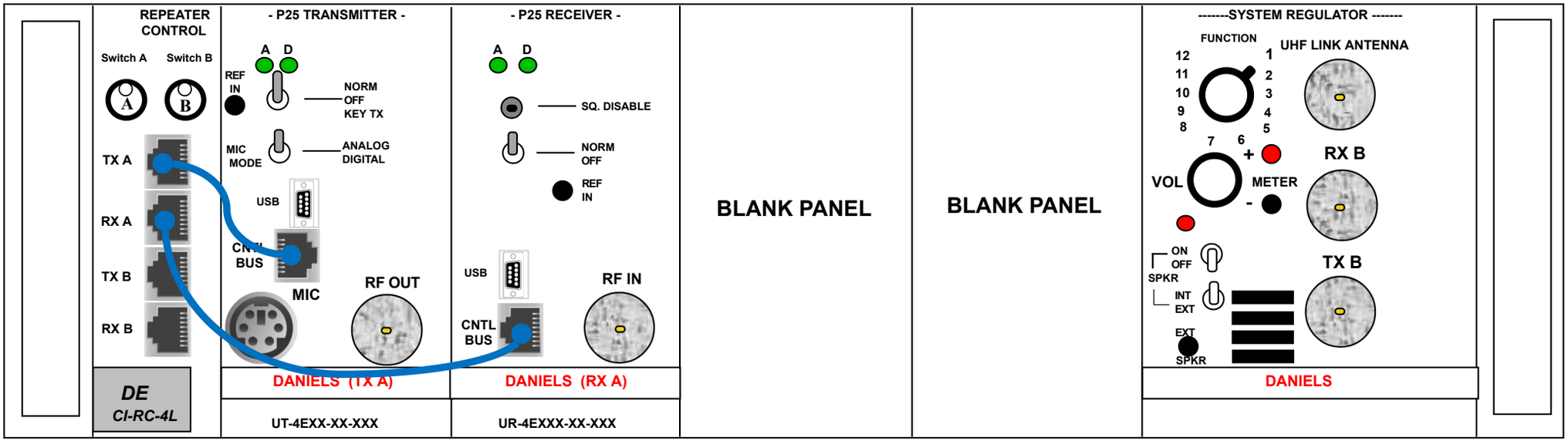
4248 - UHF REPEATER SWITCH SETTINGS (E-MODELS ONLY)



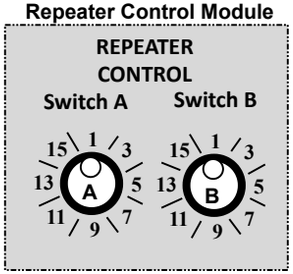
4248 - UHF REPEATER CONFIGURATION: (E-MODELS ONLY)

- Set up the UHF **Omi-Directional** antenna and attach on end of the coaxial cable to the UHF base of the antenna mount. *(See Antenna Instructions in User's Guide for detailed setup)*
- Attach the other end of the **UHF** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **Polarized** fused cable. *(SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)*
- Once power is connected, all modules are active. *(No master power switch)*
- Keep the power switches on both the "**TX A**" and "**RX A**" modules in the "**NORM**" position.
- Keep the "**MIC Mode**" on the "**TX A**" in the "**ANALOG**" position.
- Keep the **speaker audio OFF** by switching the **Speaker Switch** on the **System Regulator** to the "**OFF**" position.
- Test with **two UHF handhelds** to verify the repeater is operating correctly. *(NIICD recommends testing with the field units or ICP if possible before leaving the site.)*

Equipment Note:

- *NIICD has implemented a RX/TX Fixed Tone of **110.9** on all UHF Frequencies to help minimize possible interference on UHF signals.*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*
- ***Switch A** and **Switch B** on the **Repeater Control Module** have no effect on the operation of the UHF Stand Alone Repeater.*

Close Up View
Switch A, Switch B
Repeater Control Module



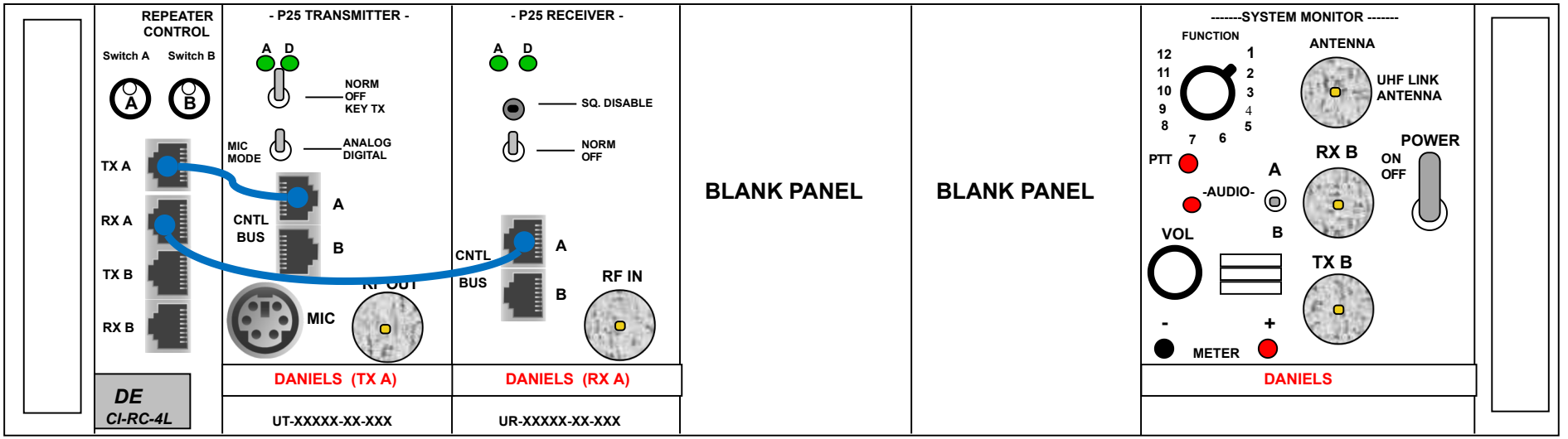
To Enable Audio to Internal Speaker for Troubleshooting:

1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "**ON**" position.
2. Select the **receiver A** by turning the Function Switch located on the System Regulator Module to **position 3 for RX A Audio.**

*Note: Select "**INT**" on the System Regulator Module to enable the audio to the internal speaker and "**EXT**" for the external speaker.*

System Regulator Switch Functions (4248 -UHF Repeater) E-Models Only	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
4-12	NIICD Technician Testing
Revised 2024	

4248 - UHF REPEATER SWITCH SETTINGS



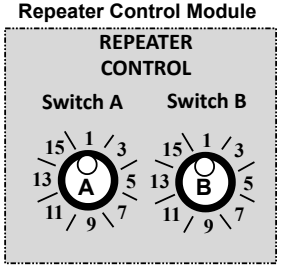
4248 - UHF REPEATER CONFIGURATION:

- Set up UHF **Omni-Directional** antenna and attach one end of the coaxial cable to the UHF base of the antenna mount. ***(See Antenna Instructions in User's Guide for detailed setup information)***
- Attach the other end of UHF coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **POLARIZED** fused cable. ***(SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)***
- Turn the **Power** Switch to the "**ON**" position on the "**System Monitor Module**".
- Keep the power switches on both the "**TX A**" and "**RX A**" modules in "**NORM**" position.
- Keep the "**Mic Mode**" on the "**TX A**" in the "**ANALOG**" position.
- Keep the **speaker audio OFF** by switching the **A/B Speaker switch** on the System Monitor to the "**Center**" position.
- Test with **two UHF handhelds** to verify the repeater is operating correctly. ***(NIICD recommends testing with the field Units or ICP if possible before leaving the site.)***

Equipment Note:

- *NIICD has implemented a RX/TX Fixed Tone of **110.9** on all UHF Frequencies to help minimize possible interference on UHF signals.*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*
- ***Switch A** and **Switch B** on the **Repeater Control Module** have no effect on the operation of the UHF Stand Alone Repeater.*

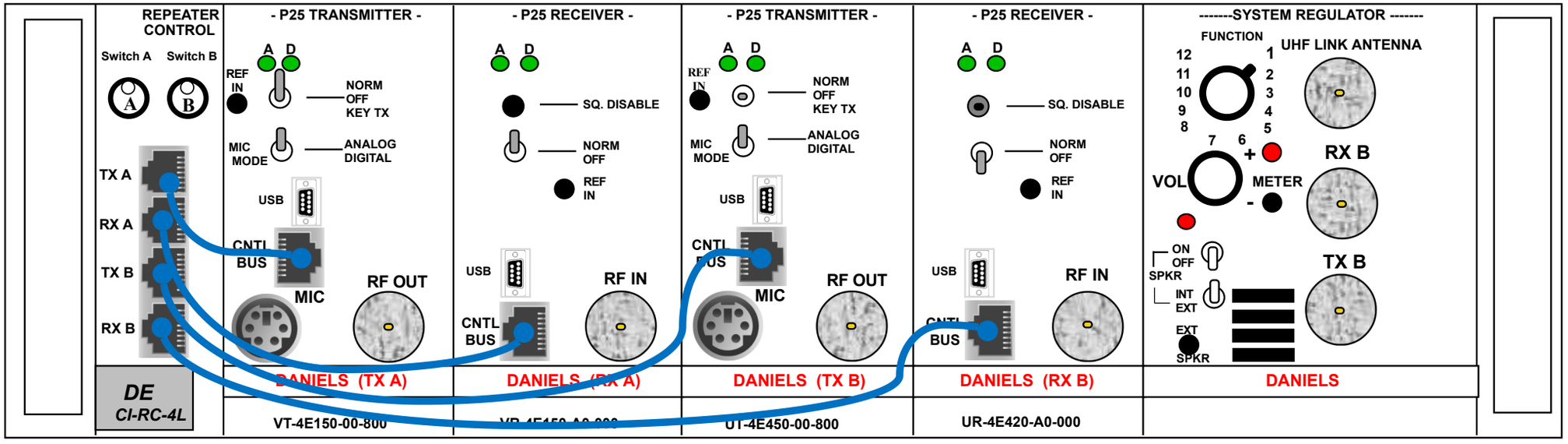
Close-Up View
Switch A, Switch B
Repeater Control Module



Enabling Internal Speaker for Troubleshooting
• **Enable the speaker Audio A** by switching the speaker A/B Switch Located on the **System Monitor**, to the "**A**" position.

