U.S. Air National Guard: A Unique Asset to LE, During Interdiction

In this interview, LtCol. Mathwig of the Air National Guard will describe his flight experience with tactical communications equipment to support local law enforcement officers, during narcotics interdiction efforts.

Describe your background in aviation.

I am a RC-26 Mission Systems Operator. I have been involved with the Air National Guard's RC-26 program from its beginning in 1998.

Photo: Fairchild RC-26 Metroliner

Describe the RC-26 aircraft

The RC-26B is a fixed-wing, twin-turboprop Metroliner made by Fairchild.

What is the primary mission of the RC – 26 program?

The primary mission of the Air National Guard's RC – 26 program is to support counter narcotics law enforcement officers by providing day/night aerial intelligence, surveillance and reconnaissance.

The RC-26 program operates under Title 32, which means that we do not perform law enforcement we support law enforcement. During flights there is always an officer on-board our aircraft to direct their operations. We provide the plane and operate equipment to provide a unique asset to law enforcement. The officer on-board communicates information to agents on the ground primarily by adapting their handheld radios through the ICRI gateway.

In addition to our support of counter narcotics, we support humanitarian aid and relief efforts. We supported the Hurricane Katrina and the earthquake in Haiti relief efforts. RC-26B crews also directed oil skimmers during the cleanup of the Gulf and provided full motion video to combat wildfires in California.

Describe your mission in Haiti

RC-26B crews flew over a 200 sorties providing real time high quality Dragoon system FMV Full Motion Video downlink in support of the Haiti earthquake relief effort. Crews tracked the progress of convoy trucks in route to their destination to ensure they could navigate around roadway barriers, such as fallen buildings. They monitored crowds, during food and resource distribution to earthquake victims. Also, they worked with agencies to track suspected gang members and their activities.

While in Haiti we supported the military of multiple country's and civilian organizations. In order to directly communicate with multiple locations, we had the ability to interface a handheld MBITR, through a radio gateway, to the aircraft intercom. Crews could then use the aircraft intercom system to talk over the MBITR. The Full Motion Video through the Dragoon system was downlinked to the command post of the 82nd Airborne and Joint Operations Center in the US Embassy, Haiti. We used the aircraft

Wulfsberg radio to communicate directly to the command post intelligence personnel processing the video.

What are the advantages of radio interoperability?

Because the RC-26 aircraft is requested to support federal, state and local law enforcement, we require a flexible system to communicate with many different radio systems.

The gateway allows us overcome the challenges of various encryption and modulation standards. It also increases our ability to meet rapid mission timing by not requiring a technician to load frequencies and encryption. The agent that flies brings their handheld radio. The handheld radios the agents carry daily and connect it to the handheld radio gateway.

The gateway itself is simple to setup and can be connected to any military or commercial radio in minutes. Our aircraft intercom is connected to the gateway, allowing the officer on-board to communicate with the law enforcement officers on the ground, over the aircraft ICS intercom.

Describe your system configuration

The gateway that we use, the "ICRI", requires a power source, either external AC/DC or batteries. It also requires a connection to our aircraft intercom system, via a legacy connection point on the RC-26 aircraft. Lastly, a radio specific interface cable connects from the portable radio's speaker/mic jack to the gateway. The gateway is classified as carry on equipment.

We have chargers on the plane to supply the handheld radios a power source. Additionally, the handheld radio antenna is usually connected to an external, tunable antenna to allow us to operate on a wide range of frequencies.

Where do you connect the cable to the ICRI?

There is a legacy connection point in the RC-26 where 2 models of legacy handheld radios were designed into aircraft. It is similar to the Motorola Convertacom. When the handheld radios are placed into this adapter, they directly interface with the aircraft intercom system. The radios the connection point was designed for are no longer in service.

Currently, a cable connects the legacy connection point to the handset jack on a gateway. When the MIC button is pressed with the handheld radio selected on the aircraft console they are actually keying the handset on the gateway. In response, the gateway then keys the connected radio, allowing the intercom user to talk over it. Audio passes through the gateway in both directions.

For us, the legacy connection point is an easy way to interface the gateway, since it does not require modification to aircraft.

What is involved in the setup?

The gateway is carried aboard the aircraft, which means it does not require an air-worthiness certificate. It is connected to the aircraft intercom and to the aircraft power supply. When an officer boards our aircraft, they bring a radio, typically the radio they carry every day. The radio is then connected to the gateway. We have a BNC antenna adapter and charger for the common handheld radios prepositioned on the aircraft. The handheld radio set up is completed a few minutes before engine start. The agencies we support can change every day, so it is important that our communications equipment be readily adaptable.

How is information relayed to officers on the ground?

During a counter narcotics mission, the law enforcement agent onboard the aircraft relays information to LEOs on the ground. The crew assists the officer on-board with street names and travel directions. Essentially, the crew assists law enforcement agent, who filters and transmits to the officers on the ground.

Using the gateway, the officer does not need to physically hold or key the handheld radio to transmit over it. Instead, they push a button on their intercom control that keys the handheld radio connected to the gateway. Officers do not have to fumble with the handheld radio in flight. Instead, they can focus their attention on the video monitor.

It would be hard to have the radio interface cable for all possible LEO radios, how you do address this?

About 90 percent of the radios we use are covered by 5 to 6 interface cables. If we are working with a new agency, we coordinate before the mission to determine if we have a compatible interface cable. When we do need an additional cable, we contact the manufacturer. The manufacturer is always quick to respond to any of our requests. Alternatively, we ask other units in the area if they can supply the cable. However, we only need a few interface cables to cover the majority of common law enforcement handheld radios.

How much time does it take to bring the gateway on line each time?

The unit it is essentially “plug-n-play.” Once the aircraft is on aircraft power, the gateway can be turned on. Usually the law enforcement agents onboard connect their handheld radio to the gateway themselves. The process takes less than a minute.

Has it been reliable?

The gateway has been extremely reliable. It requires minimal maintenance over the last 10 years.

The ICRI is manufactured in the U.S.A by Communications-Applied Technology, a veteran-owned small business, based in Reston, Virginia. For more information, visit www.c-at.com/ALE