Canbus Order
G5
GSU25
GDU460
GTR20
GMC507
GAD29
GEA24
GAD27
<Connector>
GSA28 Roll
GSA28 Pitch
GSA28 Yaw
GMU11

Power
GDU4XX_PWR
G5_PWR
GSU25_PWR
GMU11_PWR
GEA24_PWR
GAD27_PWR
LIGHT_PWR
FLAP_PWR
GPS175_PWR
GAD29_PWR
GTX330_PWR
GDL52_PWR
GTR20_PWR
LEMO_PWR
BT_PWR
GSA28_PWR
GMC507_PWR
TRIM_PWR
ELT_PWR
GND_BUS
KEEP_PWR
SMOKE_ONO
LANDING_LT
LANDING_RT
FUEL_PUMP_ONO
SMOKE_PWR
IGN_BAK_LOW
IGN_BAK_VOLTS
FUEL_ON
File: power.kicad_sch

Lycoming
AIRCRAFT_PWR
AIRCRAFT_GND
IGN_PWR
BAK_BAT_WARN
BAK_BATTERY_VOLTS
AMPS_HI
AMPS_LO
L_PLEAD
R_PLEAD
File: lycoming.kicad_sch

EIS
FUEL_ON
IGN_BAK_LOW
IGN_BAK_VOLTS
R_PLEAD
L_PLEAD
AMPS_LO
AMPS_HI
BAK_BATTERY_VOLTS
GEA24_PWR
GEA24_PWR_2
GND_BUS
PITCH_TRIM_LO
PITCH_TRIM_POS
PITCH_TRIM_HI
EIS_SERIAL_IN
EIS_SERIAL_OUT
EIS_SERIAL_GND
CAN_HI_IN
CAN_LOW_IN
CAN_HI_OUT
CAN_LO_OUT
File: eis.kicad_sch

PFD
GDU4XX_PWR
G5_PWR
GSU25_PWR
GMU11_PWR
GND
GND_BUS
GDU4XX_PWR_2
GMU11_PWR_2
GSU25_PWR_2
ELT_PWR
ADSB_SERIAL_OUT
ADSB_SERIAL_IN
ADSB_SERIAL_GND
AIRDATA_SERIAL_OUT
AIRDATA_SERIAL_IN
AIRDATA_SERIAL_GND
CANBUS_HI_GMU_IN
CANBUS_LO_GMU_IN
EIS_SERIAL_OUT
EIS_SERIAL_IN
EIS_SERIAL_GND
LIGHTING_HI
NAV_MAPMX_SERIAL_OUT
NAV_MAPMX_SERIAL_IN
NAV_MAPMX_SERIAL_GND
AUDIO_HI
AUDIO_LO
CANBUS_GDU_HI_OUT
CANBUS_GDU_LO_OUT
File: pfd.kicad_sch

Multifunction
SMOKE_ON
LANDING_LT
LANDING_RT
FUEL_PUMP_ON
CAN_HI_IN
CAN_LO_IN
EARTHX_IN
SMOKE_PWR
KEEP_PWR
TRIM_PWR
GAD27_PWR
FLAP_PWR
LIGHT_PWR
GND_BUS
AVIONICS_LIGHTING
PILOT_PTT
GDU4XX_PWR_2
GEA24_PWR_2
GMU11_PWR_2
GSU25_PWR_2
CAN_HI_OUT
CAN_LO_OUT
PITCH_TRIM1
PITCH_TRIM2
CWS_ONO
File: multifunction.kicad_sch

Autopilot
LIGHTING_HI
CAN_LO_YAW_OUT
CAN_HI_YAW_OUT
CAN_HI_ROLL_IN
CAN_LO_ROLL_IN
PITCH_TRIM1
PITCH_TRIM2
CWS_ON
PITCH_TRIM_HI
PITCH_TRIM_POS
PITCH_TRIM_LO
TOGA_IN
CAN_HI_GMC_IN
CAN_LO_GMC_IN
CAN_LO_GMC_OUT
CAN_HI_GMC_OUT
GMC507_PWR
GSA28_PWR
GND_BUS
File: autopilot.kicad_sch

Transponder
ADSB1_SERIAL_IN
ADSB1_SERIAL_OUT
ADSB1_SERIAL_GND
AIRDATA_RS232_IN
AIRDATA_RS232_OUT
AIRDATA_RS232_GND
LIGHTING_HI
ADSB2_SERIAL_GND
ADSB2_SERIAL_OUT
ADSB2_SERIAL_IN
GPS_RS232_GND
GPS_RS232_OUT
GPS_RS232_IN
GTX330_PWR
GDL52_PWR
GND_BUS
MUSIC_OUT_LEFT
MUSIC_OUT_RIGHT
MUSIC_OUT_LO
File: transponder.kicad_sch

Navigator
TXPDR_SERIAL_OUT
TXPDR_SERIAL_IN
TXPDR_SERIAL_GND
ADSB_SERIAL_OUT
ADSB_SERIAL_IN
ADSB_SERIAL_GND
MAPMX_SERIAL_IN
MAPMX_SERIAL_OUT
MAPMX_SERIAL_GND
CAN_HI_OUT
CAN_LO_OUT
LIGHTING_HI
TOGA_OUT
GPS175_PWR
GAD29_PWR
GND_BUS
CAN_HI_IN
CAN_LO_IN
File: navigator.kicad_sch

Communication
AUDIO_IN_HI
AUDIO_IN_LO
PILOT_PTT
CAN_HI_IN
CAN_LO_IN
CAN_HI_OUT
CAN_LO_OUT
MUSIC_IN_LO
MUSIC_IN_RIGHT
MUSIC_IN_LEFT
GTR20_PWR
LEMO_PWR
BT_PWR
GND_BUS
File: communication.kicad_sch

Overview
File: overview.kicad_sch

Standard Colors

Canbus
Hi: White
Lo: White/Blue

Serial
Tx: White
Rx: White/Blue
Gnd: White/Orange

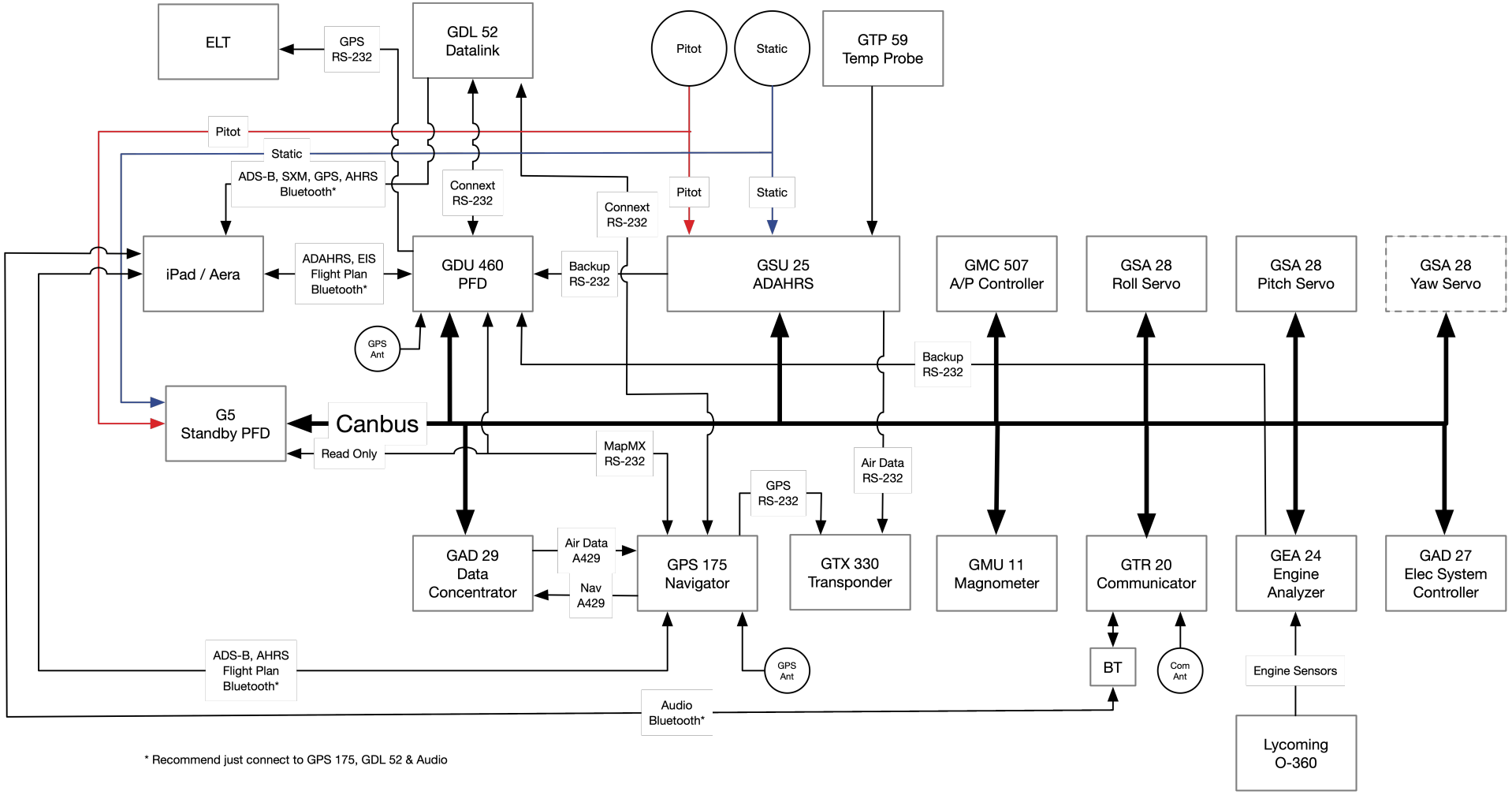
Audio
Left: White
Right: White/Blue
Lo: White/Orange