System Monitor Switch Functions (4248 - UHF Repeater Configuration)	
2	+13.8 V (Supply Voltage
3	+9.5 V Regulated
4	RX A Audio
1, 4-12	NIICD Technician Testing
Revised 2024	

4312 - VHF STAND-ALONE REPEATER SWITCH SETTINGS (E MODELS ONLY)



4312 - VHF STAND-ALONE REPEATER CONFIGURATION: **(E-MODELS ONLY)**

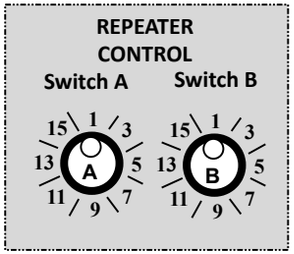
- Set up the VHF **Directional antenna** and attach the coaxial cable to the appropriate VHF Base antenna mount. ***(See Antenna Instructions in the User's Guide for detailed setup information)***
- Attach the other end of the **VHF coaxial** cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power cable is connected, all modules are active. ***(No master power switch)***
  (SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)
- Keep the power switches on both the **TX A** and **RX A** in the "**NORM**" position.
- Keep the power switches on both the **TX B** and **RX B** in the "**OFF**" position. ***(Stand-alone Repeater Configuration - No Linking, turn OFF UHF RX and TX Modules)***
- Keep the **MIC MODE** switch on both the **TX A** and **TX B** in the "**ANALOG**" position.
- Keep the **speaker audio OFF** by switching the **Speaker Switch** on the **System Regulator** to the "**OFF**" position.
- Select the **assigned tone** by turning **Switch A** knob, located on the top portion of the **Repeater Control Module**, to associated position. ***(Switch A - VHF Tone Selection) 16-Position Switch, Position 1 is straight up.***

Test with **two VHF handhelds** to verify the repeater is operating correctly. ***(NIICD recommends testing with the field units or ICP if possible before leaving the site)***

Equipment Note:

- *Selecting a tone will enable the tone on both the **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone for each incident.*
- *Contact the CDO for a tone assignment @ 208-387-5644*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Close Up View
Switch A, Switch B
Repeater Control Module



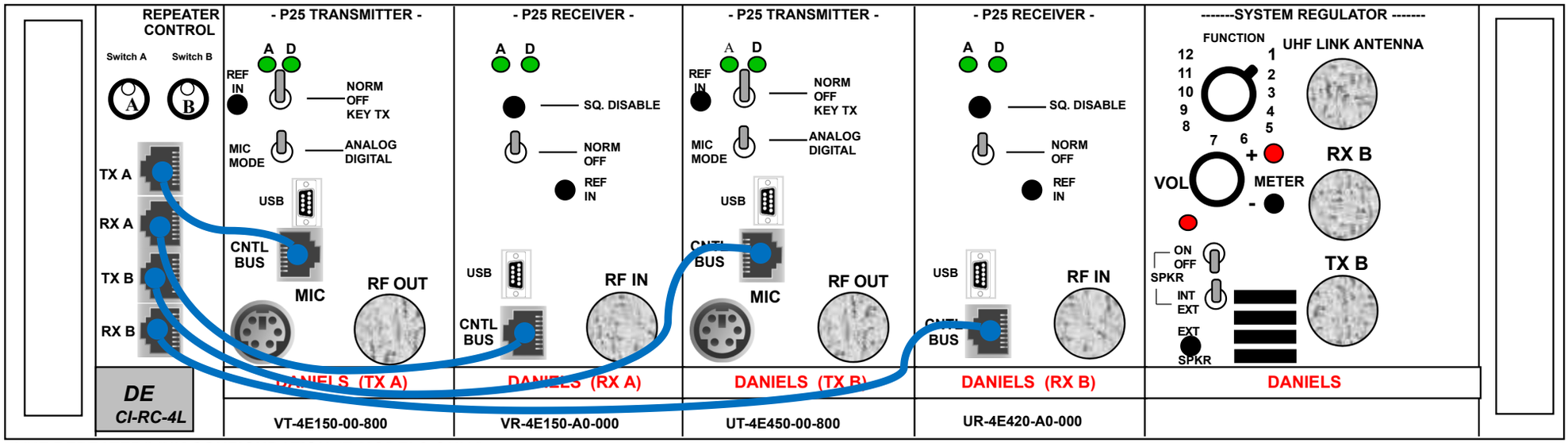
Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 15: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone

To Enable Audio to Internal Speaker for Troubleshooting:

1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "**ON**" position.
2. Select the desired receiver audio, **A** or **B**, by turning the Function Switch located on the System Regulator, to **position 3** for **RX Audio A** or **position 5** for **RX audio B**.
   *Note: Select "**INT**" on the System Regulator Module to enable the audio to the internal speaker or "**EXT**" for the external speaker if connected.*

System Regulator Switch Functions (4312-VHF Repeater Configuration) E-Model Only	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
5	RX B Audio
4, 6-12	NIICD Technician Testing
Revised 2024	

4312 - VHF REPEATER/LINK SWITCH SETTINGS (E MODELS ONLY)



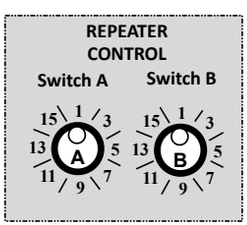
4312 - VHF REPEATER/LINK CONFIGURATION ***(E-MODELS ONLY)***

- Set up the VHF **Antenna** and attach the coax to the appropriate **VHF Base** and connector on the bulkhead mount located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for more info)***
- Set up the UHF **antenna** and attach the coax to the appropriate **UHF base** and connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using provided **POLARIZED** fused cable. Once the power cable is connected, all modules are active. ***(No master power switch)***
  (SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)
- Turn each module "**ON**" by keeping the switches on the **TX A, RX A, TXB, and RXB** in the "**NORM**" position.
- Keep the speaker audio off by switching the **Speaker** Switch on the **System Regulator Module** to the "**OFF**" position.
- Keep the **MIC MODE** switch on both the **TX A** and **TX B** in the **ANALOG** position.
- Select **assigned tone** by turning the **Switch A** knob, located on the top portion of the **Repeater Control Module**, to associated position. ***(See Switch A - VHF Tone Table)***
- Select **assigned UHF frequency** by turning the **Switch B** knob, located on the top portion of the **Repeater Control Module,** to associated position. ***(See Switch B - UHF Link Frequency/Tone Table)***
  Note:NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.
- Test with **two VHF** and **one UHF handheld** to verify both the repeater and link are operating correctly. ***(NIICD recommends testing with the field units or ICP if possible before leaving the site)***
- Before leaving the site, NIICD recommends turning the INT/EXT Speaker **OFF** on the **System Regulator Module**.

Equipment Note:

- *Selecting a tone will enable the tone on both **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency for each incident.*
- *Contact the CDO for a dedicated Tone and UHF frequency assignment @ 208-387-5644*
- *Both **Switch A** and **Switch B** is a **16** position rotary switch, with Position 1 being straight up.*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Close-Up View
Switch A, Switch B
Repeater Control Module



Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 16: 162.2
Position A16	No Tone

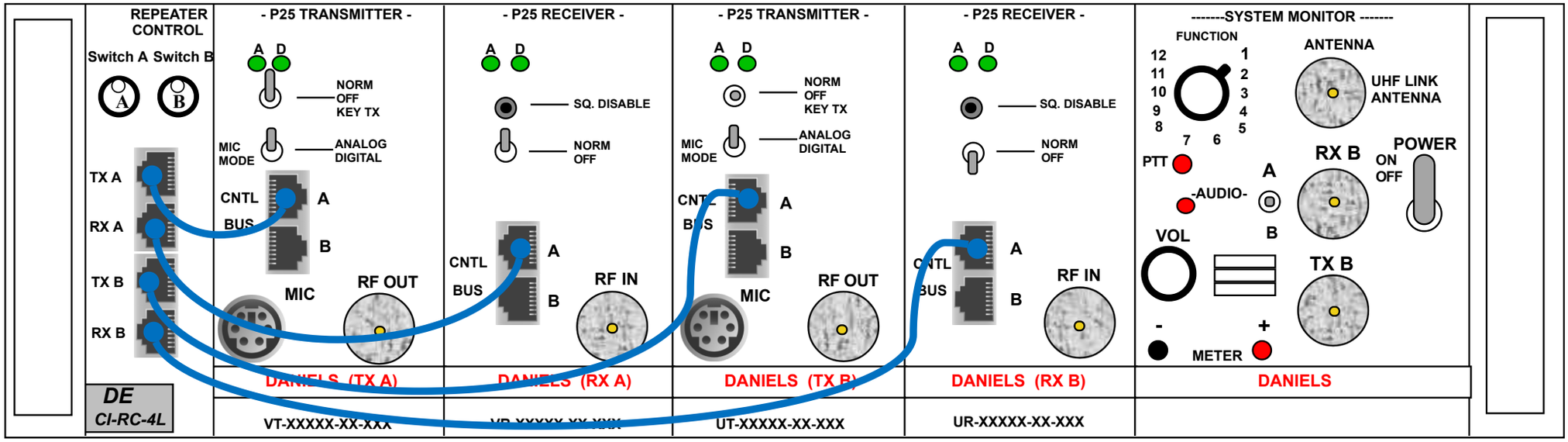
Switch B - UHF Link Frequency/Tone Table		
Position B1	L1 RPTR Access	Tone: 110.9
Position B2	L2 RPTR Access	Tone: 110.9
Position B3	L3 RPTR Access	Tone: 110.9
Position B4	L4 RPTR Access	Tone: 110.9
Position B5	L5 RPTR Access	Tone: 110.9
Position B6	L6 RPTR Access	Tone: 110.9
Position B7	L7 RPTR Access	Tone: 110.9
Position B8	L1 RX Simplex	Tone: 110.9
Position B9	L2 RX Simplex	Tone: 110.9
Position B10	L3 RX Simplex	Tone: 110.9
Position B11	L4 RX Simplex	Tone: 110.9
Position B12	L5 RX Simplex	Tone: 110.9
Position B13	L6 RX Simplex	Tone: 110.9
Position B14	L7 RX Simplex	Tone: 110.9
Position B15	Special Use 1	Tone: 110.9
Position B16	Special Use 2	Tone: 110.9

To Enable Audio to Internal Speaker for Troubleshooting:

1. Enable the speaker by switching the Speaker switch located on the System Regulator Module, to the "**ON**" position.
2. Select the desired receiver audio, **A** or **B**, by turning the Function Switch located on the System Regulator, to **position 3 for RX Audio A** or **position 5 for RX audio B**.
   Note: Select "**INT**" on the System Regulator Module to enable the audio to the internal speaker or "**EXT**" for external speaker if connected.

