithm is complex, attempting previous scanned, previous connected stations, assessing connection stability, strength variables, transmitter location relative to aircraft and other parameters; therefore the delay is expected to be anywhere between 5 seconds to 4 minutes.

(3) Update the VHF scan table to only have “SITA” selected after June 30, 2017 to avoid delays in achieving datalink connection. Refer to RIU-4000 SIL 16-1 para 7.1 (2) and 9.0

(4) When operating in and near the US and Canada, update the VHF scan table to only have “ARINC-AMER” selected after June 30, 2017. Refer to RIU-4000 SIL 16-1 para 7.2 and 9.0

The decision to implement the Ref 1.4 SB700-34-5018/6018 must be taken based on customer operational profile while in and near US and Canada, the acceptability level of the available workaround and also the customer plan to comply with the Link2000+ and ADS-B Out (DO-260B) mandates, which is the primary driver of Ref 1.4 SB development.

Global Express / XRS and Global 5000 (With Optional Datalink Installed (Teledyne) (Ref.1.6):

The impact is minimal compared on how the datalink is currently operating since the frequency 131.725MHz is already programmed in the datalink. Following is a description on how the automated frequency selection is performed in order of priority:

a. On power up, the system will always select the last frequency tuned. If no communication is established, the following sequence is initiated
b. Geographic tuning will take place. Since the frequency 131.725MHz was originally assigned to Europe, S. America/Caribbean, Middle East/India and Africa only, it will not be tuned if the aircraft is in North America
c. Frequency list scan will attempt all frequencies programmed in the datalink which includes the frequency 131.725MHz

In all cases the datalink does not distinguish between VHF service providers (I.e. ARINC, SITA, other), it will establish connection with the first available frequency as defined in the above sequence of priority.

Therefore, the transition to the new SITA POA frequency will not significantly impact datalink operation. After June 2017, there may be specific cases where the datalink will attempt to tune the inactive VHF SITA 136.850Mhz during a frequency list scan mode, which would induce an additional delay (130 seconds) before it scans the subsequent frequency in the list.

Due to the limited impact at this time no change is planned to specifically remove the decommissioned frequency or reassign the 131.725MHz frequency to the North America region.
However if an opportunity arises, these conditions will be reassessed as part of future design change to the datalink.

Flight crew always has the ability to manually select a specific VHF frequency. The manual selection is available via the Datalink Index by selecting: COM CONTROL Page> VHF NETWORK> VHF FREQUENCY > OR line Select key (LSK 2R)> and select the desired frequency or SECONDARY to manually enter a different frequency.

4. ACTION:
   Operators should be aware of the SITA US and Canada POA frequency migration, its impact on operations and the available solutions where applicable.

   Should you have any queries pertaining to this Advisory Wire (AW), please contact your Bombardier Field Service Representative (FSR) or the Customer Response Center (CRC).