2 Wire Sensor
Hi: White
Lo: White/Blue

3 Wire Sensor
Signal: White
Lo (Ground): White/Blue
Reference (Power): White/Orange

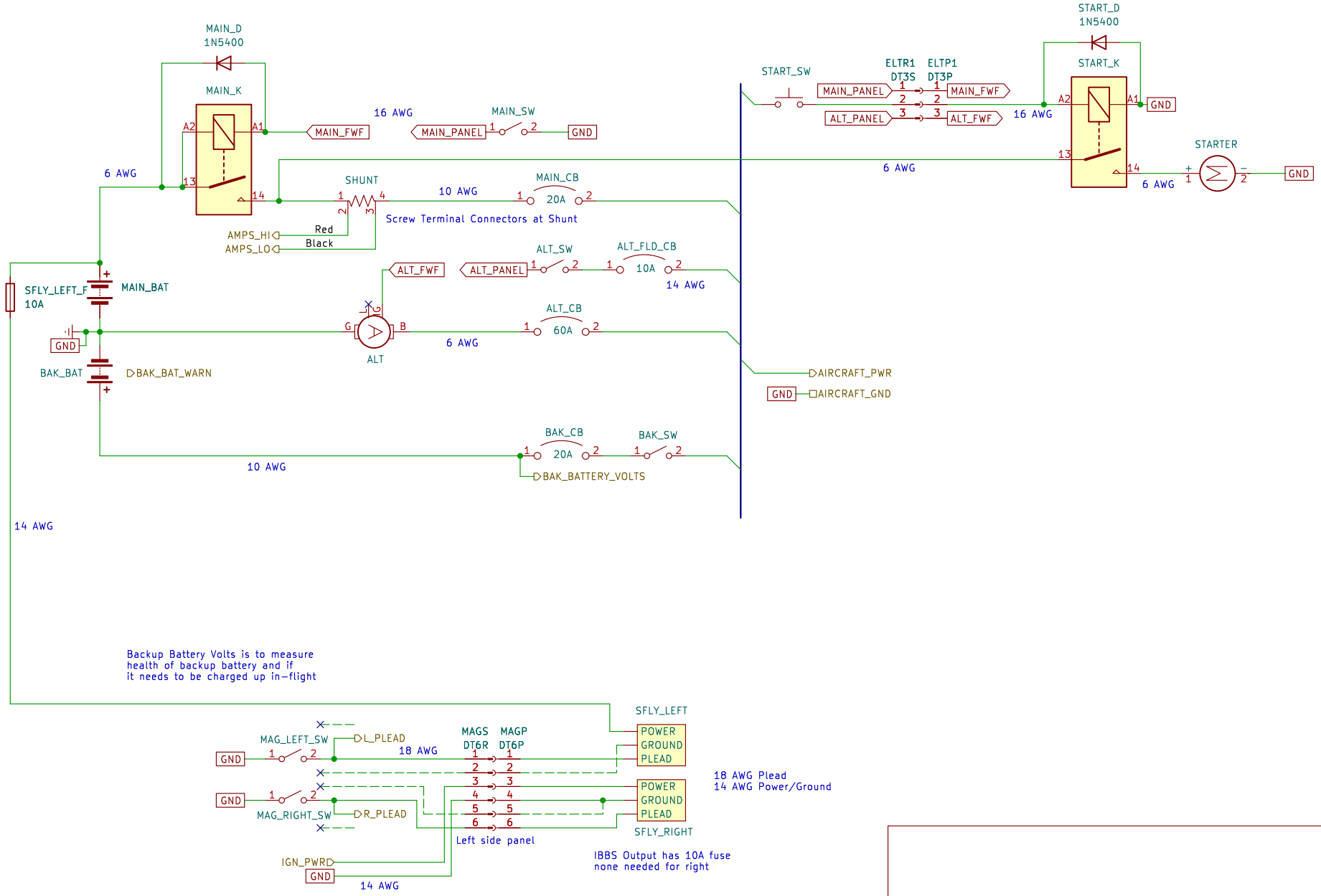
N877RV
Sheet: /
File: electrical.kicad_sch
Title: Electrical Overview
Size: B | Date: 2025-12-31 | Rev: 1.2.2
KiCad E.D.A. 9.0.6 | Id: 2/11

N877RV System Overview



* Recommend just connect to GPS 175, GDL 52 & Audio

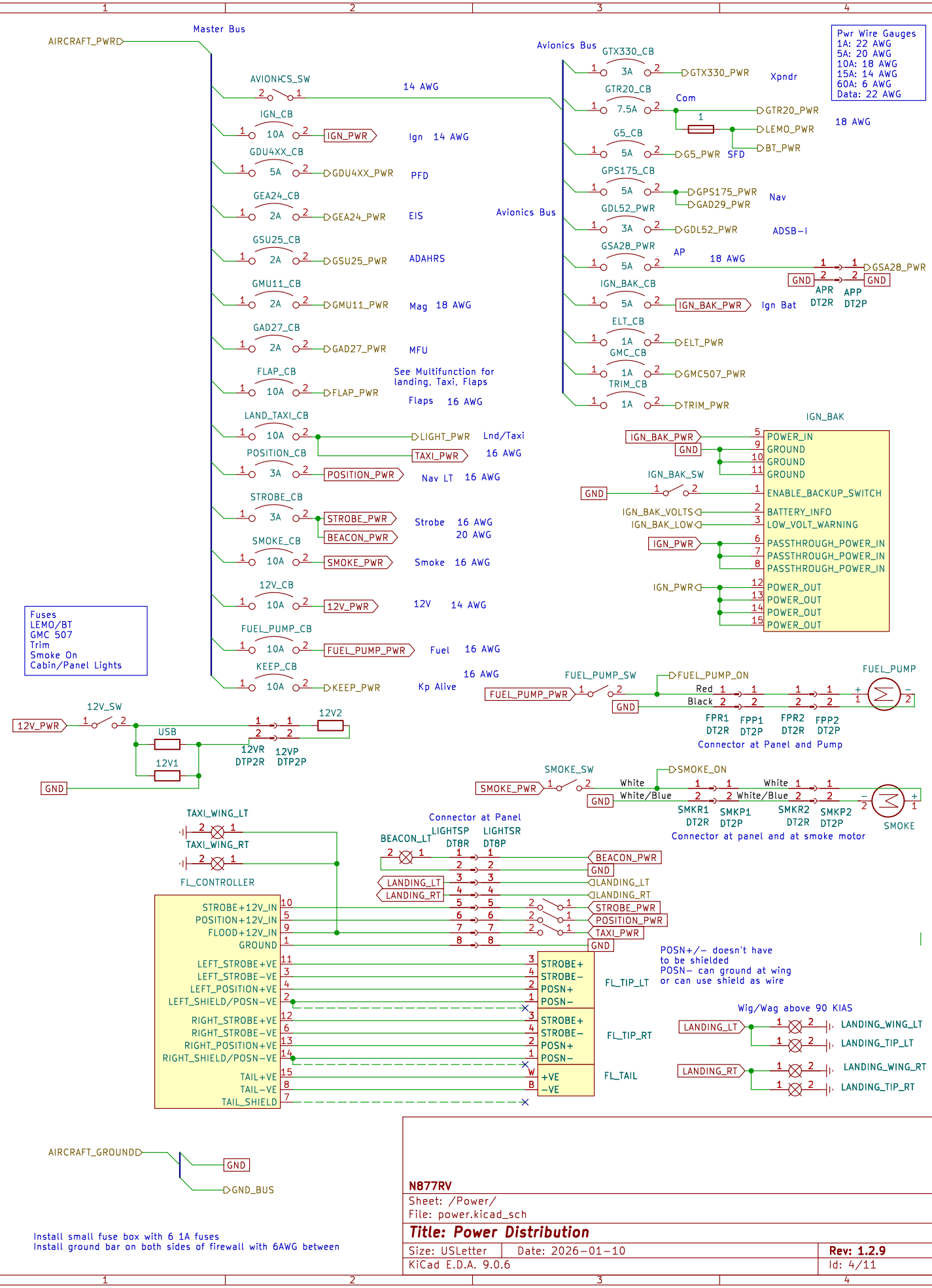
N877RV	
Sheet: /Overview/	
File: overview.kicad_sch	
Title: System Overview	
Size: USLetter | Date: 2025-12-24	**Rev: 1.2**
KiCad E.D.A. 9.0.6	Id: 1/11

