



# BCVFD Communications Training

November 2009



# BCVFD Communications

- Training Agenda
  - BCVFD Radio System
  - Radio Operation and Functions
  - Radio Use

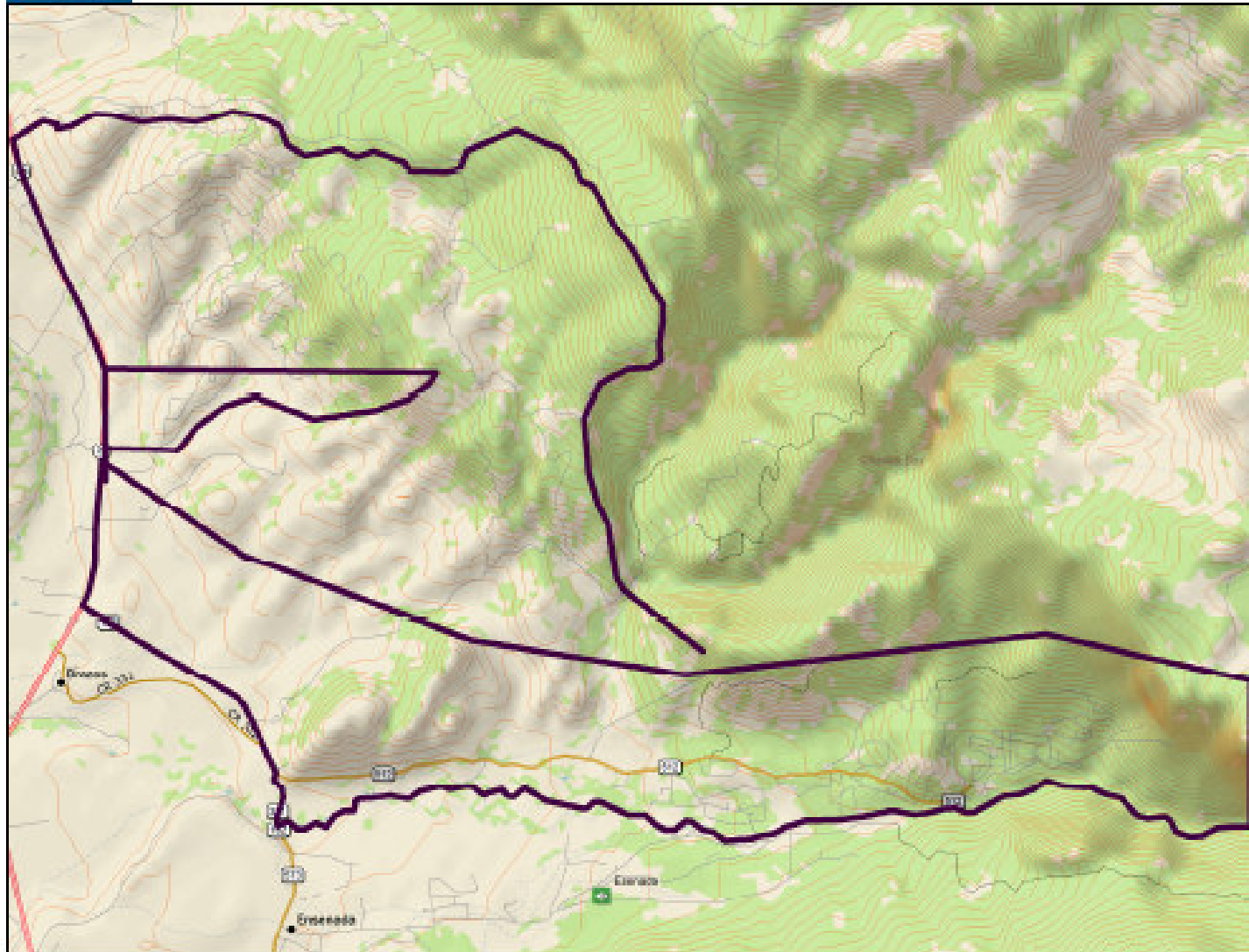


# BCVFD Communications

- BCVFD Communication System
  - Communication Between BCVFD Members
  - Communication with Central Dispatch and the Rio Arriba 911 System
  - Communication with other Fire Fighting Organizations



# BCVFD District





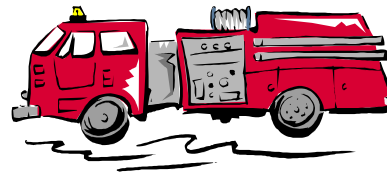
# Available Radio Channels

- Available Radio Channels for BCVFD
  - Brazos Repeater – BRAZ REP
  - Canyon – CANYON
  - State Fire – ST FIRE
  - 911 Rabbit – 911 RABB
  - 911 El Vado – 911 ELVA
  - 911 Direct – 911 DIR
  - Forestry Fire – FSTY FI
  - Tierra Amarilla Fire – TA FIRE
  - Laguna Vista Repeater – LV REP
  - Pager – PAGER