System Regulator Switch Functions (4312-VHF Repeater/Link Configuration) E-Models Only	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
5	RX B Audio
4, 6-12	NIICD Testing
Revised 2024	

4312 - VHF STAND-ALONE REPEATER SWITCH SETTINGS



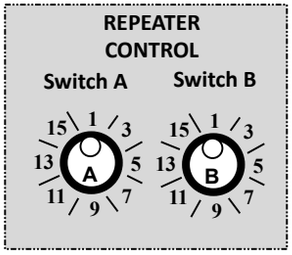
4312 - VHF STAND-ALONE REPEATER CONFIGURATION:

- Set up the VHF **Omni-Directional** antenna and attach one end of the coaxial cable to the base of the VHF antenna base mount. ***(See Antenna Instructions in the User's Guide for detailed setup information)***
- Attach the other end of the **VHF** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **POLARIZED** fused cable. ***(SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)***
- Turn the **Power Switch** to the "**ON**" position on the **System Monitor Module**.
- Keep the power switches on both the **TX A** and **RX A** in the "**NORM**" position.
- Keep the power switches on both the **TX B** and **RX B** in the "**OFF**" position. ***(Stand-alone Repeater Configuration- No Linking, turn OFF UHF RX and TX Modules)***
- Keep the **MIC MODE** switch on both **TX A** and **TX B** in the "**ANALOG**" position.
- Keep the **A/B Audio Select** Switch on the **System Monitor Module** at the center (**OFF**) position.
- Select the **assigned tone** by turning the **Switch A** knob, located on the top portion of the **Repeater Control Module**, to the associated position.
  (Switch A - Tone Selection) 16 Position Switch, Position 1 is straight up)
- Test with **two VHF handhelds** to verify the repeater is operating correctly. ***(NIICD recommends testing with the field units or ICP if possible before leaving the site)***

Equipment Note:

- *Selecting a tone will enable the tone on both the **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) will assign the appropriate tone for each incident.*
- *Contact the CDO for a tone assignment @ 208-387-5644.*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Close-Up View
Switch A, Switch B
Repeater Control Module



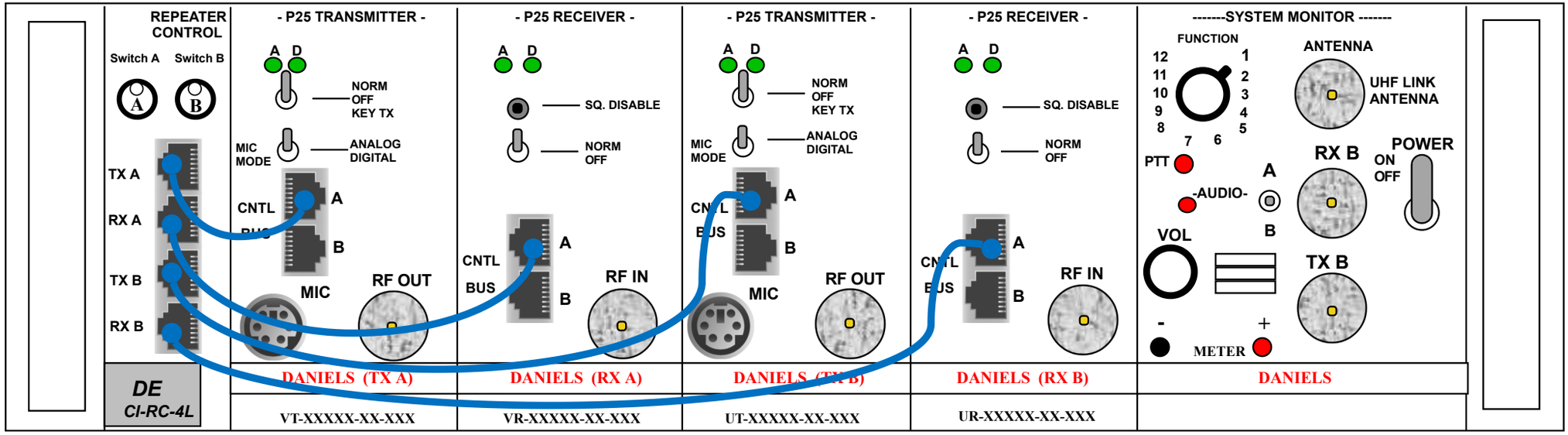
Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone

Enabling Internal Speaker for Troubleshooting

- **Enable the speaker Audio A** by switching the speaker **A/B switch** located on the System Monitor, to the "**A**" position.
- **Enable the speaker Audio B** by switching the speaker **A/B switch** located on the System Monitor, to the "**B**" position.

System Monitor Switch Functions (4312-VHF Repeater Configuration)	
2	+13.8 V (Supply Voltage)
3	+9.5 V Regulated
8	RX A/B Audio
1, 4-7, 9-12	NIICD Technician Testing
Revised 2024	

4312 - VHF REPEATER/LINK SWITCH SETTINGS



4312 - VHF REPEATER/LINK CONFIGURATION:

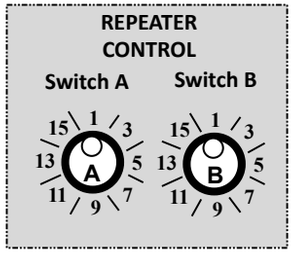
- Set up the VHF **Omni-Directional** antenna and attach the coaxial cable to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Set up the UHF **antenna** and attach the coaxial cable to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for more info)***
- Connect the subrack power cable to the SLA batteries using the provided fused **POLARIZED** cable. ***(SLA Battery-4150 Kit or Solar Panel-4080 Kit is required to power up NIICD equipment.)***
- Turn the **Power** Switch to the "**ON**" position on the **System Monitor Module**.
- Keep the power switches on the **TX A, RX A, TX B, and RX B** in the "**NORM**" position.
- Keep the **A/B Audio Select** Switch on the **System Monitor Module** at the center (**OFF**) position.
- Keep the **MIC MODE** switch on both the **TX A** and **TX B** in the **ANALOG** position.
- Select the **assigned tone** by turning the **Switch A** knob, located on the top portion of the **Repeater Control Module**, to the associated position. ***(See Switch A - Tone Table)***
- Select the **assigned UHF link frequency** by turning the **Switch B** knob, located on the top portion of the **Repeater Control Module**, to the associated position. ***(See Switch B - UHF Link Frequency/Tone Table)***
- Test with two VHF and one UHF handheld to verify the repeater and link are operating correctly. ***(NIICD recommends testing with the field units or ICP if possible before leaving the site)***

Note: NIICD has implemented a fixed RX/TX Tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.

Equipment Note:

- *Selecting a tone will enable the tone on both the **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency.*
- *Contact the CDO for a tone and UHF frequency assignment @ 208-387-5644*
- *Both **Switch A** and **Switch B** are a **16** position rotary switch with position 1 being straight up.*
- *The Function Switches on the System Monitor Module are only for shop testing and used in conjunction with the meter leads.*

Close-Up View
Switch A, Switch B
Repeater Control Module



Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 15: 162.2
Position A16	No Tone

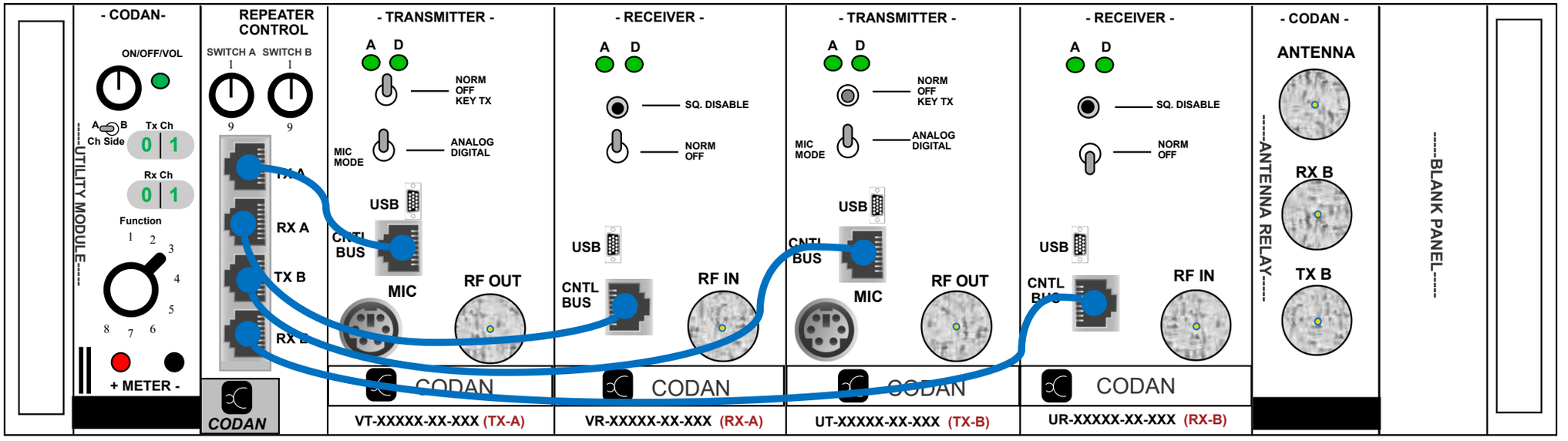
Switch B - UHF Link Frequency/Tone Table		
Position B1	L1 RPTR Access	Tone: 110.9
Position B2	L2 RPTR Access	Tone: 110.9
Position B3	L3 RPTR Access	Tone: 110.9
Position B4	L4 RPTR Access	Tone: 110.9
Position B5	L5 RPTR Access	Tone: 110.9
Position B6	L6 RPTR Access	Tone: 110.9
Position B7	L7 RPTR Access	Tone: 110.9
Position B8	L1 RX Simplex	Tone: 110.9
Position B9	L2 RX Simplex	Tone: 110.9
Position B10	L3 RX Simplex	Tone: 110.9
Position B11	L4 RX Simplex	Tone: 110.9
Position B12	L5 RX Simplex	Tone: 110.9
Position B13	L6 RX Simplex	Tone: 110.9
Position B14	L7 RX Simplex	Tone: 110.9
Position B15	Special Use 1	Tone: 110.9
Position B16	Special Use 2	Tone: 110.9

Enabling Internal Speaker for Troubleshooting

- **Enable the speaker Audio A** by switching the speaker **A/B switch** located on the System Monitor, to the "**A**" position.
- **Enable the speaker Audio B** by switching the speaker **A/B switch** located on the System Monitor, to the "**B**" position.

