1.7 System Architecture Examples

The G3X system can be interfaced with other avionics equipment and aircraft systems. An example block diagram showing an integration of G3X with various equipment and systems is shown below in Figure 1-17, and an example block diagram for a G3X Standalone MFD is shown on Figure 1-18.
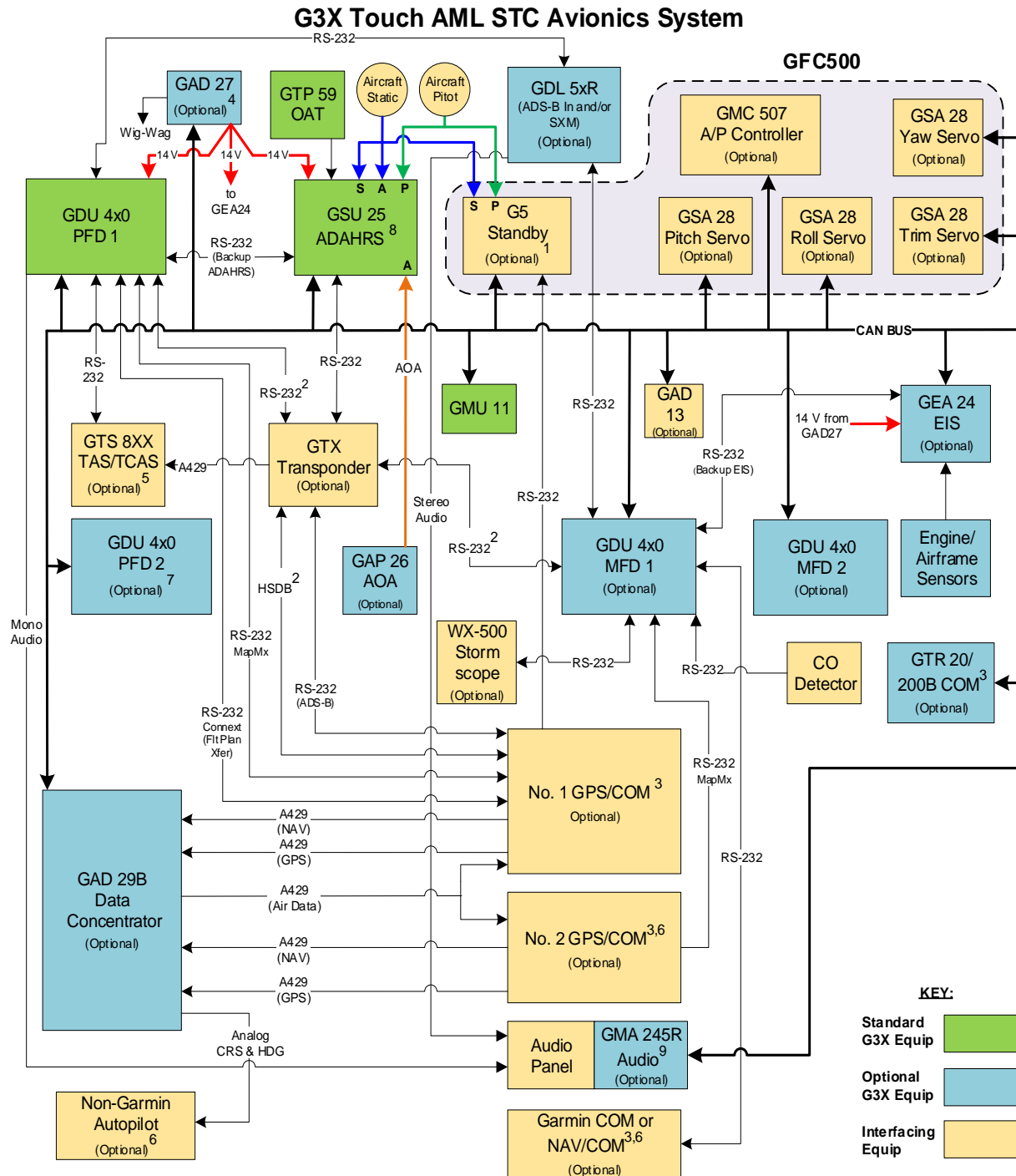
G3X Touch AML STC Avionics System

Figure 1-17 – Example G3X Architecture

Notes:

(1) When a G3X PFD is installed, a G5 standby is required to be installed adjacent to the Pilot's PFD if any of the following are true:

- alternative suitable standby instruments are not installed in an IFR aircraft (i.e. GI 275 or the pneumatic airspeed indicator, altimeter, and vacuum attitude indicator)

- copilot displays are installed on the right side of the instrument panel (side-by-side aircraft) or second cockpit (tandem aircraft) in an IFR aircraft

- a GFC500 is installed without a Sonalert

(2) HSDB & RS232 Connext interfaces are only applicable with GNX 375 or GTX 345() to support FIS-B weather & TIS-B traffic display on GTN & GDUs.

