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Replaces Joint Counter Radio Handbook
LED Electronic Warfare Radio Controlled

CREW Systems Smart Card

CREW 101

- When properly used, a CREW system prevents the enemy's RCIED transmitter from communicating with the RCIED receiver. It prevents the RCIED from being detonated.
- Four critical factors influence the effectiveness of CREW:
 - FREQUENCY:** Operators must ensure that their system is programmed with the proper threat load prior to departing on any mission.
 - POWER:** Conducting proper PMCS helps to ensure that nothing degrades the CREW transmission signal.
 - LINE OF SIGHT (LOS):** All obstacles (natural and man-made) degrade the protection that a system provides. Every reasonable effort should be made to maximize a system's effective coverage area to provide overlapping protection with adjacent CREW systems.
 - DISTANCE:** CREW effectiveness is inversely proportional to the distance from the device being jammed.
- It is critical that all PMCS is properly performed and operational checks are conducted for CREW and comm systems prior to starting any mission. Ensure that mission planning includes time for these checks.
- LEAVE YOUR CREW SYSTEM ON. IT DOES NOT PROVIDE ANY PROTECTION IF IT IS NOT ON.**

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NOTE: Access to the JCREW website requires CAC registration and login.

To get an electronic copy of the Smart Card or to propose changes or improvements to the Card, go to the JCREW website <https://crew.jcom.mil> and select CREW Smart Card from the menu on the left side of the page.

If the system is in danger of being captured or must be abandoned, ZEROIZE the system immediately, and destroy it by any means possible as dictated by local TTPs.

DO NOT TURN OFF OR SET CREW SYSTEM INTO STANDBY MODE UNLESS DIRECTED BY HIGHER AUTHORITY OR EOD PERSONNEL ON THE SCENE.

- Conduct thorough checks before going on any mission.
- systems 25 feet away from unsafe ordnance and 50 feet away from fueling operations.
- To prevent risk of explosions or fire, keep active CREW systems near obstacles and in limited clearance areas to prevent antenna damage.
- Use caution near obstacles and in limited clearance areas to prevent antenna damage.
- Do not connect or disconnect antennas when the system is ON.
- Do not touch antennas when the system is ON.
- systems.
- Remain clear of active antennas on mounted or fixed-site systems.
- Maintain proper separation between antennas to prevent system interference.

Safety Considerations

Symphony

Symphony Remote Control Unit (RCU) **Symphony Vehicle-Based System (VBS)**

TURN ON PROCEDURE

The VBS and the RCU contain identical controls and they display identical information on their LCDs. These procedures can only be performed from the RCU when the RCU is connected to the VBS.

- On the back of the VBS, turn the red switch SW-1 ON.
- On the RCU or VBS, press and hold **STANDBY** for 3 seconds.
- The LCD displays **SYMPHONY RUNNING TESTS**.
- When the tests end, the display shows the name of the threat load on the top line and **SYSTEM OK** on the bottom line.
- To select a different threat load, press **FILL** until the proper threat load is displayed.

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STANDBY MODE

- To enter Standby mode, press and hold **STANDBY** for 1 second.
- When the Active LED is off, the system is in Standby mode.
- To return to active jamming, press and hold **RUN** for 3 seconds. The system is jamming when the Active LED is on.

WARNING: There is NO JAMMING when in Standby mode.

TURN OFF PROCEDURE

- On the RCU, press and hold **OFF** for 3 seconds.
 - NOTE: Electricity remains on in the VBS to maintain the threat load.**
- To turn the power completely OFF, on the back of the VBS, turn the red Power switch SW-1 OFF.

When SW-1 is turned off, the system zeroizes.

ZEROIZE / EMERGENCY ERASE

If the system is in danger of being captured or must be abandoned, **ZEROIZE** the system immediately, and destroy it by any means possible as dictated by local TTPs.

To **ZEROIZE** the system, on the back of the VBS, turn the red Power switch SW-1 OFF.

TROUBLESHOOTING

RCU Inoperable – The RCU is not working.

- Turn the power OFF.
- Check the RCU cable connections.
- Follow the TURN ON PROCEDURE.

Bad Fill Data Error Message
The system has lost its threat load. The threat load must be reloaded.

Bad T/Out Error Message
Each Threat Load is only valid for a defined time span. Reload Symphony with the current Threat Load.

Bad GPS Aerial Error Message
Turn the power OFF. Check the GPS cable connections. Follow the TURN ON PROCEDURE.

GPS Ref Lost Error Message
If this message doesn't clear within a few minutes of entering Standby Mode:
Check the antenna for proper placement, clearance from obstructions, and a clear signal path. The system continues to operate, but loses accuracy over time. This message will automatically appear when the **Bad GPS Aerial** Error Message is also present.