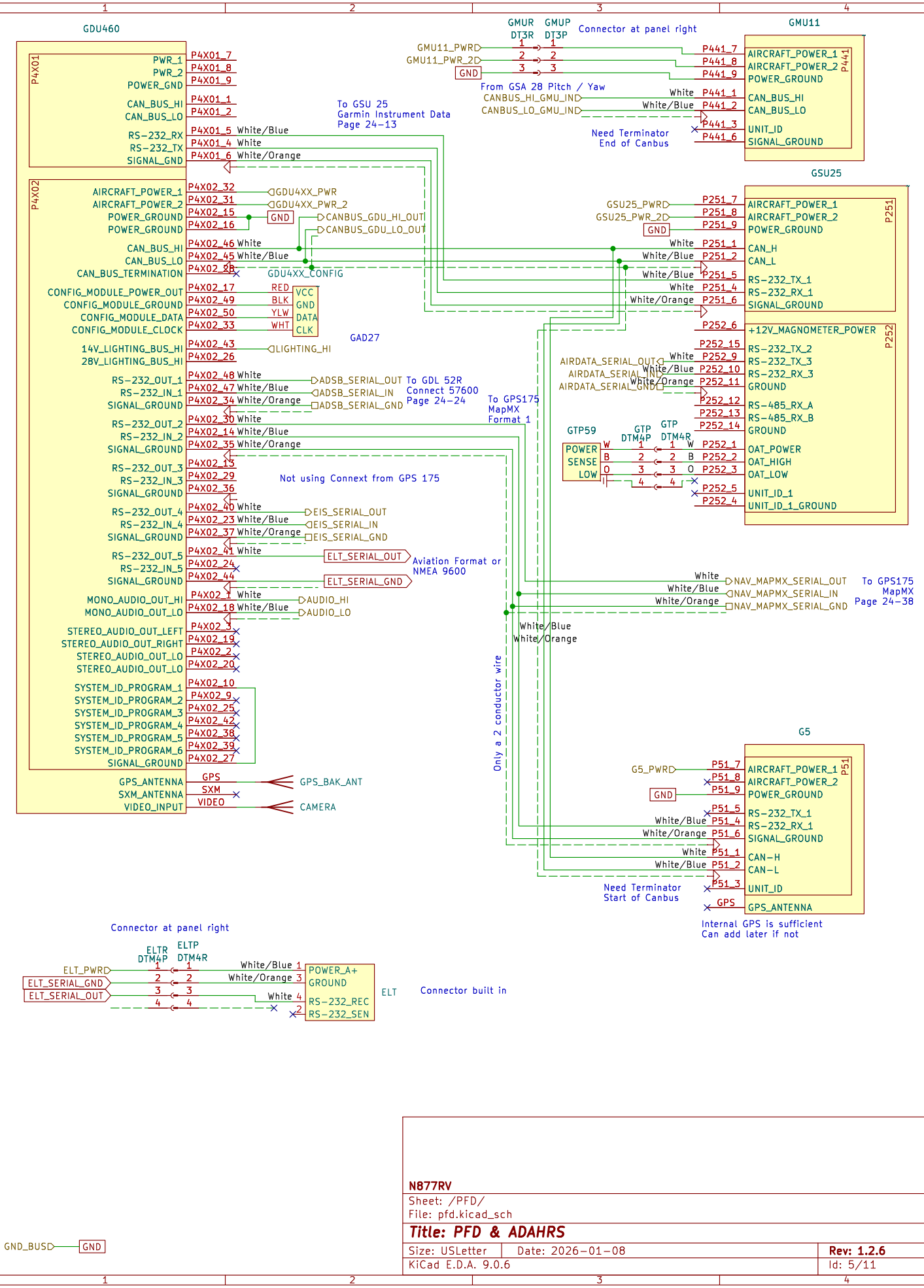


Sheet: /Lycoming/
File: lycoming.kicad_sch

Title: Lycoming

Size: A4	Date: 2026-01-03	**Rev: 1.2.4**
KiCad E.D.A. 9.0.6		Id: 3/11


Pwr Wire Gauges
1A: 22 AWG
5A: 20 AWG
10A: 18 AWG
15A: 14 AWG
60A: 6 AWG
Data: 22 AWG
AIRCRAFT_PWR
Master Bus
AVIONICS_SW
14 AWG
IGN_CB
10A
IGN_PWR
Ign 14 AWG
GDU4XX_CB
5A
GDU4XX_PWR
PFD
GEA24_CB
2A
GEA24_PWR
EIS
GSU25_CB
2A
GSU25_PWR
ADAHRS
GMU11_CB
2A
GMU11_PWR
Mag 18 AWG
GAD27_CB
2A
GAD27_PWR
MFU
FLAP_CB
10A
FLAP_PWR
See Multifunction for landing, Taxi, Flaps
Flaps 16 AWG
LAND_TAXI_CB
10A
LIGHT_PWR
Lnd/Taxi
TAXI_PWR
16 AWG
POSITION_CB
3A
POSITION_PWR
Nav LT 16 AWG
STROBE_CB
3A
STROBE_PWR
BEACON_PWR
Strobe 16 AWG
20 AWG
SMOKE_CB
10A
SMOKE_PWR
Smoke 16 AWG
12V_CB
10A
12V_PWR
12V 14 AWG
FUEL_PUMP_CB
10A
FUEL_PUMP_PWR
Fuel 16 AWG
KEEP_CB
10A
KEEP_PWR
16 AWG
Kp Alive
Avionics Bus
GTX330_CB
3A
GTX330_PWR
Xpndr
GTR20_CB
7.5A
Com
GTR20_PWR
LEMO_PWR
18 AWG
G5_CB
5A
G5_PWR
SFD
BT_PWR
GPS175_CB
5A
GPS175_PWR
GAD29_PWR
Nav
GDL52_PWR
3A
GDL52_PWR
ADSB-I
GSA28_PWR
AP
18 AWG
GSA28_PWR
GND
APR DT2R
APP DT2P
IGN_BAK_CB
5A
IGN_BAK_PWR
Ign Bat
ELT_CB
1A
ELT_PWR
GMC_CB
1A
GMC507_PWR
TRIM_CB
1A
TRIM_PWR
IGN_BAK
POWER_IN
GROUND
GROUND
GROUND
ENABLE_BACKUP_SWITCH
BATTERY_INFO
LOW_VOLT_WARNING
PASSTHROUGH_POWER_IN
PASSTHROUGH_POWER_IN
PASSTHROUGH_POWER_IN
POWER_OUT
POWER_OUT
POWER_OUT
POWER_OUT
IGN_BAK_SW
IGN_BAK_VOLTS
IGN_BAK_LOW
Fuses
LEMO/BT
GMC 507
Trim
Smoke On
Cabin/Panel Lights
12V_SW
USB
12V1
12V2
12VR DTP2R
12VP DTP2P
FUEL_PUMP_SW
FUEL_PUMP_ON
FUEL_PUMP
Red
Black
FPR1 DT2R
FPP1 DT2P
FPR2 DT2R
FPP2 DT2P
Connector at Panel and Pump
SMOKE_SW
SMOKE_ON
White
White/Blue
SMKR1 DT2R
SMKP1 DT2P
SMKR2 DT2R
SMKP2 DT2P
SMOKE
Connector at panel and at smoke motor
TAXI_WING_LT
TAXI_WING_RT
FL_CONTROLLER
Connector at Panel
LIGHTSP DT8R
LIGHTSR DT8P
BEACON_LT
LANDING_LT
LANDING_RT
STROBE+12V_IN
POSITION+12V_IN
FLOOD+12V_IN
GROUND
LEFT_STROBE+VE
LEFT_STROBE-VE
LEFT_POSITION+VE
LEFT_SHIELD/POSN-VE
RIGHT_STROBE+VE
RIGHT_STROBE-VE
RIGHT_POSITION+VE
RIGHT_SHIELD/POSN-VE
TAIL+VE
TAIL-VE
TAIL_SHIELD
STROBE+
STROBE-
POSN+
POSN-
FL_TIP_LT
FL_TIP_RT
FL_TAIL
+VE
-VE
POSN+/- doesn't have to be shielded
POSN- can ground at wing or can use shield as wire
Wig/Wag above 90 KIAS
LANDING_WING_LT
LANDING_TIP_LT
LANDING_WING_RT
LANDING_TIP_RT
AIRCRAFT_GROUND
GND_BUS
Install small fuse box with 6 1A fuses
Install ground bar on both sides of firewall with 6AWG between
N877RV
Sheet: /Power/
File: power.kicad_sch
Title: Power Distribution
Size: USLetter
Date: 2026-01-10
Rev: 1.2.9
KiCad E.D.A. 9.0.6
Id: 4/11


GDU460
P4X01
PWR_1
PWR_2
POWER_GND
CAN_BUS_HI
CAN_BUS_LO
RS-232_RX
RS-232_TX
SIGNAL_GND
P4X02
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
POWER_GROUND
CAN_BUS_HI
CAN_BUS_LO
CAN_BUS_TERMINATION
CONFIG_MODULE_POWER_OUT
CONFIG_MODULE_GROUND
CONFIG_MODULE_DATA
CONFIG_MODULE_CLOCK
14V_LIGHTING_BUS_HI
28V_LIGHTING_BUS_HI
RS-232_OUT_1
RS-232_IN_1
SIGNAL_GROUND
RS-232_OUT_2
RS-232_IN_2
SIGNAL_GROUND
RS-232_OUT_3
RS-232_IN_3
SIGNAL_GROUND
RS-232_OUT_4
RS-232_IN_4
SIGNAL_GROUND
RS-232_OUT_5
RS-232_IN_5
SIGNAL_GROUND
MONO_AUDIO_OUT_HI
MONO_AUDIO_OUT_LO
STEREO_AUDIO_OUT_LEFT
STEREO_AUDIO_OUT_RIGHT
STEREO_AUDIO_OUT_LO
STEREO_AUDIO_OUT_LO
SYSTEM_ID_PROGRAM_1
SYSTEM_ID_PROGRAM_2
SYSTEM_ID_PROGRAM_3
SYSTEM_ID_PROGRAM_4
SYSTEM_ID_PROGRAM_5
SYSTEM_ID_PROGRAM_6
SIGNAL_GROUND
GPS_ANTENNA
SXM_ANTENNA
VIDEO_INPUT
GPS
SXM
VIDEO
GPS_BAK_ANT
CAMERA
P4X01_7
P4X01_8
P4X01_9
P4X01_1
P4X01_2
P4X01_5 White/Blue
P4X01_4 White
P4X01_6 White/Orange
To GSU 25
Garmin Instrument Data
Page 24-13
P4X02_32
P4X02_31
P4X02_15
P4X02_16
GDU4XX_PWR
GDU4XX_PWR_2
GND
CANBUS_GDU_HI_OUT
CANBUS_GDU_LO_OUT
P4X02_46 White
P4X02_45 White/Blue
P4X02_28
GDU4XX_CONFIG
P4X02_17 RED
P4X02_49 BLK
P4X02_50 YLW
P4X02_33 WHT
VCC
GND
DATA
CLK
GAD27
P4X02_43
P4X02_26
LIGHTING_HI
P4X02_48 White
P4X02_47 White/Blue
P4X02_34 White/Orange
ADSB_SERIAL_OUT
ADSB_SERIAL_IN
ADSB_SERIAL_GND
To GDL 52R
Connect 57600
Page 24-24
P4X02_30 White
P4X02_14 White/Blue
P4X02_35 White/Orange
To GPS175
MapMX
Format 1
P4X02_13
P4X02_29
P4X02_36
Not using Connext from GPS 175
P4X02_40 White
P4X02_23 White/Blue
P4X02_37 White/Orange
EIS_SERIAL_OUT
EIS_SERIAL_IN
EIS_SERIAL_GND
P4X02_41 White
P4X02_24
P4X02_44
ELT_SERIAL_OUT
ELT_SERIAL_GND
Aviation Format or
NMEA 9600
P4X02_1 White
P4X02_18 White/Blue
AUDIO_HI
AUDIO_LO
P4X02_3
P4X02_19
P4X02_2
P4X02_20
P4X02_10
P4X02_9
P4X02_25
P4X02_42
P4X02_38
P4X02_39
P4X02_27
GMU11
GMUR DT3R
GMUP DT3P
Connector at panel right
GMU11_PWR
GMU11_PWR_2
GND
P441_7
P441_8
P441_9
From GSA 28 Pitch / Yaw
CANBUS_HI_GMU_IND
CANBUS_LO_GMU_IND
White P441_1
White/Blue P441_2
P441_3
P441_6
Need Terminator
End of Canbus
P441
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
CAN_BUS_HI
CAN_BUS_LO
UNIT_ID
SIGNAL_GROUND
GSU25
GSU25_PWR
GSU25_PWR_2
GND
P251_7
P251_8
P251_9
White P251_1
White/Blue P251_2
White/Blue P251_5
White P251_4
White/Orange P251_6
P251
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
CAN_H
CAN_L
RS-232_TX_1
RS-232_RX_1
SIGNAL_GROUND
P252_6
P252_15
White P252_9
White/Blue P252_10
White/Orange P252_11
P252_12
P252_13
P252_14
P252_1
P252_2
P252_3
P252_5
P252_4
AIRDATA_SERIAL_OUT
AIRDATA_SERIAL_IN
AIRDATA_SERIAL_GND
GTP59
POWER
SENSE
LOW
GTP DTM4P
GTP DTM4R
P252
+12V_MAGNOMETER_POWER
RS-232_TX_2
RS-232_TX_3
RS-232_RX_3
GROUND
RS-485_RX_A
RS-485_RX_B
GROUND
OAT_POWER
OAT_HIGH
OAT_LOW
UNIT_ID_1
UNIT_ID_1_GROUND
White
White/Blue
White/Orange
NAV_MAPMX_SERIAL_OUT
NAV_MAPMX_SERIAL_IN
NAV_MAPMX_SERIAL_GND
To GPS175
MapMX
Page 24-38
White/Blue
White/Orange
Only a 2 conductor wire
G5
G5_PWR
GND
P51_7
P51_8
P51_9
P51_5
White/Blue P51_4
White/Orange P51_6
White P51_1
White/Blue P51_2
P51_3
GPS
Need Terminator
Start of Canbus
P51
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
RS-232_TX_1
RS-232_RX_1
SIGNAL_GROUND
CAN-H
CAN-L
UNIT_ID
GPS_ANTENNA
Internal GPS is sufficient
Can add later if not
Connector at panel right
ELTR DTM4P
ELTP DTM4R
ELT_PWR
ELT_SERIAL_GND
ELT_SERIAL_OUT
White/Blue 1
White/Orange 3
White 4
POWER_A+
GROUND
RS-232_REC
RS-232_SEN
ELT
Connector built in
GND_BUS
GND
N877RV
Sheet: /PFD/
File: pfd.kicad_sch
Title: PFD & ADAHRS
Size: USLetter
Date: 2026-01-08
Rev: 1.2.6
KiCad E.D.A. 9.0.6
Id: 5/11