System Monitor Switch Functions (4312 - VHF Repeater/Link Configuration)	
2	+13.8 V (Supply Voltage)
3	+9.5 V Regulated
8	RX A/B Audio
1, 4-7, 9-12	NIICD Technician Testing
Revised 2024	

4312 - VHF STAND-ALONE REPEATER SWITCH SETTINGS *(MT-5 VERSION)*



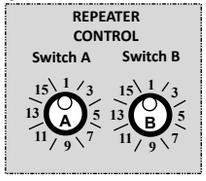
4312 - VHF STAND-ALONE REPEATER CONFIGURATION *(MT-5 Version)*

- Set up the **VHF Antenna** and attach the coax to the appropriate **VHF Base** and connector on the bulkhead mount located on the back of the fiberglass box. *(See Antenna Instructions in the User's Guide for more info)*
- Connect the subrack power cable to the SLA batteries using provided **POLARIZED** fused cable. Once the power cable is connected, all modules are active. *(No master power switch)*
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Turn each **VHF** module "**ON**" by keeping the switches on the **TX A and RX A** in the "**NORM**" position.
- Keep the **UHF** modules "**OFF**" by keeping the switches on the **TX B and TX B** in the "**OFF**" position. *(Stand-alone Repeater Configuration - No Linking, turn OFF UHF RX and TX Modules)*
- Keep the **MIC MODE** switch on the **TX A** in the **ANALOG** position.
- Turn "**ON**" the **Utility Module** by turning the **ON/OFF/VOL** switch clockwise past the detent.
  (Note: The Utility Module does not have to be powered ON to switch VHF Repeater tones on the Repeater Control Module)
- Select the **assigned VHF Repeater RX/TX Tone** by turning the **Switch A** knob, located on the top portion of the **Repeater Control Module**, to associated assigned position. *(See Switch A - VHF Tone Table)*
- Toggle the **A/B Ch Side** switch to the **A** position to for a visual indicator of the **tone** selected. *(Note: Selecting a tone will enable the tone on both TX A and RX A modules.)*
- Test with **two VHF** radios to verify the repeater is operating correctly. *(NIICD recommends testing with the field units or ICP if possible before leaving the site)*
- Before leaving the site, NIICD recommends turning **OFF** the **Utility Module** by turning the **ON/OFF/VOL** switch counterclockwise past the detent.

Equipment Notes:

- *Selecting a tone will enable the tone on both the **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone.*
- *Contact the CDO for a tone assignment @ 208-387-5644.*
- *The Utility Module does not have to be powered **ON** to switch the VHF Repeater tones.*
- *The Function Switches on the Utility Module are only shop testing in conjunction with the meter leads.*

Close-Up View
Switch A, Switch B
Repeater Control Module

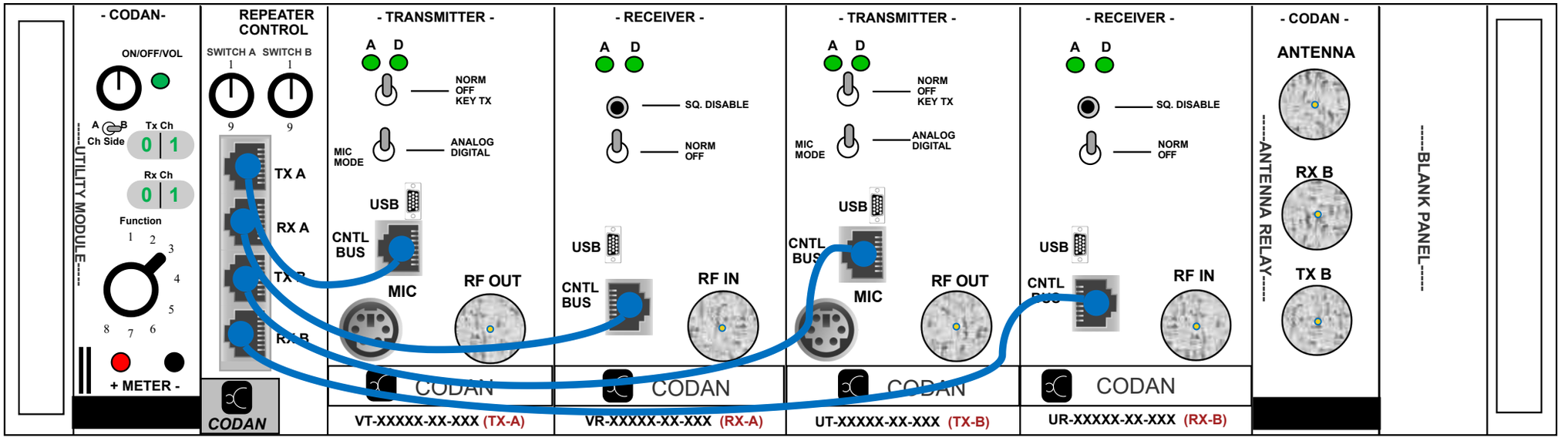


Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 16: 162.2
Position A16	No Tone

Codan Utility Module Functions (4312-VHF Repeater Configuration) *MT-5 Version Only*	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
6	RX B Audio
4,5,7-12	NIICD Testing
Revised 2024	

2025 NIICD Equipment Switch Settings

4312 - VHF REPEATER/LINK SWITCH SETTINGS *(MT-5 VERSION)*



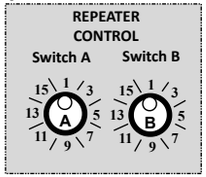
4312 - VHF REPEATER/LINK CONFIGURATION *(MT-5 Version)*

- Set up the **VHF Antenna** and attach the coax to the appropriate **VHF Base** and connector on the bulkhead mount located on the back of the fiberglass box. *(See Antenna Instructions in the User's Guide for more info)*
- Set up the **UHF Link Antenna** and attach the coax to the appropriate **UHF base** and connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using provided **POLARIZED** fused cable. Once the power cable is connected, all modules are active. *(No master power switch)*
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Turn each module "**ON**" by keeping the switches on the **TX A, RX A, TXB, and RXB** in the "**NORM**" position.
- Keep the **MIC MODE** switch on both the **TX A** and **TX B** in the **ANALOG** position.
- Turn "**ON**" the **Utility Module** by turning the **ON/OFF/VOL** switch clockwise past the detent.
  (Note: The Utility Module does not have to be powered ON to switch VHF Repeater tones or UHF Channels on the Repeater Control Module)
- Select the **assigned VHF Repeater RX/TX Tone** by turning the **Switch A** knob, located on the top portion of the **Repeater Control Module**, to associated assigned position. *(See Switch A - VHF Tone Table)*
- Toggle the **A/B Ch Side** switch to the **A** position for a visual indicator of the **VHF Repeater tone** selected. *(Note: Selecting a tone will enable the tone on both TX A and RX A modules.)*
- Select the **assigned UHF frequency** by turning the **Switch B** knob, located on the top portion of the **Repeater Control Module,** to associated assigned position. *(See Switch B - UHF Link Frequency/Tone Table)*
- Toggle the **A/B Ch Side** switch to the **B** position for a visual indicator of the **UHF Channel** selected.
  Note: NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.
- Test with **two VHF** and **one UHF handheld** to verify both the repeater and link are operating correctly. *(NIICD recommends testing with the field units or ICP if possible before leaving the site)*
- Before leaving the site, NIICD recommends turning **OFF** the **Utility Module** by turning the **ON/OFF/VOL** switch counterclockwise past the detent.

Equipment Notes:

- *Selecting a tone will enable the tone on both TX A and RX A modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency.*
- *Contact the CDO for a tone and UHF frequency assignment @ 208-387-5644.*
- *The Utility Module does not have to be powered **ON** to switch tones or channels on the Repeater Control Module.*
- *The Function Switches on the Utility Module are only for shop testing and used in conjunction with meter leads.*

Close-Up View
Switch A, Switch B
Repeater Control Module



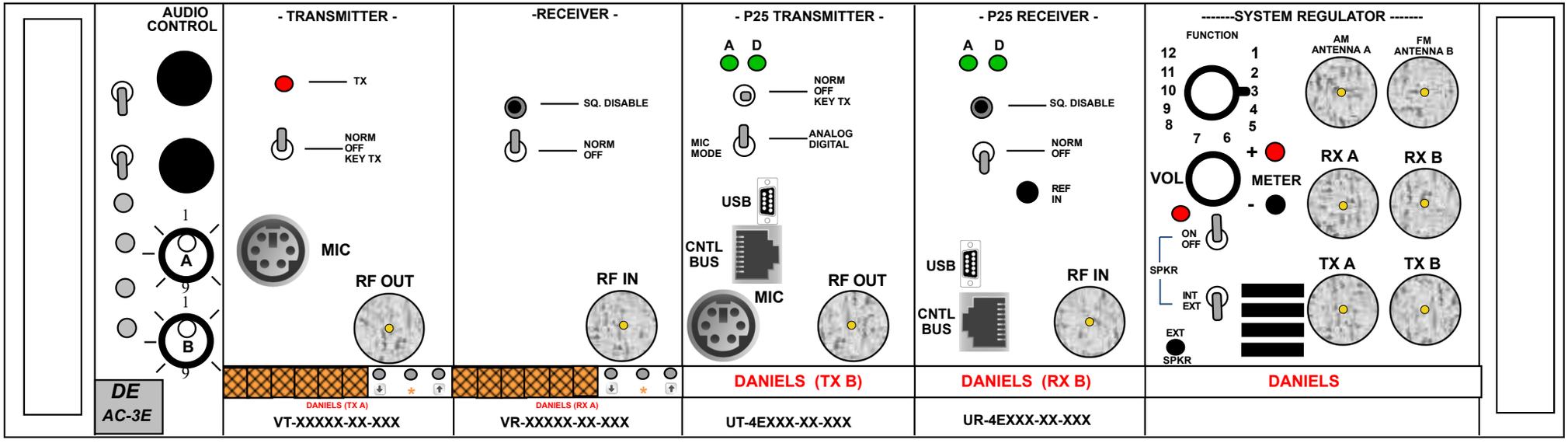
Switch A - VHF Tone Table	
Position A1	Tone 1: 110.9
Position A2	Tone 2: 123.0
Position A3	Tone 3: 131.8
Position A4	Tone 4: 136.5
Position A5	Tone 5: 146.2
Position A6	Tone 6: 156.7
Position A7	Tone 7: 167.9
Position A8	Tone 8: 103.5
Position A9	Tone 9: 100.0
Position A10	Tone 10: 107.2
Position A11	Tone 11: 114.8
Position A12	Tone 12: 127.3
Position A13	Tone 13: 141.3
Position A14	Tone 14: 151.4
Position A15	Tone 16: 162.2
Position A16	No Tone