# Canyon Frequency

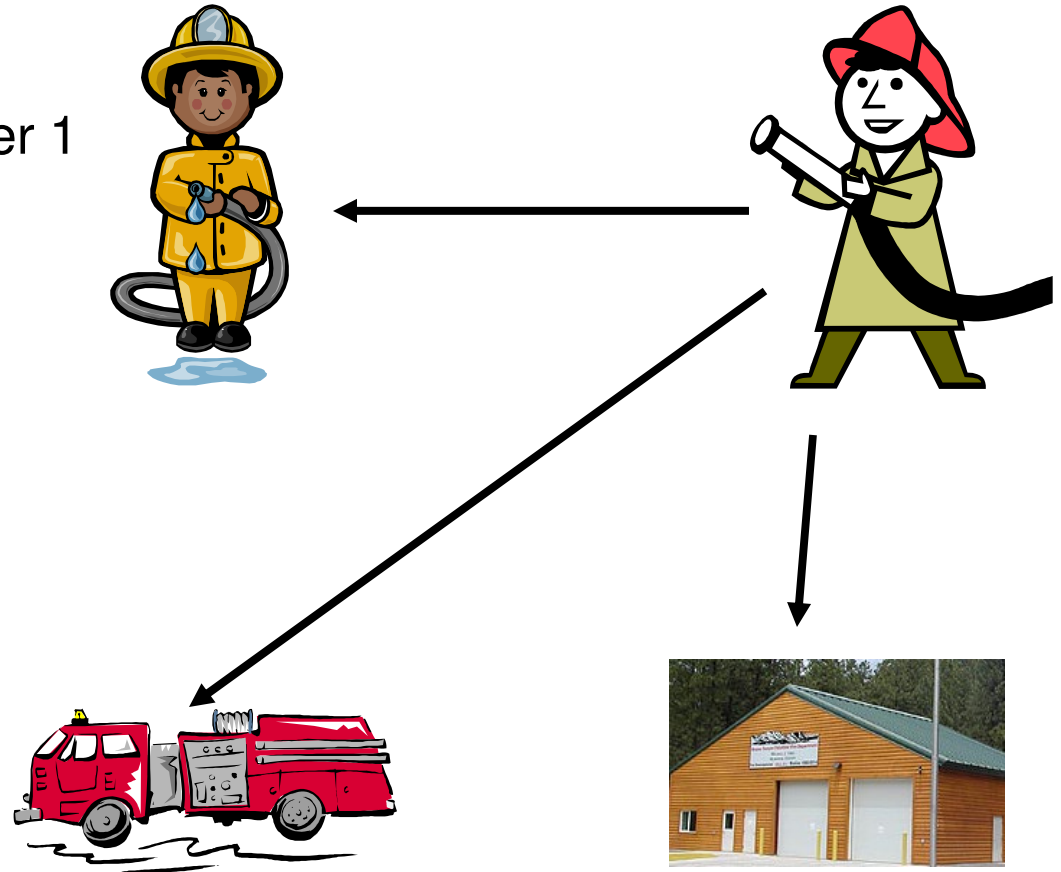
- Direct Communication
  - Firefighter 1 to Firefighter 2
  - Firefighter 1 to Truck
  - Firefighter 1 to Base
- Contact is “Line of Sight” Between Radios
  - Short Distance
  - Doesn’t Go Through Trees or Mountains





# Canyon Frequency

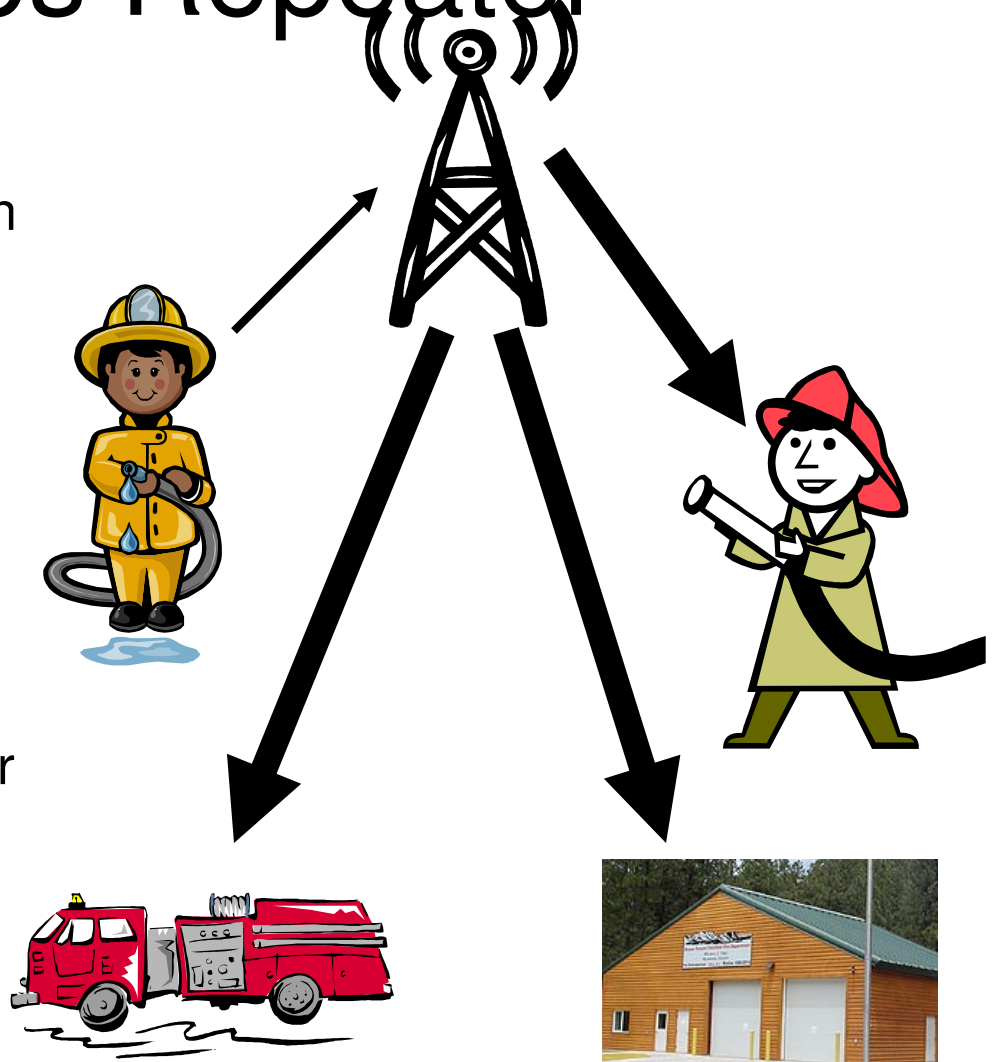
- Response
  - Firefighter 2 to Firefighter 1
  - Firefighter 2 to Truck
  - Firefighter 2 to Base