Bad Ch A or Bad Ch B Error Message
Press and hold **OFF** for 3 seconds. After one minute, press and hold **STANDBY**.

- If the error cleared, press and hold **RUN** for 3 seconds.
- If the error still displays, follow the complete TURN OFF PROCEDURE. Wait one minute, follow the TURN ON PROCEDURE and reload the threat load.
- If the error still displays, return the system to an FSR.

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Duke Indicator Lights

SYSTEM STATE	DUKE FAULT INDICATOR LIGHTS		
	GREEN ON LED	AMBER XMIT LED	RED FAULT LED
System is transmitting Active and reactive jamming GPS System Fault	ON	Blinking	ON
System is transmitting Active and reactive jamming Antenna Fault	ON	Blinking	Blinking
System is zeroized	Blinking	Blinking	Blinking

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SYSTEM STATE	NORMAL OPERATING INDICATOR LIGHTS		
	GREEN ON LED	AMBER XMIT LED	RED FAULT LED
System is transmitting Active jamming only No Fault	ON	OFF	OFF
System is transmitting Active and reactive jamming No Fault	ON	Blinking	OFF

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SYSTEM STATE	STANDBY INDICATOR LIGHTS		
	GREEN ON LED	AMBER XMIT LED	RED FAULT LED
System in standby Not jamming No Fault	Blinking	OFF	OFF
System in standby Not jamming GPS/System Fault	Blinking	OFF	ON
System in standby Not jamming Antenna fault	Blinking	OFF	ON

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ZEROIZE / EMERGENCY ERASE

If the system is in danger of being captured or must be abandoned, **ZEROIZE** the system immediately, and destroy it by any means possible as dictated by local TTPs.

- Ensure that system power is ON. Power is required to zeroize or emergency erase the system.
- Lift the red cover and press and hold down the **ZEROIZE** switch (Fig. 3) until all three LEDs blink simultaneously, indicating that the threat load is being erased.
- Turn **OFF** the power after 2 minutes.

Fig. 3: Hold down ZEROIZE switch

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Duke V2

Duke V2 Remote Control Unit (RCU) **Duke V2 Primary Unit**

TURN ON PROCEDURE WITH RCU

- Start the vehicle.
- On the RCU, set the Run/Standby switch to **STANDBY**, and set the Power switch to **OFF** (Fig. 1).
- On the Primary Unit, set the Power switch to **REMOTE**, and set the Run/Standby switch to **RUN** (Fig. 2).
- Return to the RCU and set the Power switch to **ON** (Fig. 1).
 - NOTE: The unit performs a diagnostic test. When finished, if lights show green blinking, amber off, and red off, go to step 5. If not, see the Duke Indicator Lights charts on this card to determine what is wrong.**

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TURN ON PROCEDURE WITHOUT RCU

- Start the vehicle.
- Set the Primary Unit Power switch to **PWR OFF**, and set the Run/Standby switch to **STANDBY** (Fig. 2).
- Set the Primary Unit Power switch to **PWR ON** (Fig. 1).
 - NOTE: The unit performs a diagnostic test. When finished, if the lights show green blinking, amber off, and red off, go to step 4. If not, see the Duke Indicator Lights charts on this card to determine what is wrong.**
- Set the Run/Standby switch to **RUN**. The green light is ON, indicating that the system is active jamming. The amber light blinks when the unit is reactive jamming.

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STANDBY MODE

- To enter Standby mode, set the Run/Standby switch to **STANDBY**.
- To return to active jamming, set the Run/Standby switch to **RUN**.

WARNING: There is NO JAMMING when in Standby mode.

TURN OFF PROCEDURE WITH RCU

- On the RCU, set the Run/Standby switch to **STANDBY**.
- On the RCU, set the Power switch to **OFF**.
- On the Primary Unit, set the Run/Standby switch to **STANDBY**.
- On the Primary Unit, set the Power switch to **OFF**.

TURN OFF PROCEDURE WITHOUT RCU

- On the Primary Unit, set the Run/Standby switch to **STANDBY**.
- On the Primary Unit, set the Power switch to **OFF**.

ZEROIZE / EMERGENCY ERASE

If the system is in danger of being captured or must be abandoned, **ZEROIZE** the system immediately, and destroy it by any means possible as dictated by local TTPs.

- Ensure that system power is ON. Power is required to zeroize or emergency erase the system.
- Lift the red cover and press and hold down the **ZEROIZE** switch (Fig. 3) until all three LEDs blink simultaneously, indicating that the threat load is being erased.
- Turn **OFF** the power after 2 minutes.