Switch B - UHF Link Frequency/Tone Table		
Position B1	L1 RPTR Access	Tone: 110.9
Position B2	L2 RPTR Access	Tone: 110.9
Position B3	L3 RPTR Access	Tone: 110.9
Position B4	L4 RPTR Access	Tone: 110.9
Position B5	L5 RPTR Access	Tone: 110.9
Position B6	L6 RPTR Access	Tone: 110.9
Position B7	L7 RPTR Access	Tone: 110.9
Position B8	L1 RX Simplex	Tone: 110.9
Position B9	L2 RX Simplex	Tone: 110.9
Position B10	L3 RX Simplex	Tone: 110.9
Position B11	L4 RX Simplex	Tone: 110.9
Position B12	L5 RX Simplex	Tone: 110.9
Position B13	L6 RX Simplex	Tone: 110.9
Position B14	L7 RX Simplex	Tone: 110.9
Position B15	Special Use 1	Tone: 110.9
Position B16	Special Use 2	Tone: 110.9

Codan Utility Module Functions (4312-VHF Repeater/Link Configuration) *MT-5 Version Only*	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
6	RX B Audio
4,5,7-12	NIICD Testing
Revised 2024	

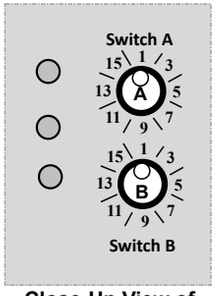
2025 NIICD Equipment Switch Settings

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (E-MODEL BASE CONFIGURATION)



4370 - AIRCRAFT RADIO/LINK BASE CONFIGURATION: (E MODELS ONLY)

- Set up the VHF-AM **antenna** and attach the coaxial cable to the appropriate **AM antenna base** mount. ***(See Antenna Instructions in the User's Guide for more info)***
- Attach the other end of the **AM** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the sub rack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. ***(No Master Power Switch)***
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** toggle switches located on the **Audio Control Module**, in the "**OFF**" (down) position.
- Keep the power switches on both the **TX A** and **RX A** in "**NORM**" position.
- Keep the power switches on both the **TX B** and **RX B** in "**OFF**" position.
- Keep the Speaker Switch on the **System Regulator Module** in the **"ON"** position to enable the speaker.
- Place the function rotary switch on the **System Regulator Module** to **Position # 3** to activate the **RX A Audio.**
- Keep the Speaker Switch on the **System Regulator Module** in the "**EXT**" position to enable the **RA A Audio** to the **External Speaker**.
- Connect the provided **speaker** to the **"EXT SPRK"** jack on the **System Regulator Module**, and adjust the Volume to the desired level.
- Select the **assigned AM** frequency for the **AM TX A and AM RX A** using the 16-position rotary **Switch A** on the **Audio Control Module**. ***(See Switch A - AM Frequency Channel)***
  Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 on both the "TX A" and "RX A". (See Manual AM frequency Programming)
- Connect the provided **Microphone** to the "**MIC**" jack on the "**AM TX A Module**"
- Test through the **Microphone** and **AM handheld** to verify proper operation.
  (NIICD recommends testing with the field units or Heli-Base before leaving the site)



Close-Up View of Switch A and Switch B on the Audio Control Module

Equipment Notes:

- *The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.*
- *Contact the CDO for an assigned AM frequency at 208-387-5644.*
- *Both Switch A and Switch B are a 16 position rotary switch with position 1 being straight up.*
- *The Function Switches on the System Regulator Module are only for shop testing and used in conjunction with the meter leads.*

Manual AM Frequency Programming: (Channel 16 ONLY)

Note: Both the AM transmitter and AM receiver modules must be individually programmed.
The Communications Duty Officer (CDO) will assign the appropriate FAA-issued AM Frequency.

- Turn the rotary **Switch A** on the **Audio Control Module** to **Channel 16**.
- Unlock each unit by momentarily pressing the **" * "** button and, before the "**Locked**" display goes blank, press the "**down** " button.
- The display should now show "**Unlocked**".
- Wait for the display to blank, then press either the "**up**" or "**down**" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "**up**" or "**down**" scrolling until the assigned frequency is reached.
- Lock each unit by momentarily pressing the **" * "** button, and before the "**Unlocked**" display goes blank, press the "**up**" button.
- The display should now show "**Locked**"
- The Aircraft Radio is now ready for base station operation on that **AM programmed frequency**.

Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

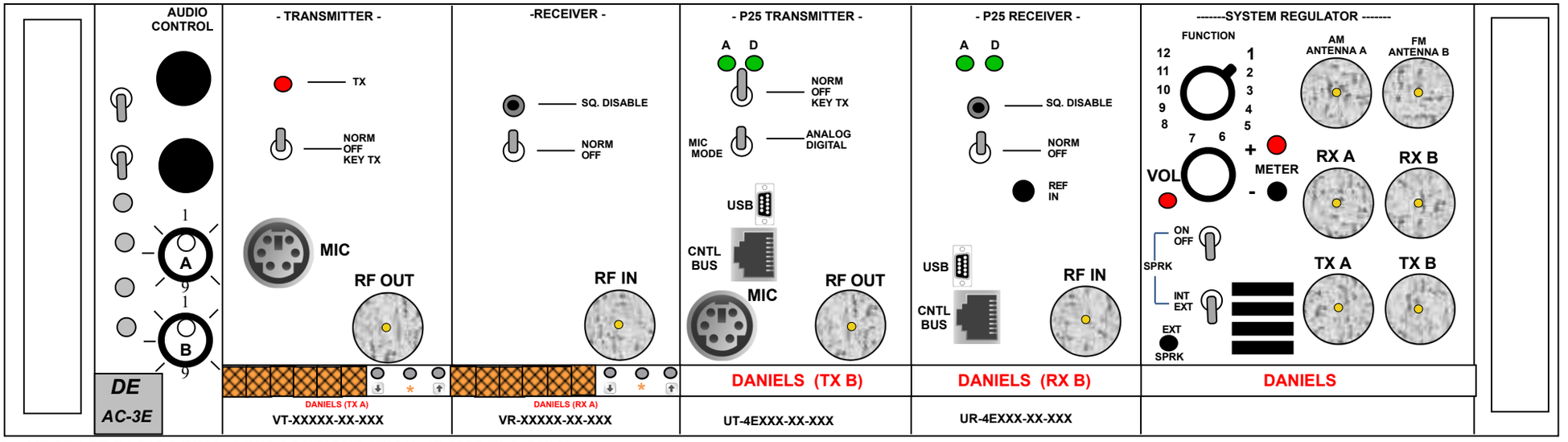
Enabling Internal Speaker for Troubleshooting

- **Enable the speaker** by switching the speaker switch located on the **System Regulator**, to the "**ON**" position.
- **Enable the RX A Audio** by selecting **position 3** on the **Function** Switch located on the **System Regulator** for **RX A Audio**.
- **Enable the Internal or External Speaker** by switching the **SPKR** switch to the "**INT**" or "**EXT**" position.

System Regulator Switch Functions (4370 - Aircraft Radio Base Configuration)	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
4-12	NIICD Technician Testing
Revised 2024	

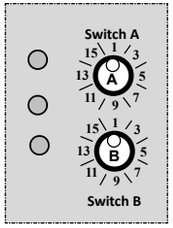
2025 NIICD Equipment Switch Settings

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (E-MODEL LINK CONFIGURATION)



4370 - AIRCRAFT RADIO/LINK in LINK CONFIGURATION: (E-MODELS ONLY)

- Set up the **VHF-AM antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for info)***
- Set up the **UHF antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. ***(No Master Power Switch)***
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** switches, located on the **Audio Control Module** in the "**OFF**" (down) position.
- Keep the power switches on the **TX A**, **RX A**, **TX B**, and **RX B** in the "**NORM**" position.
- Keep the **MIC MODE** on the **TX B** in the **ANALOG** position.
- Keep the Speaker Select Switch on the **System Regulator Module** to the "**OFF**" position.
- Select the **assigned AM frequency** for both **TX A** and **RX A** using the 16-position rotary **Switch A** on the **Audio Control Module**. ***(Switch A - AM Frequency Channel)***
  Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 on both the "TX A" and "RX A". (See Manual AM Frequency Programming)
- Select the **assigned FM UHF link frequency** for both the **TX B** and **RX B** using the 16-position rotary **Switch B** on the **Audio Control Module**. ***(Switch B - UHF Link Frequency and Tone Table)***
  (NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.)
- *Test with **one AM** and **one UHF radio** to verify link is operating correctly.*
  (NIICD recommends testing with the field units or Heli-Base is possible before leaving the site)



Close-Up View of Switch A and Switch B Audio Control Module

Equipment Note:

- The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.
- The CDO or COMC will assign the appropriate **FM UHF Link** Frequency
- Contact the CDO for an assigned **AM** and **UHF** frequency at 208-387-5644.
- Both **Switch A** and **Switch B** are a **16 position rotary** switch with position 1 being straight up.
- The Function Switches on the System Regulator Module are only for shop testing and used in conjunction with the meter leads.

Manual AM Frequency Programming: (Channel 16 ONLY)

Note: Both the AM transmitter and AM receiver modules must be individually programmed.

- Turn the rotary **Switch A** (**top rotary switch**) on the **Audio Control Module** to **Channel 16**.
- Unlock each unit by momentarily pressing the **" * "** button and, before the "**Locked**" display goes blank, press the "**down**" button.
- The display should now show "**Unlocked**".
- Wait for the display to go blank, then press either the "**up**" or "**down**" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "**up**" or "**down**" scrolling until the desired frequency is reached.
- Lock each unit by momentarily pressing the **" * "** button and before the "**Unlocked**" display goes blank, press the "**up**" button.
- The display should now show "**Locked**"
- The Aircraft radio is now ready to operate on that AM programmed frequency.

Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

Switch B - UHF Frequency/TX/RX Tone Table		
Position B1	A/C 1 Simplex	Tone 1: 110.9
Position B2	A/C 2 Simplex	Tone 1: 110.9
Position B3	A/C 3 Simplex	Tone 1: 110.9
Position B4	A/C 4 Simplex	Tone 1: 110.9
Position B5	A/C 5 Simplex	Tone 1: 110.9
Position B6	A/C 6 Simplex	Tone 1: 110.9
Position B7	A/C 7 Simplex	Tone 1: 110.9
Position B8	A/C 8 Simplex	Tone 1: 110.9
Position B9	A/C 9 (L8 Simp)	Tone 1: 110.9
Position B10	A/C 10 (L8 RPTR)	Tone 1: 110.9
Position B11	A/C 11 (L9 Simp)	Tone 1: 110.9
Position B12	A/C 12 (L9 RPTR)	Tone 1: 110.9
Position B13	A/C 13 (L10 Simp)	Tone 1: 110.9
Position B14	A/C 14 (L10 RPTR)	Tone 1: 110.9
Position B15	A/C 15 (L11 Simp)	Tone 1: 110.9
Position B16	A/C 16 (L11 RPTR)	Tone 1: 110.9

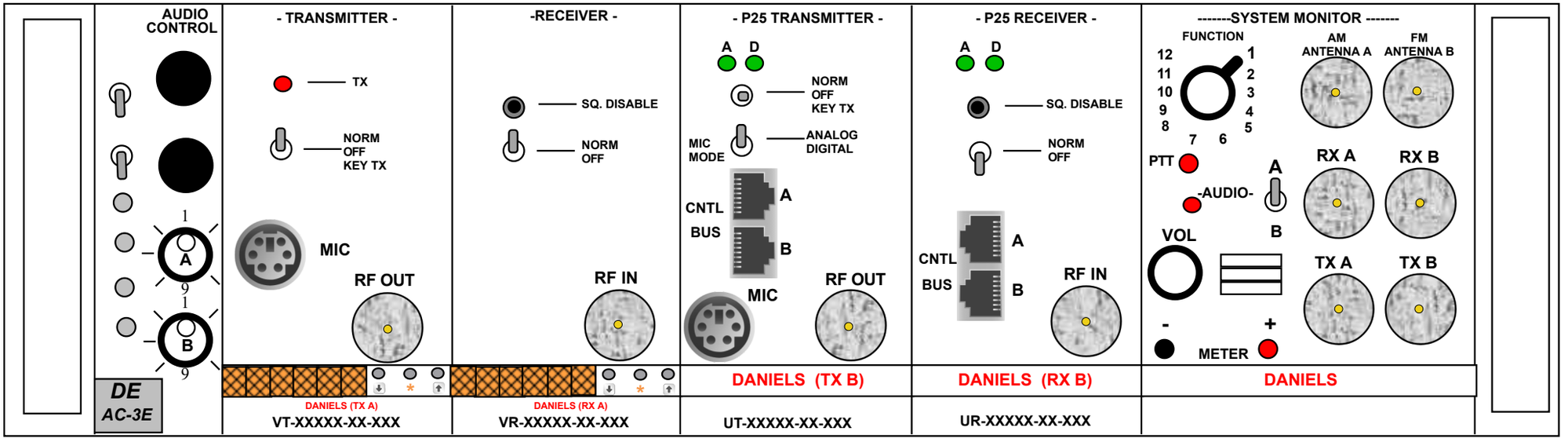
Enabling Internal Speaker for Troubleshooting

- **Enable the speaker** by switching the speaker switch located on the System Regulator, to the "**ON**" position.
- **Enable the RX Audio** by selecting **position 3** on the **Function** Switch located on the **System Regulator** for **RX A Audio**. Use **position 5** for **RX B Audio**.
- **Enable the Internal or External Speaker** by switching the **SPKR** switch to the "**INT**" or "**EXT**" position.

System Regulator Switch Functions (4370 - Aircraft Radio Link Configuration)	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3	RX A Audio
5	RX B Audio

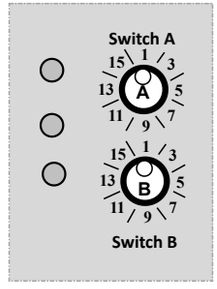
Revised 2024

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (BASE CONFIGURATION)



4370 - AIRCRAFT RADIO/LINK (BASE CONFIGURATION):

- Set up the VHF-AM **antenna** and attach the coaxial cable to the appropriate **AM antenna base** mount. ***(See Antenna Instructions in the User's Guide for more info)***
- Attach the other end of the **AM** coaxial cable to the appropriate connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the sub rack power cable to the SLA batteries using the provided **POLARIZED** fused cable. One power is connected, all modules are active. ***(No Master Power Switch)***
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** switches located on the **Audio Control Module**, in the "**OFF**" (down) position.
- Keep the power switches on both the **TX A** and **RX A** in "**NORM**" position.
- Keep the power switches on both the **TX B** and **RX B** in "**OFF**" position.
- Keep the **Audio Select** Switch on the **System Monitor Module** in the **"A"** position to activate **RX A Audio**.
- Place the rotary switch on the **System Monitor Module** to **Position # 1** to activate the External Speaker**.**
- Connect the **external speaker** to the **Meter Jacks** on the **System Monitor Module**, observing the correct polarity, and adjust the Volume to desired level.
- Select the **assigned AM** frequency for the **TX A** and **RX A** using the 16-position rotary **Switch A** on the **Audio Control Module**. ***(Switch A - AM Frequency Channel)***
  Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 of both the "TX A" and "RX A". (See Manual AM frequency Programming)
- Connect the provided **Microphone** to the "**MIC**" jack on the "**AM TX A Module**"
- Test through the **Microphone** and **AM handheld** to verify proper operation. ***(NIICD recommends testing with the field units or Heli-Base before leaving the site)***



Close-Up View of Switch A and Switch B on the Audio Control Module

Equipment Notes:

- *The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.*
- *Contact the CDO for an assigned AM frequency at 208-387-5644.*
- *Both **Switch A** and **Switch B** are a **16 position rotary** switch with position 1 being straight up.*
- *The **Function Switches** on the **System Monitor Module** are only for shop testing and using in conjunction with the meter leads.*

Manual AM Frequency Programming: (Channel 16 ONLY)

Note: Both the AM transmitter and AM receiver modules must be individually programmed.

- Turn the rotary **Switch A** on the **Audio Control Module** to **Channel 16**.
- Unlock each unit by momentarily pressing the **" * "** button and, before the "**Locked**" display goes blank, press the "**down** " button.
- The display should now show "**Unlocked**".
- Wait for the display to blank, then press either the "**up**" or "**down**" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "**up**" or "**down**" scrolling until the assigned frequency is reached.
- Lock each unit by momentarily pressing the **" * "** button, and before the "**Unlocked**" display goes blank, press the "**up**" button.
- The display should now show "**Locked**"
- The Aircraft Radio is now ready for base station operation on that **AM programmed frequency**.

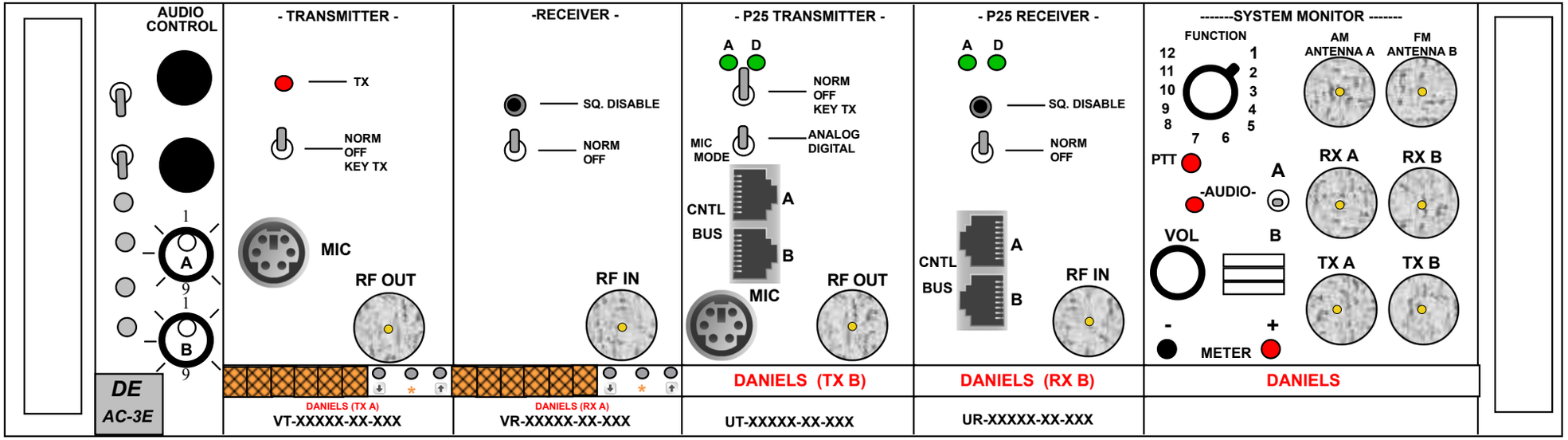
Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

Enabling Internal Speaker for Troubleshooting

- **Enable the speaker audio A** by switching the speaker A/B switch located on the **System Monitor**, to the "**A**" position.
- **Enable the speaker audio B** by switching the speaker A/B switch located on the **System Monitor**, to the "**B**" position.

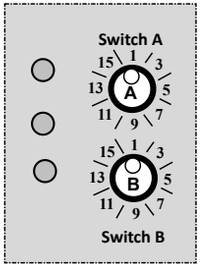
System Monitor Switch Functions (4370 - Aircraft Radio Base Configuration)	
1	External Speaker
2	+13.8 V Regulated
3	+9.5 V Regulated
8	RX A Audio
4-7, 9-12	NIICD Technician Testing
Revised 2024	

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (LINK CONFIGURATION)



4370 - AIRCRAFT RADIO/LINK: (LINK CONFIGURATION)

- Set up the **VHF-AM antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. *(See Antenna Instructions in the User's Guide for info)*
- Set up the **UHF antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Connect the sub rack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. *(No Master Power Switch)*
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** switches, located on the **Audio Control Module** in the "**OFF**" (down) position.
- Keep the power switches on the **TX A**, **RX A**, **TX B**, and **RX B** in the "**NORM**" position.
- Keep the **MIC MODE** on the **TX B** in the **ANALOG** position.
- Keep the **A/B Audio** Select Switch on the **System Monitor Module** at the center position for "**OFF**"
- Select the **assigned AM frequency** for both **TX A** and **RX A** using the 16-position rotary **Switch A** on the **Audio Control Module**. *(Switch A - AM Frequency Channel)*
  Note: If the AM frequency is not listed, the user must program the AM frequency in Channel A-16 of both the "TX A" and "RX A". (See Manual AM Frequency Programming)
- Select the **assigned FM UHF link frequency** for both the **TX B** and **RX B** using the 16-position rotary **Switch B** on the **Audio Control Module**. *(Switch B - UHF Link Frequency/Tone Table)*
  Note: The NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.
- *Test with **one AM** and **one UHF radio** to verify link is operating correctly.* ***(NIICD recommends testing with the field units or Heli-Base is possible before leaving the site)***



Close-Up View of Switch A and Switch B Audio Control Module

Equipment Notes:

- *The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.*
- *Contact the CDO for an assigned **AM** and **UHF** link frequency at 208-387-5644.*
- *Both **Switch A** and **Switch B** are a **16 position rotary** switch with position 1 being straight up.*
- *The **Function Switches** on the **System Monitor Module** are only for shop testing and used in conjunction with the meter leads.*

Manual AM Frequency Programming: (Channel 16 ONLY)

Note: Both the AM transmitter and AM receiver modules must be individually programmed.