(3) Maximum of two (2) COM radios, (2) GPS navigators, and (2) VHF NAV units installed.

(4) GAD 27 is required for 14v airframes with EIS and may optionally be connected to PFD and GSU 25D in 14v airframes without EIS. GAD 27 may optionally be installed on both 14v and 28v aircraft to enable the landing and/or taxi light "wig wag" feature.

(5) A GTS 8XX traffic system cannot be interfaced to the GDU if an ADS-B In transponder such as the GTX 345(R) or GNX 375 is installed.

(6) If a non-Garmin autopilot is installed, only one external navigator (GPS and/or VHF) can be connected to G3X. A second navigator, if installed, must use a dedicated CDI and cannot interface to G3X.

(7) PFD 2 installation is only allowed on the second panel of a tandem aircraft.

(8) The AOA port on the GSU 25D is connected to a GAP 26 AOA port, if installed. If a GAP 26 is not installed the AOA port on the GSU is connected to the aircraft's static line.

(9) The CAN bus interface to the audio panel is only applicable for a GMA 245R.

GDU 232 Ports:

GDUs have six RS-232 ports. Except as noted below, the ports can be connected to any compatible LRU and if multiple GDUs are installed they will share the data between them on the CAN bus. The RS-232 architecture shown above is only an example configuration.

The port on the P4x01 connector is only compatible with the GSU 25D or GEA24. The five ports on P4x02 can be configured for any supported interface (including GSU 25D and GEA 24).

When two external navigators are connected, the #1 Nav must be connected to a lower numbered RS-232 port on the PFD, and the #2 Nav connected to either a higher numbered port on the PFD or any 232 port on the MFD.

GTN Connext interface must be connected to PFD1.

Weather data is not shared between GDUs, therefore the traffic/weather receiver (GNX 375, GTX 345() or GDL 5xR) should be connected via RS-232 to each GDU. If both SXM and ADS-B In are desired in a fully optioned single GDU installation (PFD, EIS, and dual Garmin navigators), a GDL 52R should be used for 232 port availability considerations (the 52R sends both SXM and FIS-B/TIS-B on one RS-232 bus). Note however that the GDL 5xR is not compatible with the GTN, so if ADS-B traffic & weather display is desired on both G3X and GTN it must be sourced from a GNX 375 or GTX 345() per Note 2 (alternatively, the GTN could use GDL 88 or GDL 69, but these are incompatible with G3X).

GTX 335(D)R/345(D)R:

RS-232 port 1 on the GTX335(D)R/345(D)R must be used to connect to the GSU 25D.
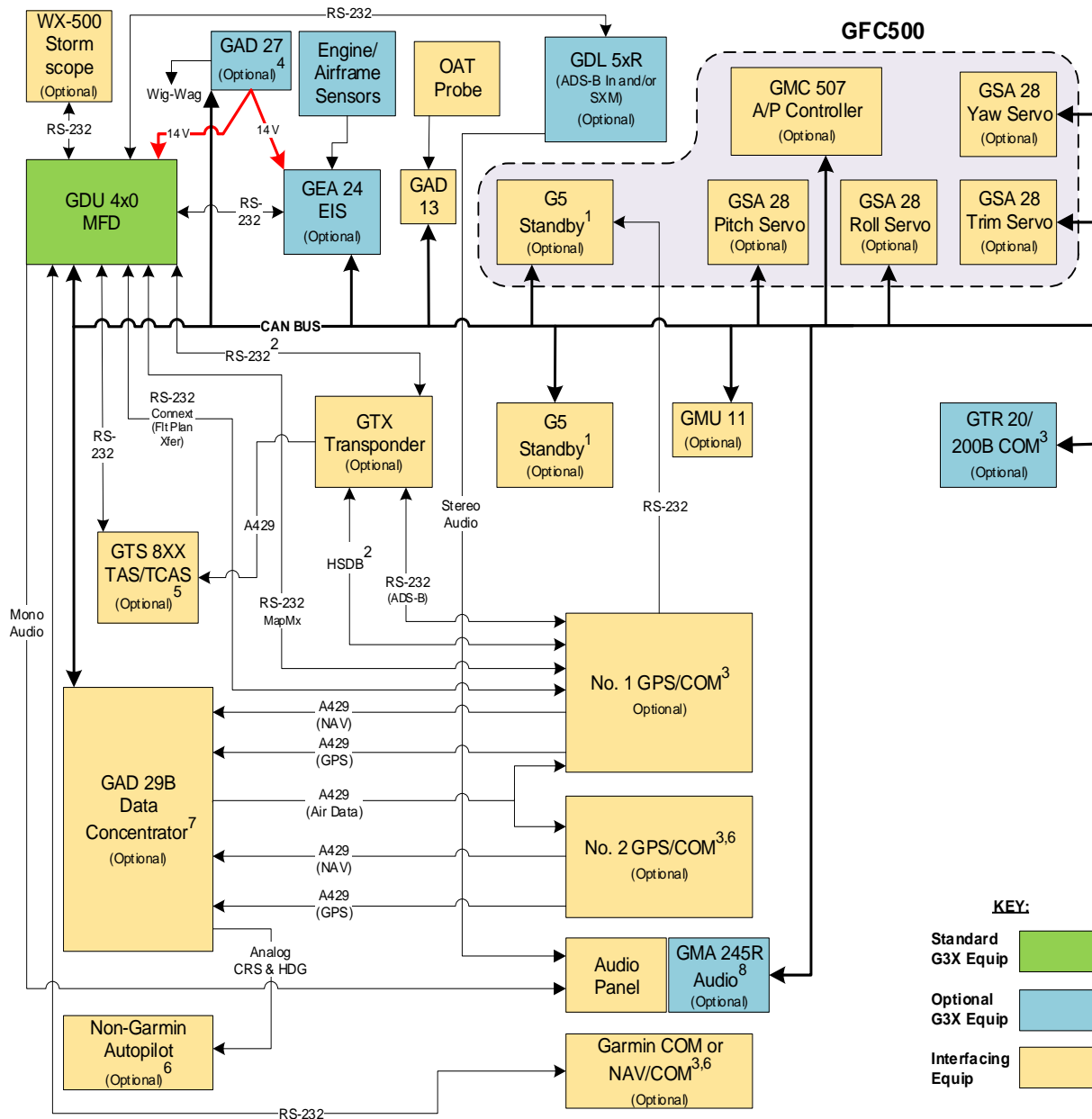
Figure 1-18 – Example G3X Architecture – Standalone MFD

Notes:

(1) If GFC500 is installed with a standalone MFD, a G5 is required. A second G5 may be installed per the G5 AML STC.

(2) HSDB & RS232 Connext interfaces only applicable with GNX 375 or GTX 345() to support FIS-B weather & TIS-B traffic display on GTN & GDU.

(3) Maximum of two (2) COM radios, (2) GPS navigators, and (2) VHF NAV units installed.

(4) GAD 27 required for 14v airframes with EIS. GAD 27 may optionally be installed on both 14 and 28 - volt aircraft to enable the landing and/or taxi light "wig wag" feature.

(5) A GTS 8XX traffic system cannot be interfaced to the GDU if an ADS-B In transponder such as the GTX 345(R) or GNX 375 is installed.

(6) If a non-Garmin autopilot is installed, only one external navigator (GPS and/or VHF) can be connected to G3X. A second navigator, if installed, must use a dedicated CDI and cannot interface to G3X.

(7) The GAD 29B is required when the standalone MFD is installed with a G5 and GPS navigator. If no G5 is installed, the MFD and GPS navigator communicate only via RS-232.

(8) The CAN bus interface to the audio panel is only applicable for a GMA 245R.

<u>**GDU 232 Ports**</u>:

GDUs have six RS-232 ports. Except as noted below, the ports can be connected to any compatible LRU. The 232-architecture shown above is only an example configuration.

The port on the P4x01 connector is only compatible with the GEA24. The five ports on P4x02 can be configured for any supported interface.

When two external navigators are connected, the #1 Nav must be connected to a lower numbered RS-232 port on the MFD, and the #2 Nav connected to a higher numbered port on the MFD.

If both SXM and ADS-B In are desired in a fully optioned standalone MFD installation (MFD, EIS, and dual Garmin navigators), a GDL 52R should be used for 232 port availability considerations (the 52R sends both SXM and FIS-B/TIS-B on one RS-232 bus). Note however that the GDL 5xR is not compatible with the GTN, so if ADS-B traffic & weather display is desired on both G3X and GTN it must be sourced from a GNX 375 or GTX 345() per Note 2 (alternatively, the GTN could use GDL 88 or GDL 69, but these are incompatible with G3X).