# Brazos Repeater

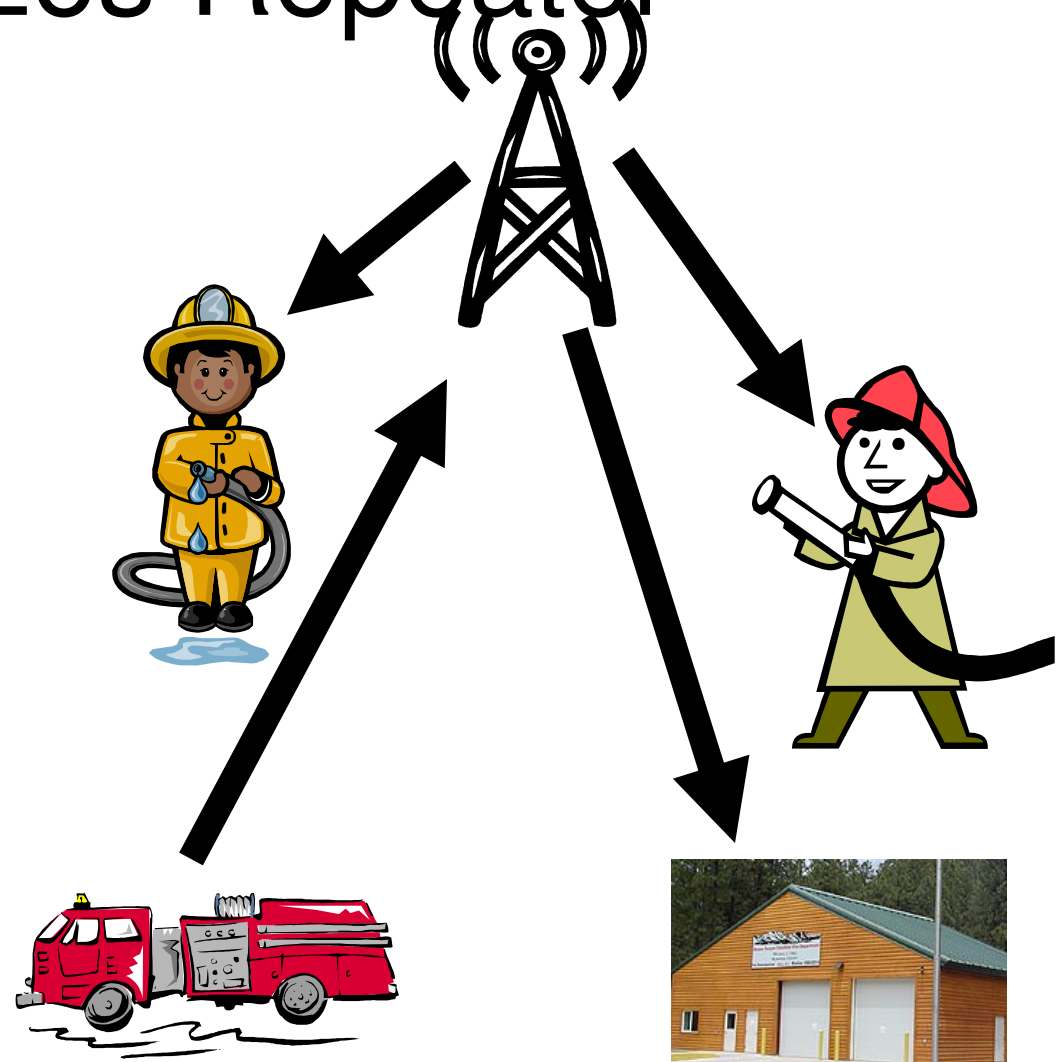
- Communicate Through the Repeater
  - Firefighter 1 to Repeater then
    - Repeater to Firefighter 2
    - Repeater to Truck
    - Repeater to Base
- Contact is “Line of Sight” with Repeater
  - Located at State Forestry Office 84/512
  - Longer Distance
  - Doesn't Go Through Trees or Mountains
  - Repeater is Located to Go Around Mountains in the District





# Brazos Repeater

- Response
  - Truck to Repeater then
    - Repeater to Firefighter 1
    - Repeater to Firefighter 2
    - Repeater to Base