GEA24

P241
AIRCRAFT_POWER_1 — P241_7 — GEA24_PWR
AIRCRAFT_POWER_2 — P241_8 — GEA24_PWR_2
GROUND — P241_9 — GND
CAN_HI — P241_1 White — CAN_HI_IN
CAN_LO — P241_2 White/Blue — CAN_LOW_IN
RS-232_TX — P241_5 White/Blue — EIS_SERIAL_OUT
RS-232_RX — P241_4 White — EIS_SERIAL_IN
SIGNAL_GND — P241_6 White/Orange — EIS_SERIAL_GND
CAN_HI_OUT
CAN_LO_OUT

P242
CHT1_HI — P242_24 Yellow — CHT1 +
CHT1_LO — P242_12 Red — CHT1 −
CHT2_HI — P242_22 — CHT2 +
CHT2_LO — P242_10 — CHT2 −
CHT3_HI — P242_20 — CHT4 +
CHT3_LO — P242_8 — CHT4 −
CHT4_HI — P242_18 — CHT3 +
CHT4_LO — P242_6 — CHT3 −
K-Type
Yellow Connectors
CHT5_HI/CHT1_RESISTIVE_HI — P242_16
CHT5_LO/CHT1_RESISTIVE_LO — P242_4
CHT5_HI/CHT2_RESISTIVE_HI — P242_14
CHT6_LO/CHT2_RESISTIVE_LO — P242_2

EGT1_HI — P242_25 Yellow — EGT1 +
EGT1_LO — P242_13 Red — EGT1 −
EGT_2_HI — P242_23 — EGT2 +
EGT2_LO — P242_11 — EGT2 −
EGT3_HI — P242_21 — EGT3 +
EGT3_LO — P242_9 — EGT3 −
EGT4_HI — P242_19 — EGT4 +
EGT4_LO — P242_7 — EGT4 −
K Type
Yellow Connectors
EGT5_HI — P242_17
EGT5_LO — P242_5
EGT6_HI — P242_15
EGT6_LO — P242_3

P243
FUEL_PRESS — P243_2 White — FUEL_PRESSURE GPT 30G R
FUEL_PRESS_XDCR_+12V — P243_3 — VIN
FUEL_PRESS_XDCR_+5V — P243_4 White/Orange — G OUPUT
FUEL_PRESS_GND — P243_1 White/Blue — B GROUND
Connector Built In

RPM_1 — P243_8 White — SureFly_TACH1
RPM_XDCR_+12V_1 — P243_9 White/Orange — POWER
RPM_XDCR_GND_1 — P243_7 White/Blue — GROUND
L_PLEAD — L_PLEAD
R_PLEAD — R_PLEAD
SHLD_GND
TACH_0-5V
L_HRZN
R_HRZN
Screw Terminals
No connector required
RPM_2 — P243_6
RPM_XDCR_+12V_2 — P243_10
RPM_XDCR_GND_2 — P243_5

MANIFOLD_PRESS — P243_13 White — MANIFOLD_PRESSURE GPT 30A R
MANIFOLD_PRESS_XDCR_+12V — P243_14 — VIN
MANIFOLD_PRESS_XDCR_+5V — P243_15 White/Orange — G OUPUT
MANIFOLD_PRESS_GND — P243_12 White/Blue — B GROUND
Connector Built In

OIL_PRESS_HI — P243_17 White — OIL_PRESSURE GPT 150G R
OIL_PRESS_XDCR_+12V — P243_18 — VIN
OIL_PRESS_XDCR_+5V — P243_19 White/Orange — G OUPUT
OIL_PRESS_GND — P243_16 White/Blue — B GROUND
Connector Built In

Shared with J244_37 FUEL_RETURN — P243_21
FUEL_XDCR_+12V_1 — P243_24 White/Orange — FFR FFP DTM3R DTM3P
GUEL_XDCR_GND_1 — P243_20 — White/Orange 1 1 R POWER
White 2 2 B GROUND
Shared with J244_36 FUEL_FLOW — P243_23 White — White/Blue 3 3 W SIGNAL_OUT
FUEL_XDCR_+12V_2 — P243_25 — FUEL_FLOW FT-60
FUEL_XDCR_GND_2 — P243_22 White/Blue

GP+5V_1 — P243_26
GP_GND_1 — P243_27
CTR CTP DTM2R DTM2P
POS_6/TIT_1/MISC_TEMP_1_HI — P243_31 — 1 1
POS_6/TIT_1/MISC_TEMP_1_LO — P243_30 — 2 2
POS_7/TIT_2/MISC_TEMP_2_HI — P243_29 — CARB_TEMP
POS_7/TIT_2/MISC_TEMP_2_LO — P243_28 — IGN_BAK_VOLTS
OTR OTP DTM2R DTM2P
OIL_TEMP_HI — P243_33 White — 1 1
OIL_TEMP_LO — P243_32 White/Blue — 2 2 — OIL_TEMP

SHUNT_1_HI — P243_37 Red — AMPS_HI
SHUNT_1_LO — P243_36 Black — AMPS_LO
Shared with J244_46 SHUNT_2_HI — P243_35
Shared with J244_47 SHUNT_2_LO — P243_34

P244
FADEC_CAN2_H — P244_17
FADEC_CAN2_L — P244_33
GEA24B Only
FADEC_CAN3_HI — P244_47
FADEC_CAN3_LO — P244_49

FUEL_QTY_1 — P244_6 — FUEL_LEFT
FUEL_QTY_+5V_1 — P244_5
FUEL_QTY_1_GND — P244_7

FUEL_QTY_2 — P244_9 — FUEL_RIGHT
FUEL_QTY_+5V_2 — P244_8
FUEL_QTY_2_GND — P244_10
COR COP DTM6R DTM6P
1 1 RED +5V
2 2 BLK GROUND
3 3 WHT CO
4 4 YLW O2_PSI
5 5 BLU SPO2
6 6 GRN RS232
Analog
CO
Aithre 3.0

POS_3/GP_3/FUEL_QTY_3 — P244_12 White
POS_3_HI/+5V_3 — P244_11 White/Red
POS_3_LO/GND — P244_13 White/Orange

POS_4/GP_4/FUEL_QTY_4 — P244_15 White/Yellow
POS_4_HI/+5V_4 — P244_14
POS_4_LO/GND — P244_16

POS_5/GP_5/FUEL_QTY_5 — P244_31 White/Blue
POS_5_HI/+5V_5 — P244_30
POS_5_LO/GND — P244_32

GP1/POS_1 — P244_19 White — PITCH_TRIM_POS
GP1_HI/+5V — P244_18 White/Orange — PITCH_TRIM_HI
GP1_LO/GND — P244_20 White/Blue — PITCH_TRIM_LO

GP2/POS_2 — P244_22 White — 1 1 — O +5V
GP2_HI/+5V — P244_21 White/Orange — 2 2 — G SENSE
GP2_LO/GND — P244_23 White/Blue — 3 3 — B LOW — FLAPS_POS
FLAPR2 FLAPP2
DTM3R DTM3P
Connector at Flaps

GP_+5V_2 — P244_24
GP_GND_2 — P244_26
GP_+5V_3 — P244_27
GP_GND_3 — P244_29
GP_+12V — P244_50

VOLTS_1 — P244_25 — Configure "VOLTS 1" input to "EIS Power Input 1 Volts"
VOLTS_2 — P244_28

Shared with J243_23 FUEL_FLOW — P244_36
FUEL_XDCR_+12V_3 — P244_34
FUEL_XDCR_GND_3 — P244_38

Shared with J243_21 FUEL_RETURN — P244_37
FUEL_XDCR_+12V_4 — P244_35
FUEL_XDCR_GND_4 — P244_39

Connector at battery
DISCRETE_IN_1 — P244_40 — 1 1 — EARTHX_IN — Active low
DISCRETE_IN_2 — P244_41 White
DISCRETE_IN_3 — P244_42
DISCRETE_IN_4 — P244_43
DISR DISP DTM6R DTM6P
1 1
2 2
3 3
4 4
5 5
6 6 — BAK_BATTERY_VOLTS

