Shoshone & Other Agencies Repeater/Base Station Map

Communication Sites
- 🔴 Base Station
- 🟢 Repeater

Forests
- Bighorn National Forest
- Bridger-Teton National Forest
- Caribou-Targhee National Forest
- Custer National Forest
- Gallatin National Forest
- Shoshone National Forest

Unit Radio Systems
- Shoshone NF
- Bridger-Teton NF
- Bighorn NF
- Gallatin NF
- Custer NF
- Yellowstone NP
- WY BLM
- Wind River BIA

Site labels on map: Tin Can, Shane Ridge, Iron Mtn, Monument Mtn., Sheep Mtn, Dryhead, Lamar - Henderson, Meadow Lake, Beartooth, Holmes, North -Washburn, Dead Indian Sunlight, Riley Point, Medicine Mtn, Black Mtn, Sheridan, West - Purple Mtn, Shell Rim, Dome Peak, Black Mtn., South - Top Notch, Cedar, CDC Base, NZ SHF Base, Clayton, South - Mt Sheridan, Hunter Mesa, Carter, Wood Ridge, Brokenback, Sheep Mtn, Huckelberry, Hawks Rest, South - Bechler, Gravel, Pumpkin Butte, Indian Ridge, Lava Mtn, Lava Mtn., Wind River Base, Wind River Black Mtn., BIA Black Mtn, Washakie Black Mtn., Rendezvous, Copper Mtn, Bacon, Pinion, Pow Wow, Ramshorn, Bradley, Elkhart, Cyclone Pass, Washakie Base, Cottonwood, Blue Ridge, Limestone, Muddy, South Pass, Deadline, Crooks Mtn, Whiskey Pk

19   20

SECTION IV

OPERATIONS

Priorities for Radio Use
EMERGENCY/SAFETY, FIRE, and Administrative or Routine Traffic

Use the following guidelines when transmitting:
- Listen for traffic and allow conversation to finish prior to use.
- Speak clearly and at a normal voice level. Don't shout into the mic.
- Do not use foul language or any inappropriate comments over the air.
- Keep transmissions brief and to the point. Break longer transmissions up.

Remember – any conversations over the air can be monitored and are being recorded by the base stations at the offices.

NOTE: When transmitting from a repeater channel, you will hear an audible "squelch tail" that is a good indicator that you are hitting the repeater.

Portable Basics

Receive Mode
1. Turn **Off/VOL** knob clockwise ½ turn.
2. Turn **CG-SQ** knob clockwise until noise is heard on speaker, then turn knob counterclockwise until radio "quiets" (no audio heard on speaker).
3. Turn **channel** select knob to desired channel.

Transmit Mode
1. Verify which group you are on by pressing the **#** key on the keypad. *To see the group label, press and hold the **#** key.*
2. To switch groups, press the **#** key followed by the numeric keys of the group you want to switch to, then press **ENT** (i.e. **#05 ENT**), for group 5.   If keypad doesn't work, press and hold **FCN** key until display reads **UNLOCKED**. This will unlock the keypad.
3. Switch **channel** knob to correct repeater or net channel.
4. Hold **mic** at an angle and 1-2 inches from mouth.
5. Push the Push-to-Talk (**PTT**) switch in (red transmit light will light on top of radio), wait 2-4 seconds, speak into **mic**, then release **PTT** when finished talking.