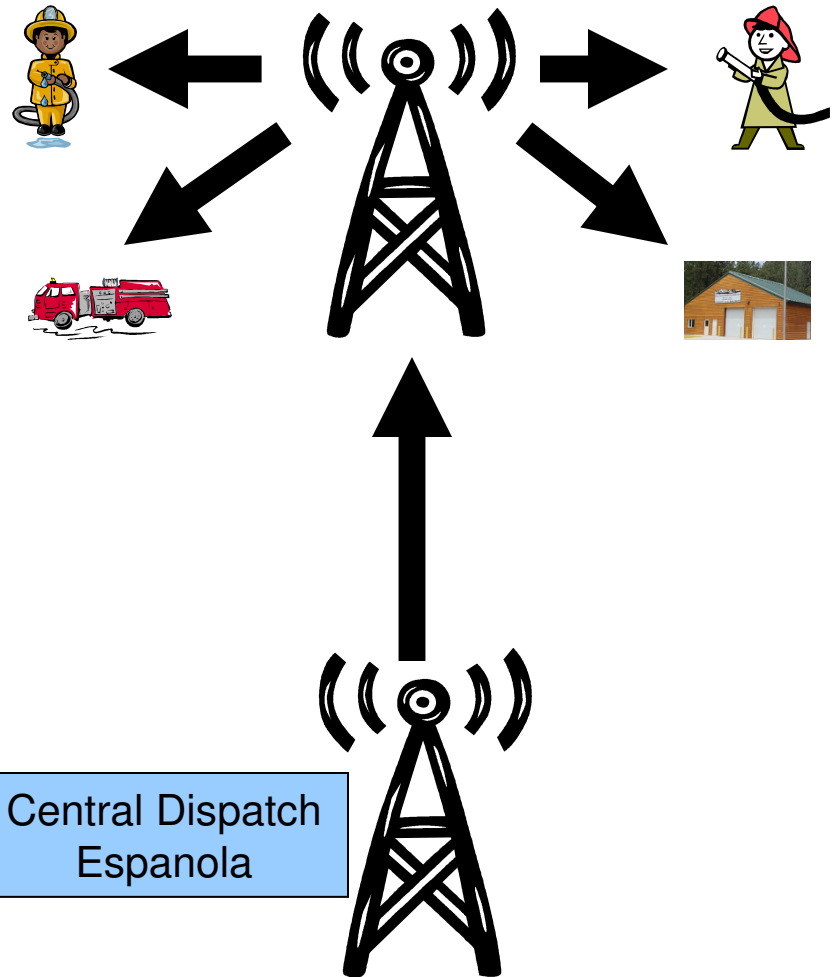




# 911 Repeaters

911 Rabbit or  
911 El Vado  
Repeater

- 911 Communication
  - Originate from Central Dispatch in Espanola
  - Central Dispatch to 911 Rabbit Repeater or 911 El Vado Repeater
  - 911 Repeaters to BCFVFD Radios

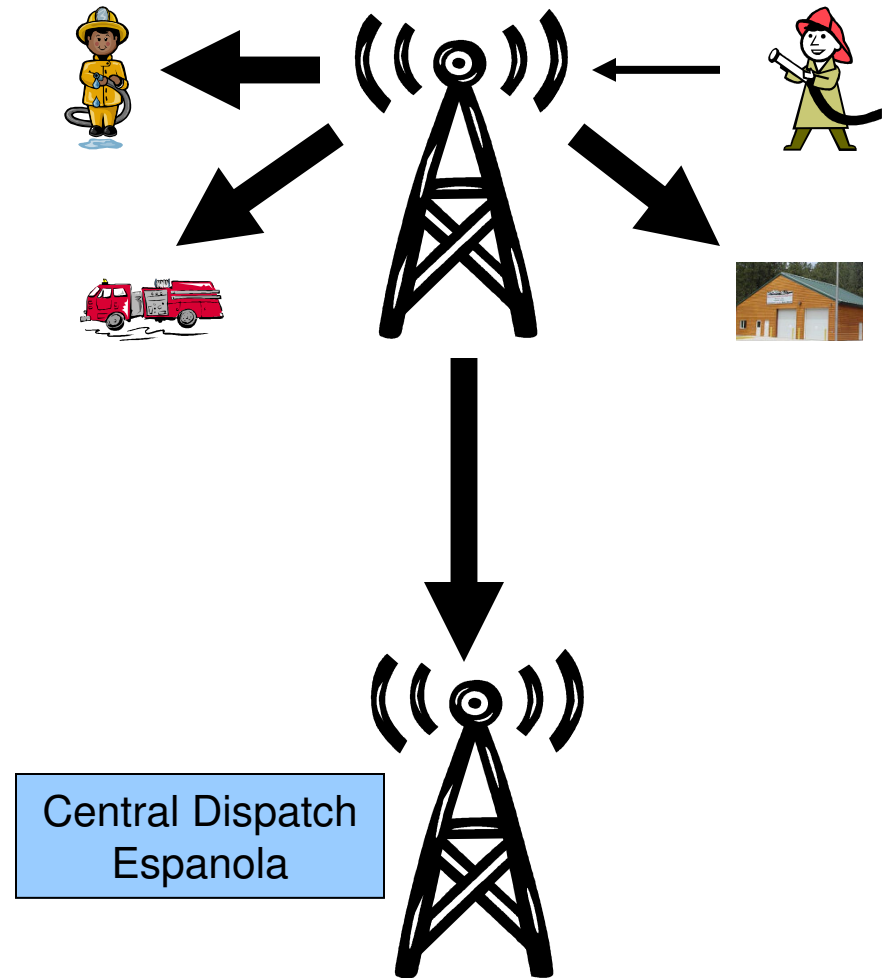




# 911 Repeaters

911 Rabbit or  
911 El Vado  
Repeater

- Response
  - Firefighter 2 to 911 Repeater
  - 911 Repeater to Central Dispatch in Espanola