Shared with J243_35 SHUNT_2_HI — P244_46
Shared with J243_34 SHUNT_2_LO — P244_47

DISCRETE_OUT_1/WARNING — P244_44
DISCRETE_OUT_2/CAUTION — P244_45

WARNING
RED LED_PWR
BLACK LED_GND
YELLOW NC
BLUE NO
GREEN COMMON
Connector built in

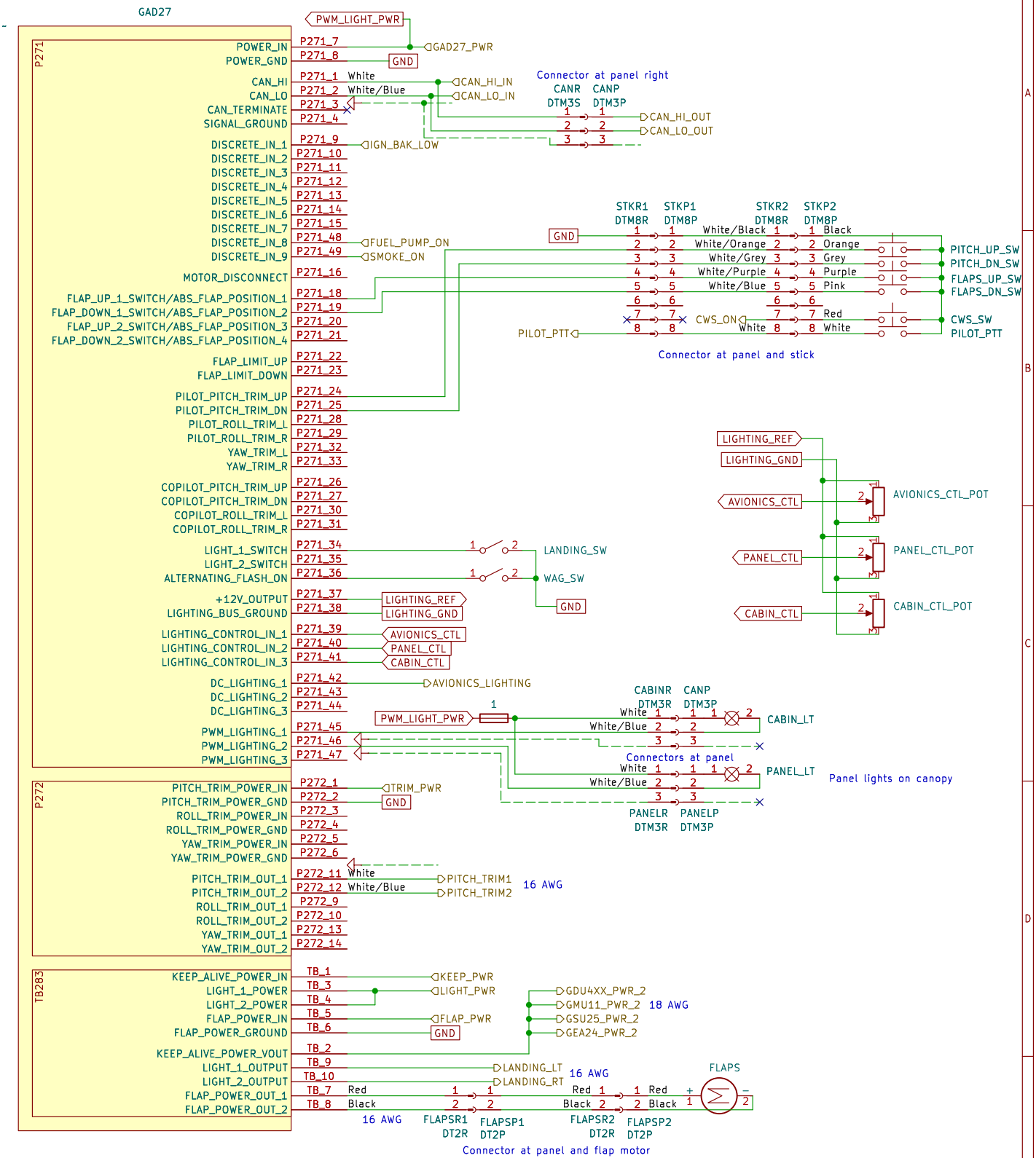
CAUTION
RED LED_PWR
BLACK LED_GND
YELLOW NC
BLUE NO
GREEN COMMON
Connector built in

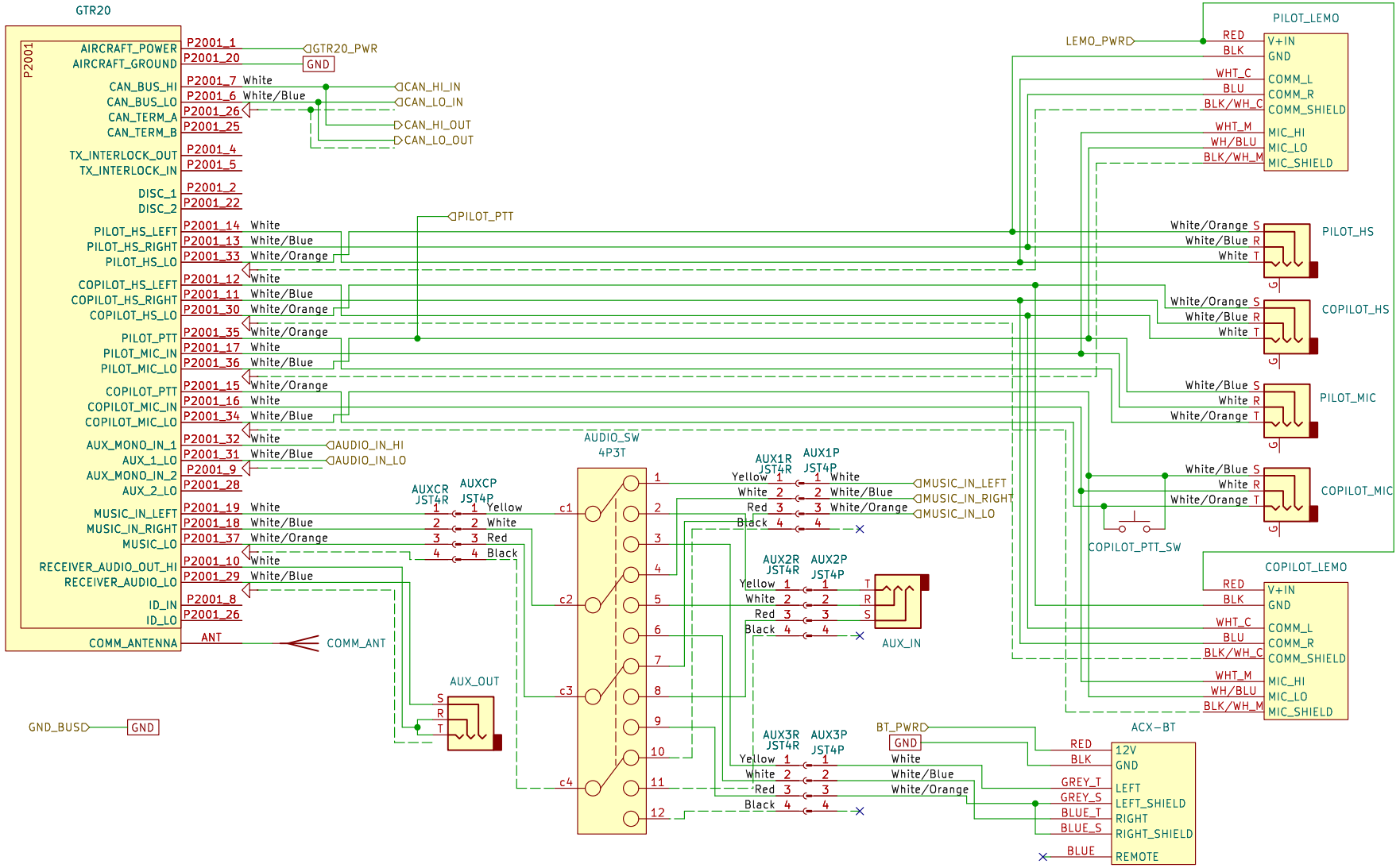
GLIDE_SW — GND

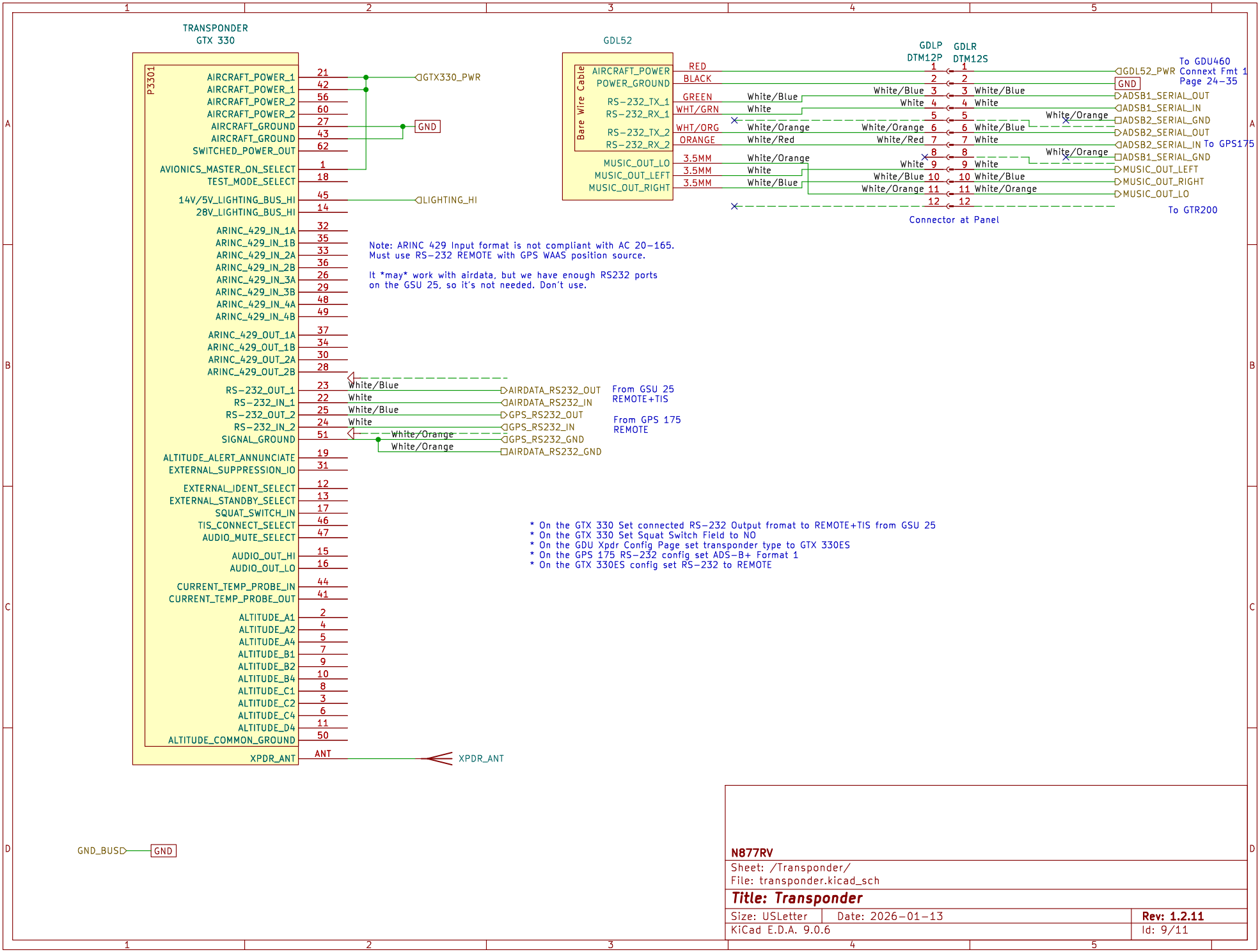
SYSTEM_ID_1A — P244_1
SYSTEM_ID_1B_/_GND — P244_2
Or consider doing connector for ground & power
and harness goes with engine harness