- Turn the rotary **Switch A** (**top rotary switch**) on the **Audio Control Module** to **Channel 16**.
- Unlock each unit by momentarily pressing the **" * "** button and, before the "**Locked**" display goes
- blank, press the "**down**" button.
- The display should now show "**Unlocked**".
- Wait for the display to go blank, then press either the "**up**" or "**down**" button to display the current programmed frequency.
- While the display is showing the frequency, press and hold either the "**up**" or "**down**" scrolling until
- the desired frequency is reached.
- Lock each unit by momentarily pressing the **" * "** button and before the "**Unlocked**" display goes
- blank, press the "**up**" button.
- The display should now show "**Locked**"
- The Aircraft radio is now ready to operate on that AM programmed frequency.

Switch A - AM Frequency CH	
Position A1	Channel 1
Position A2	Channel 2
Position A3	Channel 3
Position A4	Channel 4
Position A5	Channel 5
Position A6	Channel 6
Position A7	Channel 7
Position A8	Channel 8
Position A9	Channel 9
Position A10	Channel 10
Position A11	Channel 11
Position A12	Channel 12
Position A13	Channel 13
Position A14	Channel 14
Position A15	Channel 15
Position A16	Programmable

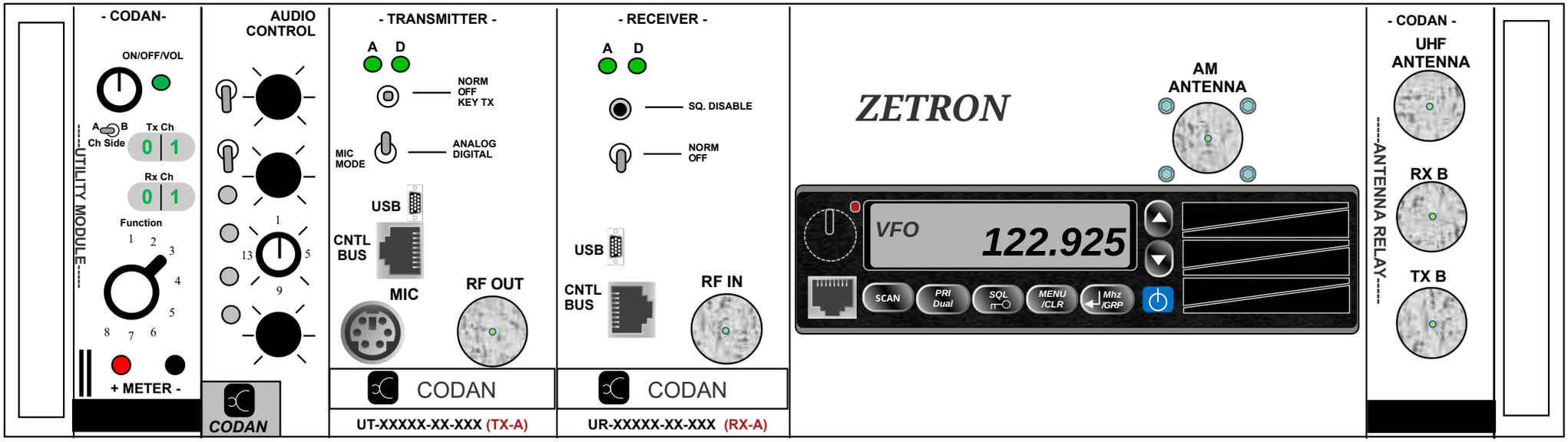
Switch B - UHF Frequency/Tone Table		
Position B1	A/C 1 Simplex	Tone 1: 110.9
Position B2	A/C 2 Simplex	Tone 1: 110.9
Position B3	A/C 3 Simplex	Tone 1: 110.9
Position B4	A/C 4 Simplex	Tone 1: 110.9
Position B5	A/C 5 Simplex	Tone 1: 110.9
Position B6	A/C 6 Simplex	Tone 1: 110.9
Position B7	A/C 7 Simplex	Tone 1: 110.9
Position B8	A/C 8 Simplex	Tone 1: 110.9
Position B9	A/C 9 (L8 Simp)	Tone 1: 110.9
Position B10	A/C 10 (L8 RPTR)	Tone 1: 110.9
Position B11	A/C 11 (L9 Simp)	Tone 1: 110.9
Position B12	A/C 12 (L9 RPTR)	Tone 1: 110.9
Position B13	A/C 13 (L10 Simp)	Tone 1: 110.9
Position B14	A/C 14 (L10 RPTR)	Tone 1: 110.9
Position B15	A/C 15 (L11 Simp)	Tone 1: 110.9
Position B16	A/C 16 (L11 RPTR)	Tone 1: 110.9

Enabling Internal Speaker for Troubleshooting

- **Enable the speaker Audio A** by switching the speaker A/B switch located on the System Monitor, to the "**A**" position.
- **Enable the speaker Audio B** by switching the speaker A/B switch located on the System Monitor, to the "**B**" position.

System Monitor Switch Functions (4370 - Aircraft Radio Base Configuration)	
1	External Speaker
2	+13.8 V Regulated
3	+9.5 V Regulated
8	RX A Audio
4-7, 9-12	NIICD Technician Testing
Revised 2024	

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (BASE CONFIGURATION - MT5)



4370 - AIRCRAFT RADIO/LINK: (BASE CONFIGURATION - MT5 VERSION)

- Set up the VHF-AM **antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for info)***
- Connect the sub rack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. ***(No Master Power Switch)***
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** switches, located on the **Audio Control Module** in the "**OFF**" (down) position.
- Keep the power switches on the **TX A and RX A in the** "**OFF**" position.
- Turn "**ON**" the **Utility Module** by turning the **ON/OFF/VOL** switch clockwise past the detent.
  Note: The Utility Module does not have to be powered ON.
- Turn "**ON**" the **ICOM-A120** radio by pressing and holding the **Blue Power** sofkey until the radio turns on.
- Select the **assigned AM RX and TX frequency** by scrolling up or down using the Up/Down softkeys on the ICOM Mobile radio.
  Note: If VFO is not selected on the ICOM-A120 radio, See ICOM-A120 VFO Manual AM Frequency Programming)
- *Test with **one AM radio** to verify base radio is operating correctly.* ***(NIICD recommends testing with the field units before leaving the site)***
- Before leaving the site, NIICD recommends turning "**OFF**" the **Utility Module** by turning the **ON/OFF/VOL** switch counterclockwise past the detent.

Equipment Notes:

- *The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.*
- *Contact the CDO for an assigned **AM** frequency at 208-387-5644.*
- *The **Function Switches** on the **Utility Module** are only for shop testing and used in conjunction with the meter leads.*

ICOM-A120 VFO Manual AM Frequency Programming:

NIICD default of the ICOM-A120 Radio is set to VFO (Variable Frequency). The LCD will indicate "VFO" on the screen.

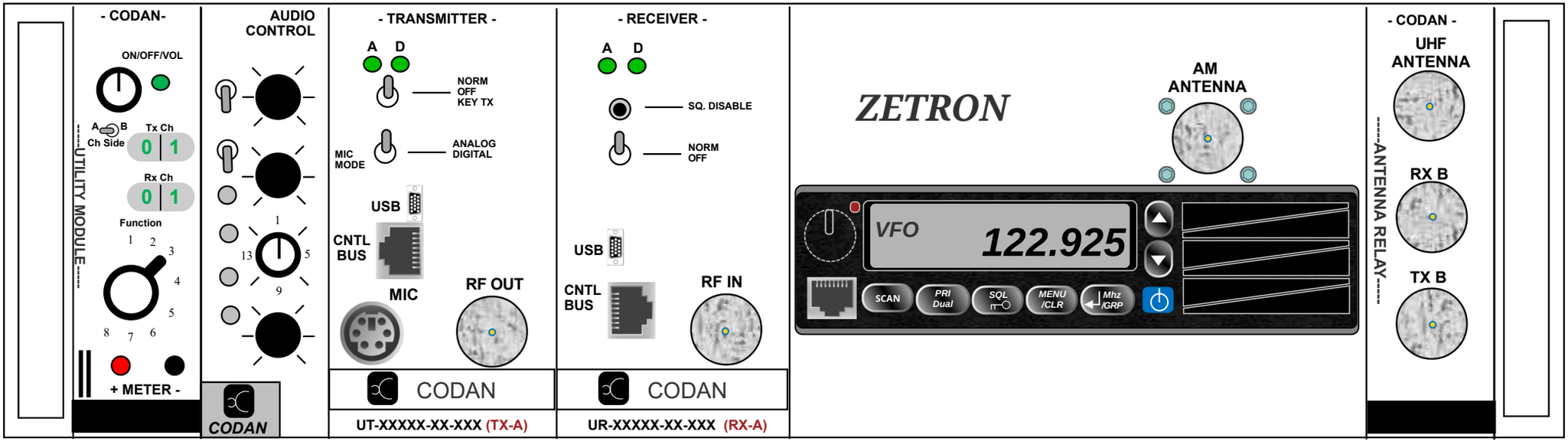
If the radio is not set to VFO, follow the following procedure:

- *Press the "**Menu/CLR**" soft key*
- *Highlight "**VFO Mode**" using the **Up/Down** softkeys.*
- *Press the "**Mhz/GRP**" softkey.*
- *The radio will default back to the **VFO Mode** and ready for direct entry of AM frequencies using the **Up/Down** softkeys.*
- *Once the assigned frequency is set, press and hold the "**SQL**" key to lock the frequency. LCD will briefly indicate "**Lock On**"*

For detailed information on programming the ICOM-A120 Radio, see the NIICD User's Guide.