CH	CHANNEL LABEL
	**Group 14 – North Zone Resources 2015 Updated frequencies scheduled for fall 2014**
1	NZ Direct
2	Dead Indian Repeater
3	Meadow Lake Repeater
4	Clayton Repeater
5	Carter Mtn. Repeater
6	Wood Ridge Repeater
7	Clarks Fork Direct
8	Sunlight Repeater
9	Beartooth Repeater
10	Clarks Fork Portable Repeater
11	Work 1
12	GYPO Timber
13	Park County Sheriff Direct (Emergency Only)
14	Park County Sheriff Dead Indian Repeater (Emergency Only)
15	Park County Sheriff Cedar Mtn. Repeater (Emergency Only)
16	Wyoming Mutual Aid (Emergency Only)

Group 14 – North Zone Resources 2015 Updated frequencies scheduled for fall 2014

CH	CHANNEL LABEL
1	NZ Direct
2	Dead Indian Repeater
3	Meadow Lake Repeater
4	Clayton Repeater
5	Carter Mtn. Repeater
6	Wood Ridge Repeater
7	Clarks Fork Direct
8	Sunlight Repeater
9	Beartooth Repeater
10	Clarks Fork Portable Repeater
11	Work 1
12	GYPO Timber
13	Park County Sheriff Direct (Emergency Only)
14	Park County Sheriff Dead Indian Repeater (Emergency Only)
15	Park County Sheriff Cedar Mtn. Repeater (Emergency Only)
16	Wyoming Mutual Aid (Emergency Only)

Group 15 – South Zone Resources 2015 Updated frequencies scheduled for fall 2014

CH	CHANNEL LABEL
1	Washakie Direct
2	Washakie Black Mtn. Repeater
3	Cyclone Pass Repeater
4	South Pass Repeater
5	Blue Ridge Repeater
6	Wind River Direct
7	WR Black Mtn. Repeater
8	Lava Mtn. Repeater
9	Indian Ridge Repeater
10	Windy Ridge Repeater
11	Work 2
12	BLM Copper Mtn. Repeater
13	Fremont County Sheriff Copper Mtn. Repeater (Emergency ONLY)
14	Fremont County Search and Rescue
15	Wyoming Game & Fish Direct
16	Wyoming State Mutual Aid – Repeater (Emergency ONLY)

Group 16 - Open for Fire Incident Programming

Group 12 SHF SO Fire (Continued) (Tone Group Select Group)	
CH	CHANNEL LABEL
9	BIA Fire Line
10	BIA Black Mtn. Repeater TG-10
11	WY01P AG 13
12	WY05P AG 12
13	Park County FPD2 – Cedar Repeater TG-9
14	Fremont County FPD Copper Repeater TG-10
15	VFIRE21 TG-6
16	National Flight Following TG-1

Group 13 – Shoshone NF 2015 -Updated frequencies scheduled for fall 2014	
CH	CHANNEL LABEL
1	NZ Direct
2	Dead Indian Repeater
3	Meadow Lake Repeater
4	Clayton Mtn. Repeater
5	Carter Mtn. Repeater
6	Wood Ridge Repeater
7	Washakie Direct (Lander)/ Clarks Fork Direct (Clarks Fork RD)
8	Washakie Black Mtn. Repeater
9	Cyclone Pass Repeater
10	South Pass Repeater
11	Blue Ridge Repeater
12	Wind River Direct (Dubois)
13	Wind River Black Mtn. Repeater
14	Indian Ridge Repeater
15	Lava Mtn. Repeater
16	Windy Ridge Repeater

Portable Basics (cont'd)

Scanning

Setting up or Deleting Channels from the Scan List:

1. Disable **Scan** function by pressing **toggle switch B** toward the front of the radio (front panel display should not be blinking).
2. **To add a channel to the scan list**, rotate **Channel** knob to desired channel to scan and press the **ENT** button on the front keypad. (Repeat Step 2 for other channels you wish to add to the scan list)
3. **To remove a channel from the scan list**, rotate **Channel** knob to desired channel to remove and press the **CLR** button on the front keypad.
   (Repeat Step 3 for other channels you wish to delete from the scan list)
4. When finished, enable **Scan** by pressing **toggle switch B** or SCN to the back of the radio.

Priority Scan

Priority when activated will sample the channel you select more often than other channels in the scan list and will lock on traffic on the priority channel over all others it might be receiving.