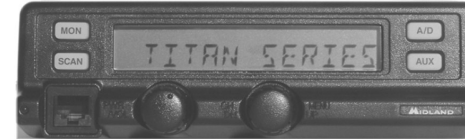
# Other Frequencies

- Laguna Vista Repeater
  - Works Like Brazos Repeater
- Tierra Amarilla Fire
  - Works Like Canyon Frequency
- State Fire
  - Works Like Canyon Frequency
- Forestry Fire
  - Works Like Canyon Frequency



# Equipment

- Handheld – Icom F3021
- Base – Midland 70-1491B
  - Fire Station
  - Paul's House
- Pumper – Midland 70-1491B
- Tender – Icom F121
- Brush Truck – Icom F121
- Fast Attack – Icom F121
- Service Vehicle – Icom F521





# Icom F3021





# Icom F3021



- 5 watt radio
- At power-on “BCVFD V4” is displayed
  - V4 is the current software version
- Battery voltage is also displayed
  - Radio shuts down below 7.2V
- Scan mode starts automatically
- Lock mode starts automatically if the radio was locked when it was turned off



# Icom F3021 - Basics

- Rotate the On/Off Volume knob to midrange
- To Transmit
  - Wait until the channel is not busy
  - Press and hold the push-to-talk (PTT) button
  - Hold the radio 4-6 inches away from your mouth at a 45° angle
  - Wait 3 seconds and begin to speak
  - Release PTT when done





# Icom F3021 – Lock, Monitor

- Leave radio in lock mode most of the time
- Prevents inadvertent channel changes or mode changes
- To lock, press and hold the lock button until the radio beeps and a key is displayed
- To unlock, press and hold the lock button until the radio beeps and the key disappears
- Press and hold the Monitor button to disable the squelch
  - May help to receive a weak signal





# Icom F3021 - Scanning

- The radio continuously cycles through selected channels and will stop on a channel with radio activity
- Scanned channels are cycled on the display
- To stop scanning
  - Unlock the radio
  - Press P0 once
  - Radio automatically goes to Brazos Repeater Channel unless there is activity on another channel
- To start scanning
  - Press P0 once
  - Lock the radio





# Icom F3021- Change Channels

- Unlock the radio
- Press P0 to stop scanning if radio is in scan mode
- Press Scroll Up/Down buttons to select a channel
- Lock the radio





# Icom F3021- Quick Channels

- Unlock the radio
- Press P0 to stop scanning if radio is in scan mode
- Press P1 for Brazos Repeater
- Press P2 for Canyon
- Press P3 for State Fire
- Lock the radio





# Icom F3021 - Change Channels



- Channels may be changed without stopping scan mode
- The change is only temporary and the radio will return to scan mode in 6 seconds



# Icom F3021- General



- Pressing push-to-talk while in SCAN mode
  - Automatically changes channel to Brazos Repeater when there is no radio traffic.
  - Stays on the same channel as a received radio call for 6 seconds to allow a response to the caller



# Icom F3021- Scan Selection



- 4 Scan Selections are Available
  - NORMSCA scans Brazos Repeater, Canyon, 911 Rabbit, 911 El Vado, Pager
  - SCAN SF scan State Fire + NORMSCA
  - RP CN PG scans Brazos Repeater, Canyon, Pager
  - DISABLE – DO NOT USE
  - Most firefighters will select RP CN PG to avoid hearing the TA Med pages



# Icom F3021- Scan Selection



- To Change Scan Selection
  - Cycle power on radio
  - Unlock the radio
  - Press P0 once to stop scanning
  - Press and hold P0 until the radio beeps
  - The current scan selection is displayed
  - Use the scroll up/down keys to change the scan selection
  - Press P0 to lock in the selection
  - Press P0 to start scan
  - Lock the radio



# Icom F3021 - Pager



- Set the Radio to Scan Mode or Select the Pager Channel
- 911 System Transmits a long 539 Hz Tone when Paging BCVFD
- The Pager Function Reacts to the Tone
  - Allows the rest of the 911 call to be heard
  - Displays FIRE on the radio
  - Causes the radio to chime until a button is pushed



# Icom F3021 Maintenance



- Leave the radio in the charger when not in use
  - Amber light when charging
  - Green light when fully charged
- Spare batteries may be charged alone without a radio
- Make sure the antenna is screwed on tightly



# F121 Mobile

- Fast Attack
- Brush Truck
- Tender
- 50 W Radio
- P0, P1, P2, P3, Scroll Up/Down buttons function like the F3021 Handheld radios
- The radio will scan only if the microphone is in the hanger
- No Lock button
- No Monitor button





# F521 Mobile

- Service Vehicle
- 50 Watt Radio
- P0, P1, P2, P3, Scroll Up/Down buttons function like the F3021 Handheld radios
- The radio will scan only if the microphone is in the hanger
- No Lock button
- No Monitor button
- P4 has no function
- Both sets of Up/Down buttons have identical functions





# Midland 70-1491B

- Base Radios
  - Fire Station
  - Paul's House
  - One is in the shop for repair
- Pumper
- 110 W Radio