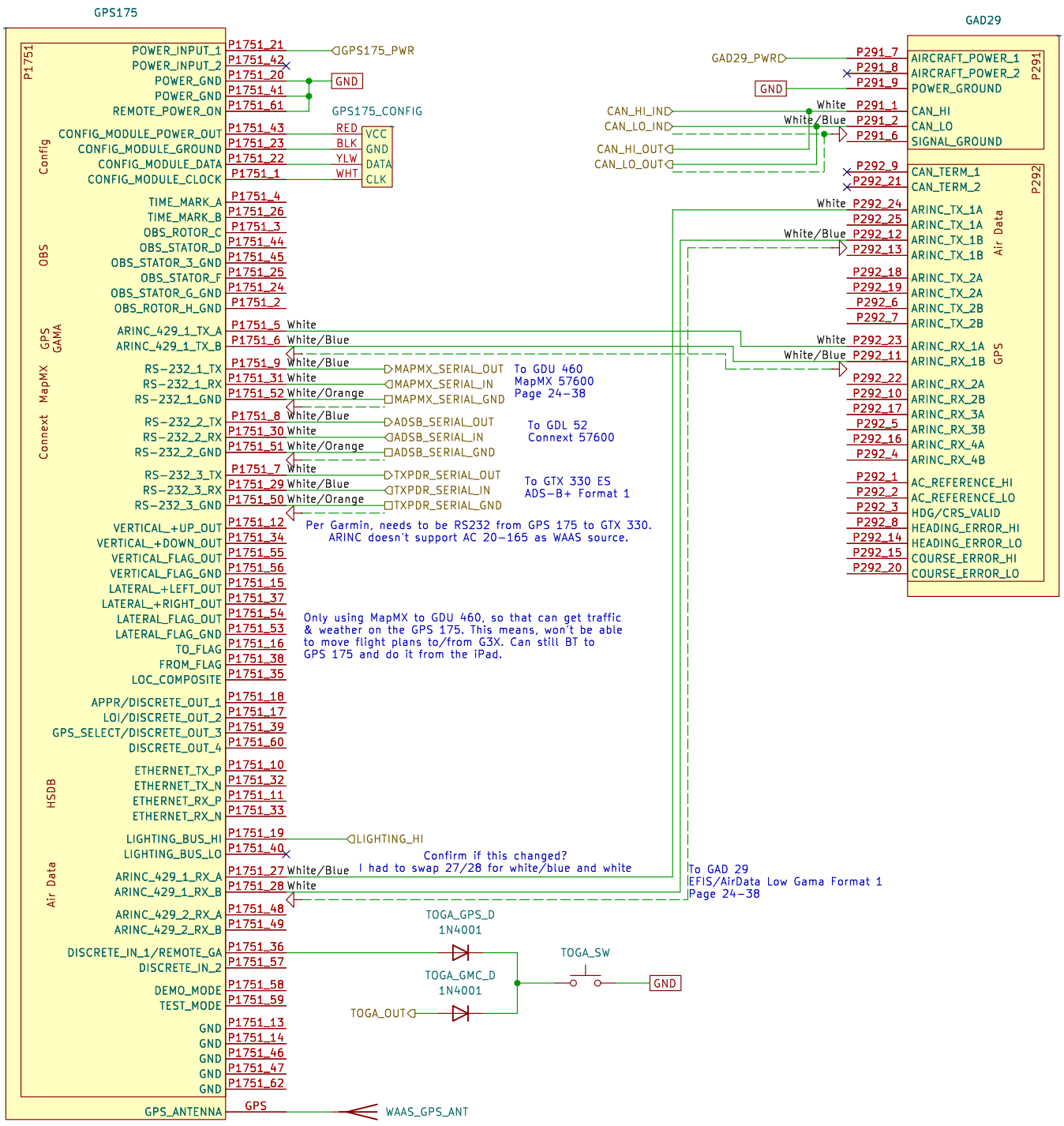
GND_BUS — GND

N877RV	
Sheet: /EIS/	
File: eis.kicad_sch	
Title: EIS	
Size: USLedger	Date: 2026-01-06
KiCad E.D.A. 9.0.6	Rev: 1.2.5
	Id: 6/11


GAD27
P271
POWER_IN
POWER_GND
CAN_HI
CAN_LO
CAN_TERMINATE
SIGNAL_GROUND
DISCRETE_IN_1
DISCRETE_IN_2
DISCRETE_IN_3
DISCRETE_IN_4
DISCRETE_IN_5
DISCRETE_IN_6
DISCRETE_IN_7
DISCRETE_IN_8
DISCRETE_IN_9
MOTOR_DISCONNECT
FLAP_UP_1_SWITCH/ABS_FLAP_POSITION_1
FLAP_DOWN_1_SWITCH/ABS_FLAP_POSITION_2
FLAP_UP_2_SWITCH/ABS_FLAP_POSITION_3
FLAP_DOWN_2_SWITCH/ABS_FLAP_POSITION_4
FLAP_LIMIT_UP
FLAP_LIMIT_DOWN
PILOT_PITCH_TRIM_UP
PILOT_PITCH_TRIM_DN
PILOT_ROLL_TRIM_L
PILOT_ROLL_TRIM_R
YAW_TRIM_L
YAW_TRIM_R
COPILOT_PITCH_TRIM_UP
COPILOT_PITCH_TRIM_DN
COPILOT_ROLL_TRIM_L
COPILOT_ROLL_TRIM_R
LIGHT_1_SWITCH
LIGHT_2_SWITCH
ALTERNATING_FLASH_ON
+12V_OUTPUT
LIGHTING_BUS_GROUND
LIGHTING_CONTROL_IN_1
LIGHTING_CONTROL_IN_2
LIGHTING_CONTROL_IN_3
DC_LIGHTING_1
DC_LIGHTING_2
DC_LIGHTING_3
PWM_LIGHTING_1
PWM_LIGHTING_2
PWM_LIGHTING_3
P272
PITCH_TRIM_POWER_IN
PITCH_TRIM_POWER_GND
ROLL_TRIM_POWER_IN
ROLL_TRIM_POWER_GND
YAW_TRIM_POWER_IN
YAW_TRIM_POWER_GND
PITCH_TRIM_OUT_1
PITCH_TRIM_OUT_2
ROLL_TRIM_OUT_1
ROLL_TRIM_OUT_2
YAW_TRIM_OUT_1
YAW_TRIM_OUT_2
TB283
KEEP_ALIVE_POWER_IN
LIGHT_1_POWER
LIGHT_2_POWER
FLAP_POWER_IN
FLAP_POWER_GROUND
KEEP_ALIVE_POWER_VOUT
LIGHT_1_OUTPUT
LIGHT_2_OUTPUT
FLAP_POWER_OUT_1
FLAP_POWER_OUT_2
PWM_LIGHT_PWR
GAD27_PWR
GND
CAN_HI_IN
CAN_LO_IN
Connector at panel right
CANR CANP
DTM3S DTM3P
CAN_HI_OUT
CAN_LO_OUT
IGN_BAK_LOW
FUEL_PUMP_ON
SMOKE_ON
STKR1 STKP1
DTM8R DTM8P
STKR2 STKP2
DTM8R DTM8P
White/Black
White/Orange
White/Grey
White/Purple
White/Blue
Black
Orange
Grey
Purple
Pink
Red
White
PITCH_UP_SW
PITCH_DN_SW
FLAPS_UP_SW
FLAPS_DN_SW
CWS_SW
PILOT_PTT
CWS_ON
Connector at panel and stick
LIGHTING_REF
LIGHTING_GND
AVIONICS_CTL
PANEL_CTL
CABIN_CTL
AVIONICS_CTL_POT
PANEL_CTL_POT
CABIN_CTL_POT
LANDING_SW
WAG_SW
AVIONICS_LIGHTING
CABINR CANP
DTM3R DTM3P
CABIN_LT
PANEL_LT
Connectors at panel
PANELR PANELP
DTM3R DTM3P
Panel lights on canopy
TRIM_PWR
PITCH_TRIM1
PITCH_TRIM2
16 AWG
KEEP_PWR
LIGHT_PWR
FLAP_PWR
GDU4XX_PWR_2
GMU11_PWR_2
GSU25_PWR_2
GEA24_PWR_2
18 AWG
LANDING_LT
LANDING_RT
16 AWG
FLAPS
FLAPSR1 FLAPSP1
DT2R DT2P
FLAPSR2 FLAPSP2
DT2R DT2P
Connector at panel and flap motor
GND_BUS
Some flap & trim functions are in the EIS drawing, specifically the position sensors for the Flaps & Trim.
N877RV
Sheet: /Multifunction/
File: multifunction.kicad_sch
Title: Flaps, Lights & Trim
Size: USLetter
Date: 2026-01-13
Rev: 1.2.11
KiCad E.D.A. 9.0.6
Id: 7/11