System Monitor Switch Functions (4370 - Aircraft Radio Base Configuration) MT-5 Version Only	
1	+13.8 V Regulated
2	9.5 V Regulated
3	RX A Audio
6	RX B Audio
4-5, 7-12	NIICD Technician Testing
Revised 2024	

4370 - AIRCRAFT RADIO/LINK SWITCH SETTINGS (LINK CONFIGURATION - MT5)



4370 - AIRCRAFT RADIO/LINK: (LINK CONFIGURATION - MT5 VERSION)

- Set up the **VHF-AM antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for info)***
- Set up the **UHF antenna** and attach to the appropriate antenna base and bulkhead connector located on the back of the fiberglass box.
- Connect the sub rack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once power is connected, all modules are active. ***(No Master Power Switch)***
  (SLA Battery-4150 kit or Solar Panel-4080 kit is required to power up NIICD equipment)
- Keep both **CTCSS** switches, located on the **Audio Control Module** in the "**OFF**" (down) position.
- Keep the power switches on the **TX A and RX A in the "NORM"** position.
- Keep the **MIC MODE** on the **TX A** in the **ANALOG** position.
- Turn "**ON**" the **Utility Module** by turning the **ON/OFF/VOL** switch clockwise past the detent.
- Toggle the **A/B CH Side** to the **A** position for a visual indicator of the **UHF Link Channel** selected.
  Note: The Utility Module does not have to powered ON to switch the UHF Link Channels on the Audio Control Module.
- Select the **assigned FM UHF link frequency** for both the **TX A** and **RX A** using the 16-position rotary knob on the **Audio Control Module**. ***(Audio Control Switch - UHF Link Frequency/Tone Table)***
  Note: The NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.
- Turn "**ON**" the **ICOM-A120** radio by pressing and holding the **Blue Power** sofkey until the radio turns on.
- Select the **assigned AM RX and TX frequency** by scrolling up or down using the Up/Down softkeys on the ICOM Mobile radio.
  Note: If VFO is not selected on the ICOM-A120 radio See ICOM-A120 VFO Manual AM Frequency Programming)
- *Test with **one AM** and **one UHF radio** to verify link is operating correctly.* ***(NIICD recommends testing with the field units or Heli-Base is possible before leaving the site)***
- Before leaving the site, NIICD recommends turning "**OFF**" the **Utility Module** by turning the **ON/OFF/VOL** switch counterclockwise past the detent.

Equipment Notes:

- *The CDO or COMC will assign the appropriate **AM** frequency issued directly from the FAA.*
- *Contact the CDO for an assigned **AM** and **UHF** link frequency at 208-387-5644.*
- *The Audio Control Switch is a **16 position rotary** switch with position 1 being straight up.*
- *The **Function Switches** on the **Utility Module** are only for shop testing and used in conjunction with the meter leads.*

ICOM-A120 VFO Manual AM Frequency Programming:

NIICD default of the ICOM-A120 Radio is set to VFO (Variable Frequency). The LCD will indicate "VFO" on the screen.

If the radio is not set to VFO, follow the following procedure:

- *Press the "**Menu/CLR**" soft key*
- *Highlight "**VFO Mode**" using the **Up/Down** softkeys.*
- *Press the "**Mhz/GRP**" softkey.*
- *The radio will default back to the **VFO Mode** and ready for direct entry of AM frequencies using the **Up/Down** softkeys.*
- *Once the assigned frequency is set, press and hold the "**SQL**" key to lock the frequency. LCD will briefly indicate "**Lock On**"*

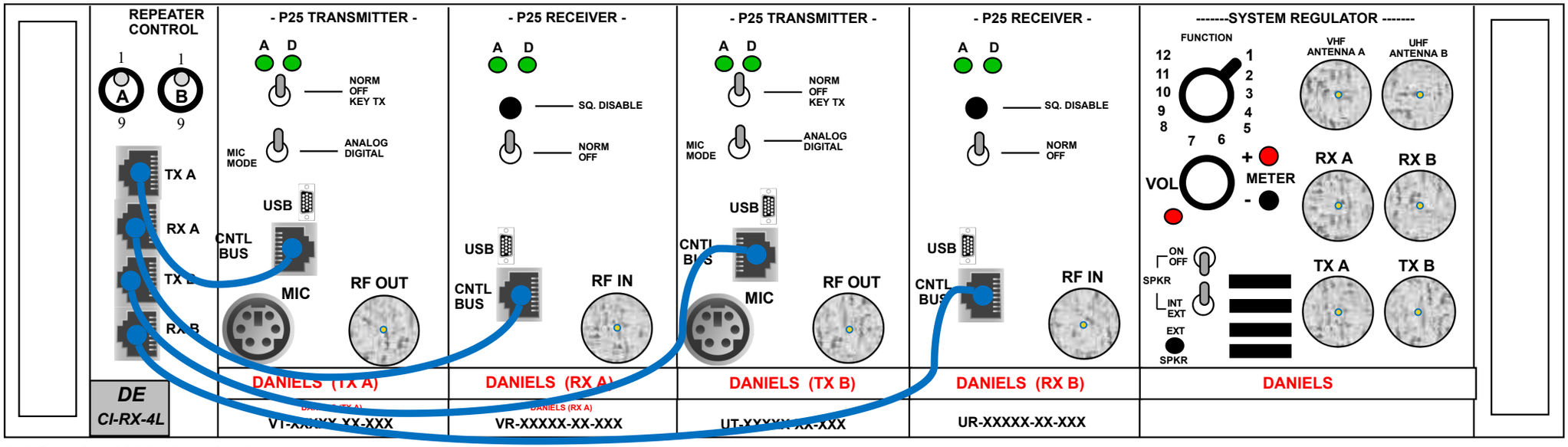
For detailed information on programming the ICOM-A120 Radio, see the NIICD User's Guide.

Audio Control Switch - UHF Frequency/Tone Table		
Position A1	A/C 1 Simplex	Tone 1: 110.9
Position A2	A/C 2 Simplex	Tone 1: 110.9
Position A3	A/C 3 Simplex	Tone 1: 110.9
Position A4	A/C 4 Simplex	Tone 1: 110.9
Position A5	A/C 5 Simplex	Tone 1: 110.9
Position A6	A/C 6 Simplex	Tone 1: 110.9
Position A7	A/C 7 Simplex	Tone 1: 110.9
Position A8	A/C 8 Simplex	Tone 1: 110.9
Position A9	A/C 9 (L8 Simp)	Tone 1: 110.9
Position A10	A/C 10 (L8 RPTR)	Tone 1: 110.9
Position A11	A/C 11 (L9 Simp)	Tone 1: 110.9
Position A12	A/C 12 (L9 RPTR)	Tone 1: 110.9
Position A13	A/C 13 (L10 Simp)	Tone 1: 110.9
Position A14	A/C 14 (L10 RPTR)	Tone 1: 110.9
Position A15	A/C 15 (L11 Simp)	Tone 1: 110.9
Position A16	A/C 16 (L11 RPTR)	Tone 1: 110.9

System Monitor Switch Functions (4370 - Aircraft Radio Link Configuration) MT-5 Version Only	
1	+13.8 V Regulated
2	9.5 V Regulated
3	RX A Audio
6	RX B Audio
4-5, 7-12	NIICD Technician Testing
Revised 2024	

2025 NIICD Equipment Switch Settings

4281 - CROSSBAND LINK SWITCH SETTINGS



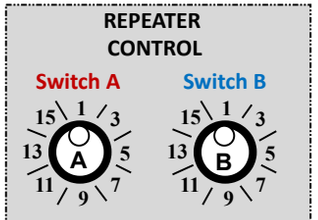
4281 Crossband Link: ***(Link Configuration)***

- Set up the VHF Antenna and attach the coax to the appropriate VHF Base and connector on the bulkhead mount located on the back of the fiberglass box. ***(See Antenna Instructions in the User's Guide for more info)***
- Set up the UHF Antenna and attach the coax to the appropriate UHF Base and connector on the bulkhead mount located on the back of the fiberglass box.
- Connect the subrack power cable to the SLA batteries using the provided **POLARIZED** fused cable. Once the power cable is connected, all modules are active. ***(No master power switch)***
  (SLA Battery-4150 kir or Solar Panel-4080 kit is required to power up NIICD equipment)
- Turn each module "**ON**" by keeping the power switches on the **TX A**, **RX A**, **TX B**, and **RX B** in the "**NORM**" position.
- Keep both **Mic Mode** on **TX A** and **TX B** in the "**ANALOG**" position.
- Keep the **speaker audio OFF** by switching the **Speaker Switch** on the **System Regulator** to the "**OFF**" position.
- Select the assigned **VHF** frequency/tone for both the **TX A** and **RX A** modules using the 16-position rotary **Switch A** on the **Repeater Control Module**. ***(Switch A, VHF Frequency Select)***
- Select the assigned **UHF** frequency/tone for both the **TX B** and **RX B** modules using the 16-position rotary **Switch B** on the **Repeater Control Module**. ***(Switch B, UHF Frequency Select)***
  Note: NIICD has implemented a fixed RX/TX tone of 110.9 on all UHF frequencies to help minimize interference on incoming UHF signals.
- Test with the appropriate handhelds to verify the link is operating correctly. ***(NIICD recommends testing with the field units or ICP if possible before leaving the site)***

Equipment Note:

- *Selecting a tone will enable the tone on both **TX A** and **RX A** modules.*
- *The Communications Duty Officer (CDO) or COMC will assign the appropriate tone and UHF frequency for each incident.*
- *Contact the CDO for dedicated Tone and UHF frequency assignment @ 208-387-5644*
- *Both **Switch A** and **Switch B** is a **16** position rotary switch, with Position 1 being straight up.*
- *The Function Switches on the System Regulator Module are ony for a shop testing and used in conjunction with the meter leads.*

Close-Up View of Switch A and Switch B on the Repeater Control Module



Switch A - VHF Frequency List	
Position A1	C1 RPTR
Position A2	C2 RPTR
Position A3	C3 RPTR
Position A4	C4 RPTR
Position A5	C5 RPTR
Position A6	C6 RPTR
Position A7	C1 RPTR
Position A8	C1 RX Simplex
Position A9	C2 RX Simplex
Position A10	C3 RX Simplex
Position A11	C4 RX Simplex
Position A12	C5 RX Simplex
Position A13	C6 RX Simplex
Position A14	C1 RX Simplex
Position A15	Special Use
Position A16	Special Use

Switch B - UHF Frequency List	
Position B1	L1 RPTR
Position B2	L2 RPTR
Position B3	L3 RPTR
Position B4	L4 RPTR
Position B5	L5 RPTR
Position B6	L6 RPTR
Position B7	L7 RPTR
Position B8	L1 RX Simplex
PositionB 9	L2 RX Simplex
Position B10	L3 RX Simplex
Position B11	L4 RX Simplex
Position B12	L5 RX Simplex
Position B13	L6 RX Simplex
Position B14	L7 RX Simplex
Position B15	Special Use
Position B16	Special Use

To Enable Audio to Internal Speaker for Troubleshooting:

1. Enable the speaker by switching the Speaker switch located on the **System Regulator Module**, to the "**ON**" position.
2. Select the desired receiver audio, **A** or **B**, by turning the Function Switch located on the **System Regulator**, to **position 3 for RX Audio A or position 5 for RX audio B**.

*Note: Select "**INT**" on the System Regulator Module to enable the audio to the internal speaker or "**EXT**" for the external speaker*

System Regulator Switch Functions *(4281 - Crossband Link VHF to UHF)*	
1	+13.8 V (Supply Voltage)
2	+9.5 V Regulated
3-12	NIICD Technician Testing
Revised 2024	

2025 NIICD Equipment Switch Settings