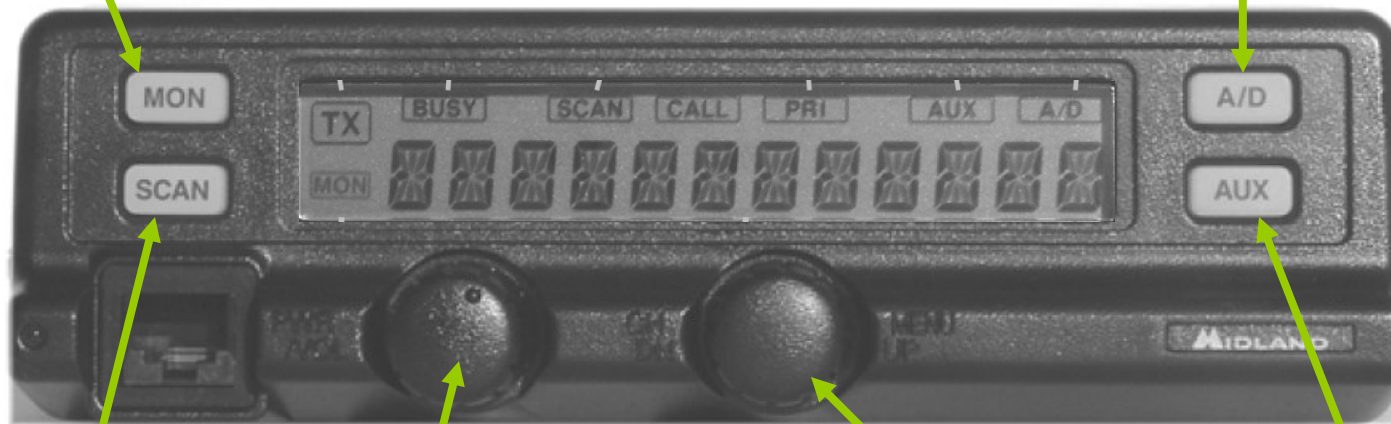




# Midland 70-1491B

Monitor

Frequency Add/Delete



Scan On/Off

On/Off Volume

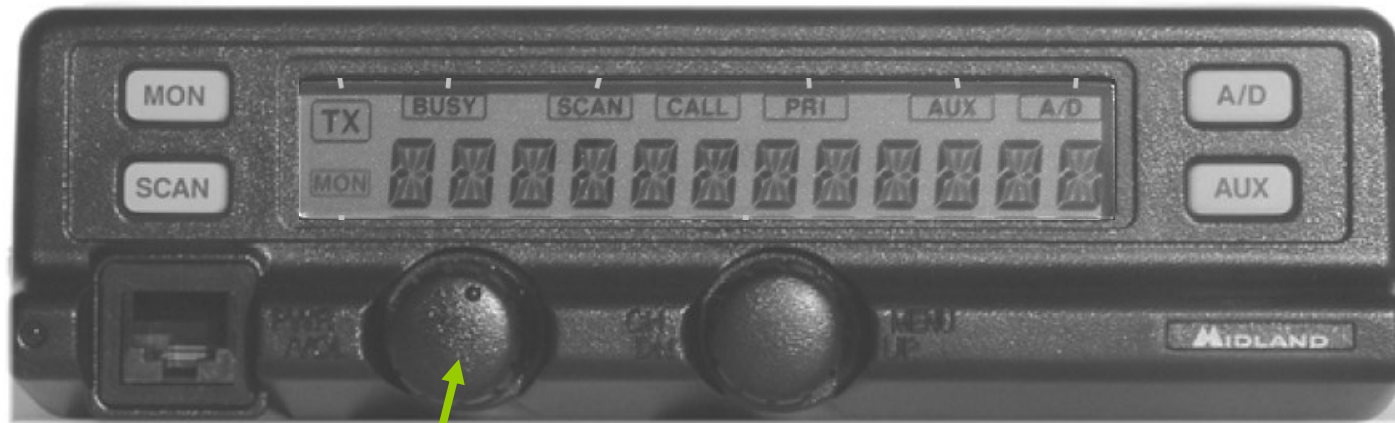
Channel Select

Menu Select

Auxiliary Radio  
On/Off



# Midland 70-1491B



On/Off Volume

Press and Hold for 2 Seconds to turn on

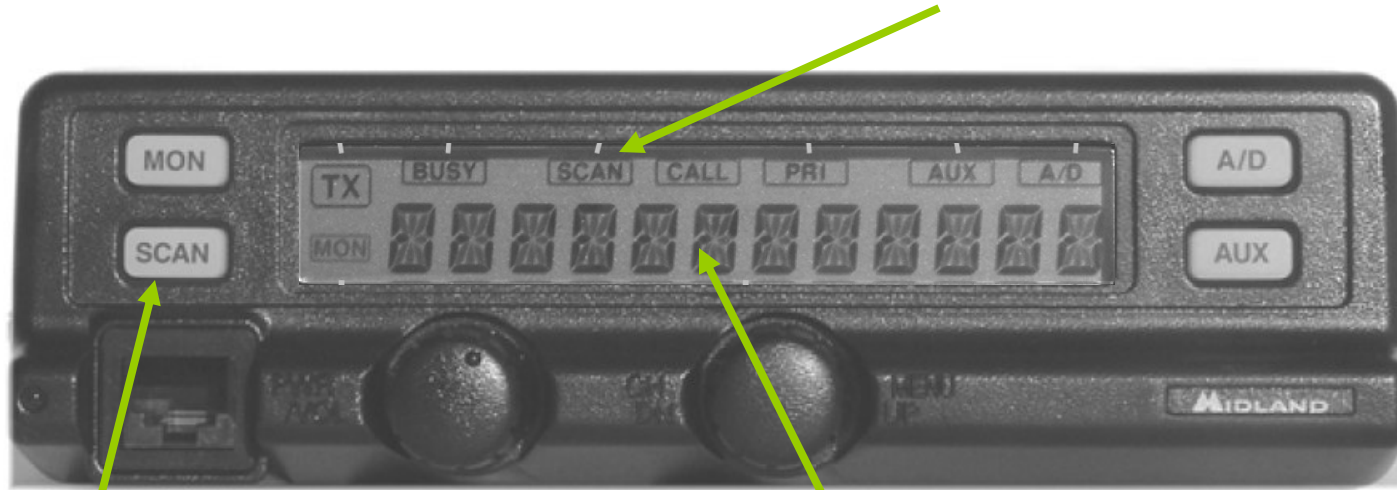
Rotate for volume

Press and Hold for 2 Seconds to turn off