GTR20
P2001
AIRCRAFT_POWER
AIRCRAFT_GROUND
CAN_BUS_HI
CAN_BUS_LO
CAN_TERM_A
CAN_TERM_B
TX_INTERLOCK_OUT
TX_INTERLOCK_IN
DISC_1
DISC_2
PILOT_HS_LEFT
PILOT_HS_RIGHT
PILOT_HS_LO
COPILOT_HS_LEFT
COPILOT_HS_RIGHT
COPILOT_HS_LO
PILOT_PTT
PILOT_MIC_IN
PILOT_MIC_LO
COPILOT_PTT
COPILOT_MIC_IN
COPILOT_MIC_LO
AUX_MONO_IN_1
AUX_1_LO
AUX_MONO_IN_2
AUX_2_LO
MUSIC_IN_LEFT
MUSIC_IN_RIGHT
MUSIC_LO
RECEIVER_AUDIO_OUT_HI
RECEIVER_AUDIO_LO
ID_IN
ID_LO
COMM_ANTENNA
P2001_1
P2001_20
P2001_7 White
P2001_6 White/Blue
P2001_26
P2001_25
P2001_4
P2001_5
P2001_2
P2001_22
P2001_14 White
P2001_13 White/Blue
P2001_33 White/Orange
P2001_12 White
P2001_11 White/Blue
P2001_30 White/Orange
P2001_35 White/Orange
P2001_17 White
P2001_36 White/Blue
P2001_15 White/Orange
P2001_16 White
P2001_34 White/Blue
P2001_32 White
P2001_31 White/Blue
P2001_9
P2001_28
P2001_19 White
P2001_18 White/Blue
P2001_37 White/Orange
P2001_10 White
P2001_29 White/Blue
P2001_8
P2001_26
ANT
GTR20_PWR
GND
CAN_HI_IN
CAN_LO_IN
CAN_HI_OUT
CAN_LO_OUT
PILOT_PTT
AUDIO_IN_HI
AUDIO_IN_LO
COMM_ANT
GND_BUS
GND
AUDIO_SW
4P3T
c1
c2
c3
c4
AUXCR
JST4R
AUXCP
JST4P
1 Yellow
2 White
3 Red
4 Black
AUX_OUT
S
R
T
AUX1R
JST4R
AUX1P
JST4P
Yellow 1
White 2
Red 3
Black 4
1 White
2 White/Blue
3 White/Orange
4
MUSIC_IN_LEFT
MUSIC_IN_RIGHT
MUSIC_IN_LO
AUX2R
JST4R
AUX2P
JST4P
T
R
S
AUX_IN
AUX3R
JST4R
AUX3P
JST4P
BT_PWR
GND
White
White/Blue
White/Orange
ACX-BT
RED
BLK
12V
GND
GREY_T
GREY_S
BLUE_T
BLUE_S
BLUE
LEFT
LEFT_SHIELD
RIGHT
RIGHT_SHIELD
REMOTE
LEMO_PWR
PILOT_LEMO
V+IN
GND
WHT_C
BLU
BLK/WH_C
COMM_L
COMM_R
COMM_SHIELD
WHT_M
WH/BLU
BLK/WH_M
MIC_HI
MIC_LO
MIC_SHIELD
PILOT_HS
White/Orange S
White/Blue R
White T
G
COPILOT_HS
PILOT_MIC
White/Blue S
White R
White/Orange T
COPILOT_MIC
COPILOT_PTT_SW
COPILOT_LEMO
Consider JST x4
* Common (GTR)
* 1 (Music In)
* 2 (Aux In)
* 3 (BT In)
If so wire:
Left: White
Right: White/Blue
Lo: White/Orange
N877RV
Sheet: /Communication/
File: communication.kicad_sch
Title: Communication
Size: USLetter
Date: 2026-01-13
Rev: 1.2.11
KiCad E.D.A. 9.0.6
Id: 8/11


TRANSPONDER
GTX 330
P3301
AIRCRAFT_POWER_1 21
AIRCRAFT_POWER_1 42
AIRCRAFT_POWER_2 56
AIRCRAFT_POWER_2 60
AIRCRAFT_GROUND 27
AIRCRAFT_GROUND 43
SWITCHED_POWER_OUT 62
AVIONICS_MASTER_ON_SELECT 1
TEST_MODE_SELECT 18
14V/5V_LIGHTING_BUS_HI 45
28V_LIGHTING_BUS_HI 14
ARINC_429_IN_1A 32
ARINC_429_IN_1B 35
ARINC_429_IN_2A 33
ARINC_429_IN_2B 36
ARINC_429_IN_3A 26
ARINC_429_IN_3B 29
ARINC_429_IN_4A 48
ARINC_429_IN_4B 49
ARINC_429_OUT_1A 37
ARINC_429_OUT_1B 34
ARINC_429_OUT_2A 30
ARINC_429_OUT_2B 28
RS-232_OUT_1 23
RS-232_IN_1 22
RS-232_OUT_2 25
RS-232_IN_2 24
SIGNAL_GROUND 51
ALTITUDE_ALERT_ANNUNCIATE 19
EXTERNAL_SUPPRESSION_IO 31
EXTERNAL_IDENT_SELECT 12
EXTERNAL_STANDBY_SELECT 13
SQUAT_SWITCH_IN 17
TIS_CONNECT_SELECT 46
AUDIO_MUTE_SELECT 47
AUDIO_OUT_HI 15
AUDIO_OUT_LO 16
CURRENT_TEMP_PROBE_IN 44
CURRENT_TEMP_PROBE_OUT 41
ALTITUDE_A1 2
ALTITUDE_A2 4
ALTITUDE_A4 5
ALTITUDE_B1 7
ALTITUDE_B2 9
ALTITUDE_B4 10
ALTITUDE_C1 8
ALTITUDE_C2 3
ALTITUDE_C4 6
ALTITUDE_D4 11
ALTITUDE_COMMON_GROUND 50
XPDR_ANT ANT
GTX330_PWR
GND
LIGHTING_HI
White/Blue
White
White/Blue
White
White/Orange
White/Orange
AIRDATA_RS232_OUT
AIRDATA_RS232_IN
GPS_RS232_OUT
GPS_RS232_IN
GPS_RS232_GND
AIRDATA_RS232_GND
From GSU 25
REMOTE+TIS
From GPS 175
REMOTE
XPDR_ANT
Note: ARINC 429 Input format is not compliant with AC 20-165.
Must use RS-232 REMOTE with GPS WAAS position source.
It *may* work with airdata, but we have enough RS232 ports
on the GSU 25, so it's not needed. Don't use.
* On the GTX 330 Set connected RS-232 Output fromat to REMOTE+TIS from GSU 25
* On the GTX 330 Set Squat Switch Field to NO
* On the GDU Xpdr Config Page set transponder type to GTX 330ES
* On the GPS 175 RS-232 config set ADS-B+ Format 1
* On the GTX 330ES config set RS-232 to REMOTE
GDL52
Bare Wire Cable
AIRCRAFT_POWER
POWER_GROUND
RS-232_TX_1
RS-232_RX_1
RS-232_TX_2
RS-232_RX_2
MUSIC_OUT_LO
MUSIC_OUT_LEFT
MUSIC_OUT_RIGHT
RED
BLACK
GREEN
WHT/GRN
WHT/ORG
ORANGE
3.5MM
3.5MM
3.5MM
White/Blue
White
White/Orange
White/Red
White/Orange
White
White/Blue
White/Orange
GDLP
DTM12P
GDLR
DTM12S
1 1
2 2
3 3 White/Blue
4 4 White
5 5 White/Orange
6 6 White/Blue
7 7 White
8 8 White/Orange
9 9 White
10 10 White/Blue
11 11 White/Orange
12 12
Connector at Panel
GDL52_PWR
GND
ADSB1_SERIAL_OUT
ADSB1_SERIAL_IN
ADSB2_SERIAL_GND
ADSB2_SERIAL_OUT
ADSB2_SERIAL_IN
ADSB1_SERIAL_GND
MUSIC_OUT_LEFT
MUSIC_OUT_RIGHT
MUSIC_OUT_LO
To GDU460
Connext Fmt 1
Page 24-35
To GPS175
To GTR200
GND_BUS
GND
N877RV
Sheet: /Transponder/
File: transponder.kicad_sch
Title: Transponder
Size: USLetter
Date: 2026-01-13
Rev: 1.2.11
KiCad E.D.A. 9.0.6
Id: 9/11