Fig. 3: Hold down ZEROIZE switch

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Duke V3

Duke V3 Remote Control Unit (RCU) **Duke V3 Primary Unit and Secondary Unit**

TURN ON PROCEDURE WITH RCU

- Start the vehicle.
- On the RCU, set the Run/Standby switch to **STANDBY**, and set the Power switch to **OFF**.
- At the Primary and Secondary Units, set the Power switch to **REMOTE**, and set the Run/Standby switch on the Primary Unit to **RUN**.
- Return to the RCU and set the Power switch to **ON**.
 - NOTE: The unit performs a diagnostic test. When finished, if lights show green blinking, amber off, and red off, go to step 5. If not, see the Duke Indicator Lights charts on this card to determine what is wrong. On the Secondary Unit, there is a blue indicator light for the GPS. If on, there is GPS lock; if off, there is a lost signal or no GPS lock.**

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TURN ON PROCEDURE WITHOUT RCU

- Start the vehicle.
- At the Primary Unit, set the Power switch to **OFF**, and set the Run/Standby switch to **STANDBY**.
- At the Secondary Unit, set the Power switch to **REMOTE**.
- At the Primary Unit, set the Power switch to **ON**.
 - NOTE: The unit performs a diagnostic test. When finished, if lights show green blinking, amber off, and red off, go to step 5. If not, see the Duke Indicator Lights charts on this card to determine what is wrong. On the Secondary Unit, there is also a blue indicator light for the GPS. If on, there is GPS lock; if off, there is a lost signal or no GPS lock.**
- Set the Run/Standby switch to **RUN**. The green light is ON when the system is active jamming. The amber light blinks when the unit is reactive jamming.

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STANDBY MODE

- To enter Standby mode, set the Run/Standby switch to **STANDBY**. The green LED blinks.
- To return to active jamming, set the Run/Standby switch to **RUN**.

WARNING: There is NO JAMMING when in Standby mode.

TURN OFF PROCEDURE WITH RCU

- On the RCU, set the Run/Standby switch to **STANDBY**.
- On the RCU, set the Power switch to **PWR OFF**. The green LED turns off.
- On the Primary Unit, set the Run/Standby switch to **STANDBY**.
- On the Primary Unit, set the Power switch to **OFF**.

TURN OFF PROCEDURE WITHOUT RCU

- On the Primary Unit, set the Run/Standby switch to **STANDBY**.
- On the Primary Unit, set the Power switch to **OFF**.

ZEROIZE / EMERGENCY ERASE

If the system is in danger of being captured or must be abandoned, **ZEROIZE** the system immediately, and destroy it by any means possible as dictated by local TTPs.

- Ensure that system power is ON. Power is required to zeroize or emergency erase the system.
- Lift the red cover of any of the Zeroize switches. Press and hold down the switch in the **ZEROIZE** position until all three lights blink simultaneously, indicating that the threat load is being erased.
- Turn **OFF** the power after 2 minutes.

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CREW Systems

Symphony **Duke V2**

Duke V3 **Duke / Jukebox**

Thor III **Guardian / QRD**

CVRJ **MMBJ-2.1**

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Distribution authorized to Department of Defense and U.S. DoD Contractors only. Further distribution only as directed by Program Executive Office Littoral and Mine Warfare, EOD/CREW Program Manager, 614 Sicard St. SE, Washington Navy Yard, DC 20376-7003 or higher authority.

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Duke / Jukebox

Jukebox Remote Control Unit (RCU) **Duke V2 Remote Control Unit (RCU)**

Jukebox Primary Unit **Duke V2 Primary Unit**

TURN ON PROCEDURE

- Start the vehicle.
- Follow the steps for Duke V2 TURN ON PROCEDURE (with or without the RCU).
- Set the **BLANKING** switch to **BLANKING** on the Jukebox Primary Unit and on the RCU (if installed).
 - NOTE: Jukebox should always operate in BLANKING mode.**
- With Duke RCU installed, set the RCU Run/Standby switch to **RUN**. With no RCU, set the Primary Unit Run/Standby switch to **RUN**.
 - CAUTION: Duke V2 must be powered on before powering on Jukebox to avoid inducing a Duke V2 fault.**

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TURN OFF PROCEDURE

- On the Jukebox RCU, set the Power switch to **OFF**.
- On the Duke V2 [front panel or RCU], set the Duke V2 RUN / STANDBY switch to **STANDBY**.
- On the Duke V2 [front panel or RCU], set the Duke V2 Power switch to **OFF**.
- On the Jukebox front panel, set the Power switch to **OFF**.

ZEROIZE / EMERGENCY ERASE

If the system is in danger of being captured or must be abandoned, **ZEROIZE** the system immediately, and destroy it by any means possible as dictated by local TTPs.

- Ensure that system power is ON. Power is required to zeroize or emergency erase the system.
- Lift the red cover of the Duke **ZEROIZE** switch. Press and hold down the switch in the **ZEROIZE** position until all three lights blink simultaneously, indicating that the threat load is being erased.
- Turn **OFF** the power after 2 minutes.

Note: JUKEBOX cannot be zeroized.

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