# Midland 70-1491 B

“SCAN” indicator turns on when scan is activated



Scan On/Off

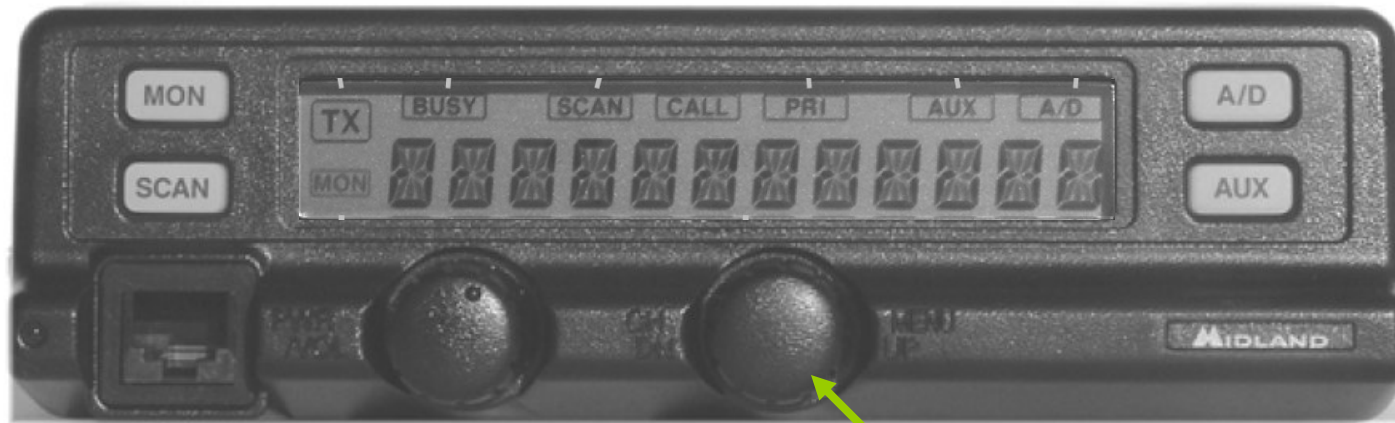
“SCAN B” is displayed when scan is activated

Press SCAN button to activate scanning.

Press SCAN button again to deactivate scanning.



# Midland 70-1491B



Channel Select

Menu Select

To change the channel

Deactivate scanning if the radio is in SCAN mode.

Select the channel by rotating the CHANNEL knob.