GPS175
P1751
POWER_INPUT_1
POWER_INPUT_2
POWER_GND
POWER_GND
REMOTE_POWER_ON
Config
CONFIG_MODULE_POWER_OUT
CONFIG_MODULE_GROUND
CONFIG_MODULE_DATA
CONFIG_MODULE_CLOCK
OBS
TIME_MARK_A
TIME_MARK_B
OBS_ROTOR_C
OBS_STATOR_D
OBS_STATOR_3_GND
OBS_STATOR_F
OBS_STATOR_G_GND
OBS_ROTOR_H_GND
GPS GAMA
ARINC_429_1_TX_A
ARINC_429_1_TX_B
MapMX
RS-232_1_TX
RS-232_1_RX
RS-232_1_GND
Connext
RS-232_2_TX
RS-232_2_RX
RS-232_2_GND
RS-232_3_TX
RS-232_3_RX
RS-232_3_GND
VERTICAL_+UP_OUT
VERTICAL_+DOWN_OUT
VERTICAL_FLAG_OUT
VERTICAL_FLAG_GND
LATERAL_+LEFT_OUT
LATERAL_+RIGHT_OUT
LATERAL_FLAG_OUT
LATERAL_FLAG_GND
TO_FLAG
FROM_FLAG
LOC_COMPOSITE
APPR/DISCRETE_OUT_1
LOI/DISCRETE_OUT_2
GPS_SELECT/DISCRETE_OUT_3
DISCRETE_OUT_4
HSDB
ETHERNET_TX_P
ETHERNET_TX_N
ETHERNET_RX_P
ETHERNET_RX_N
LIGHTING_BUS_HI
LIGHTING_BUS_LO
Air Data
ARINC_429_1_RX_A
ARINC_429_1_RX_B
ARINC_429_2_RX_A
ARINC_429_2_RX_B
DISCRETE_IN_1/REMOTE_GA
DISCRETE_IN_2
DEMO_MODE
TEST_MODE
GND
GND
GND
GND
GND
GPS_ANTENNA
P1751_21
P1751_42
P1751_20
P1751_41
P1751_61
P1751_43
P1751_23
P1751_22
P1751_1
P1751_4
P1751_26
P1751_3
P1751_44
P1751_45
P1751_25
P1751_24
P1751_2
P1751_5
P1751_6
P1751_9
P1751_31
P1751_52
P1751_8
P1751_30
P1751_51
P1751_7
P1751_29
P1751_50
P1751_12
P1751_34
P1751_55
P1751_56
P1751_15
P1751_37
P1751_54
P1751_53
P1751_16
P1751_38
P1751_35
P1751_18
P1751_17
P1751_39
P1751_60
P1751_10
P1751_32
P1751_11
P1751_33
P1751_19
P1751_40
P1751_27
P1751_28
P1751_48
P1751_49
P1751_36
P1751_57
P1751_58
P1751_59
P1751_13
P1751_14
P1751_46
P1751_47
P1751_62
GPS175_PWR
GND
GPS175_CONFIG
RED
BLK
YLW
WHT
VCC
GND
DATA
CLK
White
White/Blue
MAPMX_SERIAL_OUT
MAPMX_SERIAL_IN
White/Orange
MAPMX_SERIAL_GND
To GDU 460
MapMX 57600
Page 24-38
ADSB_SERIAL_OUT
ADSB_SERIAL_IN
ADSB_SERIAL_GND
To GDL 52
Connext 57600
TXPDR_SERIAL_OUT
TXPDR_SERIAL_IN
TXPDR_SERIAL_GND
To GTX 330 ES
ADS-B+ Format 1
Per Garmin, needs to be RS232 from GPS 175 to GTX 330.
ARINC doesn't support AC 20-165 as WAAS source.
Only using MapMX to GDU 460, so that can get traffic
& weather on the GPS 175. This means, won't be able
to move flight plans to/from G3X. Can still BT to
GPS 175 and do it from the iPad.
LIGHTING_HI
Confirm if this changed?
I had to swap 27/28 for white/blue and white
To GAD 29
EFIS/AirData Low Gama Format 1
Page 24-38
TOGA_GPS_D
1N4001
TOGA_GMC_D
1N4001
TOGA_SW
TOGA_OUT
GND
GPS
WAAS_GPS_ANT
GAD29
GAD29_PWR
P291_7
P291_8
P291_9
P291_1
P291_2
P291_6
P292_9
P292_21
P292_24
P292_25
P292_12
P292_13
P292_18
P292_19
P292_6
P292_7
P292_23
P292_11
P292_22
P292_10
P292_17
P292_5
P292_16
P292_4
P292_1
P292_2
P292_3
P292_8
P292_14
P292_15
P292_20
CAN_HI_IND
CAN_LO_IND
CAN_HI_OUT
CAN_LO_OUT
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
CAN_HI
CAN_LO
SIGNAL_GROUND
P291
CAN_TERM_1
CAN_TERM_2
ARINC_TX_1A
ARINC_TX_1A
ARINC_TX_1B
ARINC_TX_1B
ARINC_TX_2A
ARINC_TX_2A
ARINC_TX_2B
ARINC_TX_2B
Air Data
ARINC_RX_1A
ARINC_RX_1B
GPS
ARINC_RX_2A
ARINC_RX_2B
ARINC_RX_3A
ARINC_RX_3B
ARINC_RX_4A
ARINC_RX_4B
AC_REFERENCE_HI
AC_REFERENCE_LO
HDG/CRS_VALID
HEADING_ERROR_HI
HEADING_ERROR_LO
COURSE_ERROR_HI
COURSE_ERROR_LO
P292
GND_BUS
GND
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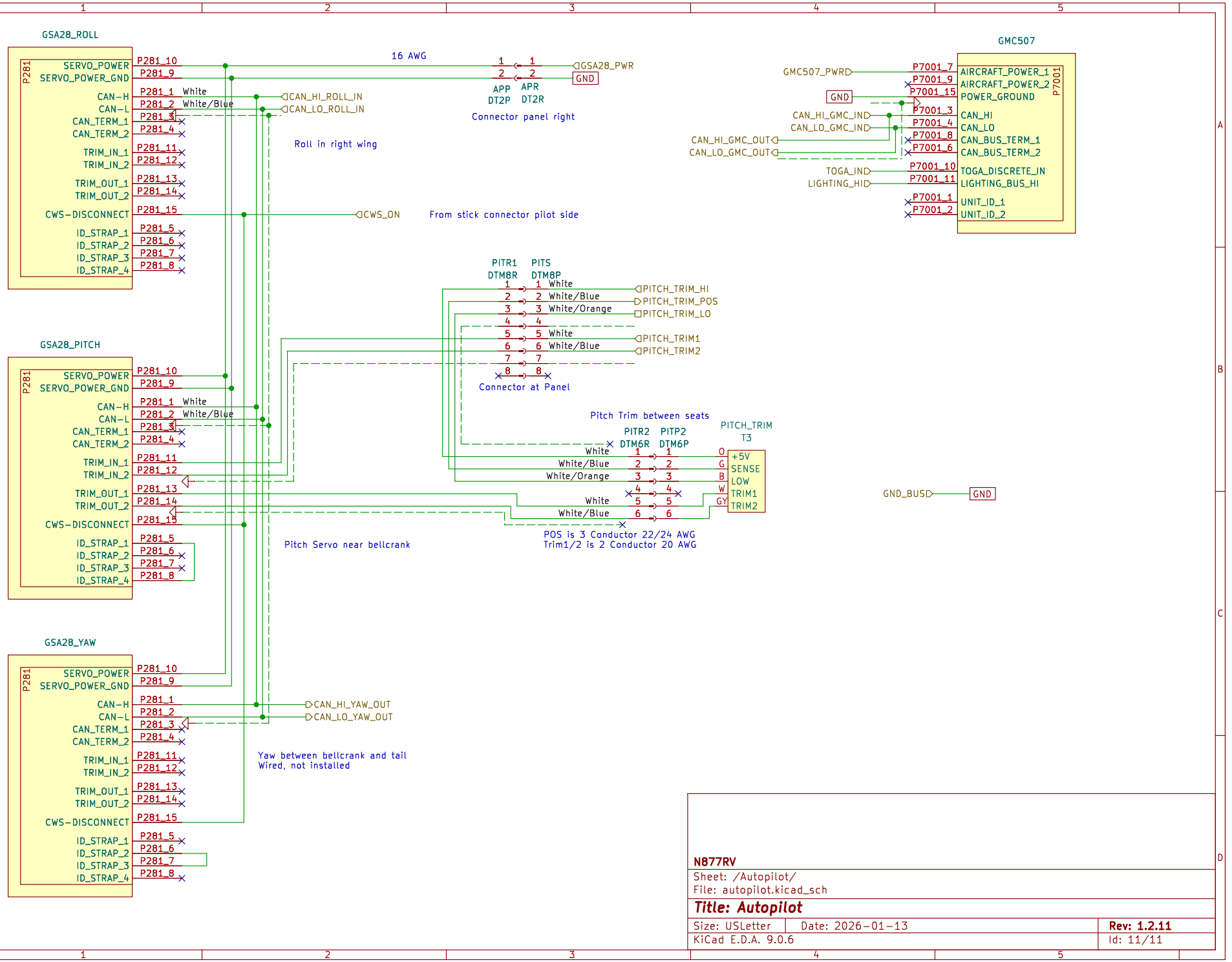
Size: A
Date: 2025-12-24
Rev: 1.2
KiCad E.D.A. 9.0.6
Id: 10/11


GSA28_ROLL
P281
SERVO_POWER
SERVO_POWER_GND
CAN-H
CAN-L
CAN_TERM_1
CAN_TERM_2
TRIM_IN_1
TRIM_IN_2
TRIM_OUT_1
TRIM_OUT_2
CWS-DISCONNECT
ID_STRAP_1
ID_STRAP_2
ID_STRAP_3
ID_STRAP_4
P281_10
P281_9
P281_1 White
P281_2 White/Blue
P281_3
P281_4
P281_11
P281_12
P281_13
P281_14
P281_15
P281_5
P281_6
P281_7
P281_8
16 AWG
GSA28_PWR
GND
APP DT2P
APR DT2R
Connector panel right
CAN_HI_ROLL_IN
CAN_LO_ROLL_IN
Roll in right wing
CWS_ON
From stick connector pilot side
GMC507
GMC507_PWR
GND
CAN_HI_GMC_IN
CAN_LO_GMC_IN
CAN_HI_GMC_OUT
CAN_LO_GMC_OUT
TOGA_IN
LIGHTING_HI
P7001
P7001_7
P7001_9
P7001_15
P7001_3
P7001_4
P7001_8
P7001_6
P7001_10
P7001_11
P7001_1
P7001_2
AIRCRAFT_POWER_1
AIRCRAFT_POWER_2
POWER_GROUND
CAN_HI
CAN_LO
CAN_BUS_TERM_1
CAN_BUS_TERM_2
TOGA_DISCRETE_IN
LIGHTING_BUS_HI
UNIT_ID_1
UNIT_ID_2
GSA28_PITCH
PITR1 DTM8R
PITS DTM8P
White
White/Blue
White/Orange
PITCH_TRIM_HI
PITCH_TRIM_POS
PITCH_TRIM_LO
PITCH_TRIM1
PITCH_TRIM2
Connector at Panel
Pitch Trim between seats
PITR2 DTM6R
PITP2 DTM6P
PITCH_TRIM T3
+5V
SENSE
LOW
TRIM1
TRIM2
O
G
B
W
GY
GND_BUS
POS is 3 Conductor 22/24 AWG
Trim1/2 is 2 Conductor 20 AWG
Pitch Servo near bellcrank
GSA28_YAW
CAN_HI_YAW_OUT
CAN_LO_YAW_OUT
Yaw between bellcrank and tail
Wired, not installed
N877RV
Sheet: /Autopilot/
File: autopilot.kicad_sch
Title: Autopilot
Size: USLetter
Date: 2026-01-13
Rev: 1.2.11
KiCad E.D.A. 9.0.6
Id: 11/11