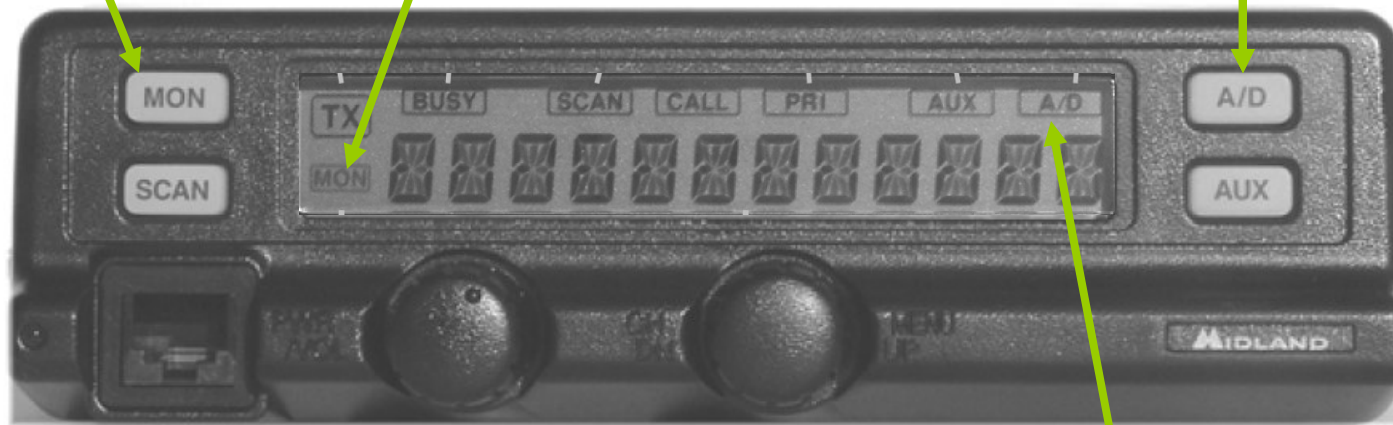


# Midland 70-1491B

Monitor

MON is displayed when Monitor mode is activated

Frequency Add/Delete



A/D indicator

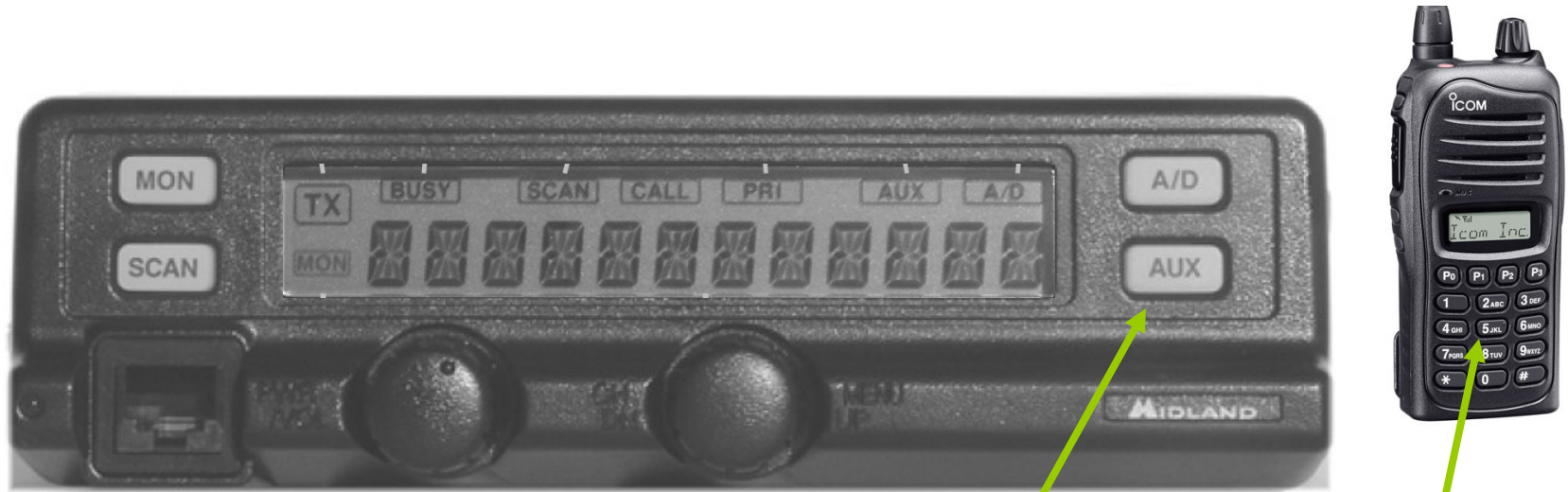
Monitor mode disables the continuous tone squelch.

Don't use the A/D function

Don't use the Monitor function



# Midland 70-1491B



The auxiliary radio works like a wireless microphone and speaker. It can not be used to change frequency, stop scan or anything else. This function allows the mobility of the 5W handheld radio with the transmitting power of the 100W transmitter base unit.

Auxiliary Radio  
On/Off

The auxiliary  
radios have a  
telephone keypad

Auxiliary radio function should be turned off when not in use. The radio can overheat if the aux radio function is on all the time.



# Midland 70-1491B

- Pressing push-to-talk while in SCAN mode
  - Automatically changes channel to the last manually selected channel when there is no radio traffic.
  - Stays on the same channel as a received radio call for 2.5 seconds to allow a response to the caller



# Pumper Intercom

- Intercom System
  - Headsets in the cab
  - Headset for the pump operator
  - Communication from the cab to the pump operator
  - Headsets can also be used with the pumper radio



# Radio Use/Etiquette



# How To Speak On The Radio

- Speak slowly and clearly
- Be concise
- Think about what you want to say before you say it
- Use normal language, no codes



# What to Say On The Radio

- A actual radio communication
  - Brazos 23: “Brazos 11 this is Brazos 23”
  - Brazos 11: “Go ahead 23”
  - Brazos 23: “I can’t get out of the fire station”
  - Brazos 11: “Try pushing on the door instead of pulling”
  - Brazos 23: “That worked”
  - Brazos 11: “Let me know if you need more help”
  - Brazos 23: “Thanks, 23 clear”
  - Brazos 11: “11 clear”



# What To Do If We Get A Page

- Carefully listen to the details
- Paul is best equipped to respond to central dispatch and should respond first if available
  - Base radio in his house
  - Mobile radio in his truck
- Any BCVFD member can respond to Central Dispatch using 911 Rabbit or 911 El Vado
  - Ask Central Dispatch to repeat details if not clear
  - Depending on location handheld radios may not have enough power to hit 911 repeaters
  - Use a land line if necessary, 505-753-5555
  - Use Brazos Repeater channel to communicate information to other firefighters



# What To Do If We Get A Page

- Inform Central Dispatch
  - When you leave the station in an apparatus
  - When you arrive at the scene
  - When you depart the scene
  - When you return to the station
- Truck radios will hit the 911 repeaters
- The driver is the driver, the passenger is the radio operator
- Turn off your handheld while in the truck because it causes feedback
  - Remember to turn it back on when you get out of the truck



# At The Scene

- The Incident Commander should consider having all firefighters change their handheld channel to Canyon
  - May be in an area with poor repeater reception
  - Too much radio traffic on Brazos Repeater
    - Reserve Brazos Repeater for communication between apparatus or additional fire fighters
    - Reduce confusion



# Don'ts

- Don't use the radios for personal use
  - Not a cell phone
  - No grocery lists
- Don't use foul language
  - We have an FCC license to maintain