1. To set priority channel, turn channel knob to desired priority channel and press PRI key on the keypad.
2. Activate priority scan press **toggle switch C** toward back of radio.
3. Deactivate priority scan press **toggle switch C** toward front of radio.

Group Scan

Groups **5,9** are all enabled for Group Scan, but none of the individual channels within those groups are selected for scanning. This is a feature set up by each individual user. The user can scan as few or many channels as they desire. *Remember: the more channels/groups you are scanning, the more drain on the battery life.*

Use the procedures above under the section for **"Setting up or Deleting Channels from the Scan List"** to customize what you are scanning in each Group

Turn the Group Scan option ON by pushing the **FCN, PRI (PRI SCN flashes) ENT** on keypad. The screen on the radio will look like the following: ⬍ ----- **CH** -----

Turn the Group Scan option OFF by pushing the **FCN, PRI (PRI SCN flashes) ENT** on keypad

Portable Basics (cont'd)

Hi/Low Power
Toggle Switch A toward back of radio is **LOW** (2 Watts) power, toward the front of the radio is **HIGH** (5 Watts) power.

Troubleshooting Your Portable Radio

* **Loud Continuous Squelch**
  a. Turn your **squelch knob** counter-clockwise until it quiets but don't turn it to where it clicks off.
  b. Make sure you are not scanning a frequency such as NOAA Weather that transmits continuously.
  c. You may be in an area that has high interference, change locations and see if it goes away.

* **Radio not Receiving**
  a. Turn the **squelch knob** up (clockwise) to see if you get audible squelch on your radio (Indicates whether or not the internal speaker is working).
  b. If you have an **external mic.** attached to the side of your radio, remove it, turn the squelch knob up and see if you hear audible squelch on your radio (Indicates whether or not the speaker on the external mic is working).
  c. Make sure the antenna is on the radio and not damaged.
  d. Try transmitting from your mobile on a work channel to see if your portable radio is receiving it . Make sure you are scanning that work channel on your portable or dial the channel knob to the work channel. (Indicates problems that need to be looked at by a radio tech).

* **Radio not Transmitting**
  a. Press the PTT on the side of the radio – (there should be a red TX light that comes on when you transmit).
  b. Make sure you have a good, charged battery (if the red TX light goes on then off while pressing the PTT, you have a low battery. Your display will probably be showing "low volts" also).
  c. Make sure the antenna is in good condition and screwed in **(snug but not torqued)** into the antenna port on the radio.
  d. Try transmitting from your portable and listen on your mobile (This tests to make sure you are actually transmitting out).
  e. Move to a different location (maybe you are just not hitting the repeater).

If the radio continues to fail, open a service ticket through CHD so that a radio technician can schedule repair on your radio.

CH	Group 11 – Yellowstone National Park CHANNEL LABEL
1	North Direct YNP
2	North Repeater (Washburn)
3	South Direct YNP
4	SZ Repeater (Sheridan)
5	Top Notch Repeater (South)
6	Bechler Rptr. (South)
7	West Direct YNP
8	West Repeater (Purple Mtn.)
9	Holmes Repeater (West)
10	Lamar Direct
11	Lamar Repeater (Henderson)
12	Cache Ops Direct
13	Air-to-Ground MT 09P (46)
14	Air-to-Ground MT 09S (18)
15	Shoshone NZ Direct
16	BT NZ Net

CH	Group 12 SHF SO Fire (Tone Group Select Group) CHANNEL LABEL	
1	NZ Direct	TG-1
2	NZ Repeaters	
	Meadow Lake	TG-2
	Clayton	TG-3
	Carter	TG-5
	Dead Indian	TG-6
	Wood Ridge	TG-8
	NZ Portable	TG-11
3	Wind River Direct	TG-1
4	Wind River Repeaters	
	Windy Ridge	TG-1
	Black Mtn.	TG -3
	Indian Ridge	TG-5
	Lava Mtn.	TG-8
	WR Portable	TG-11
5	Washakie/Clarks Fork Direct	TG-1
6	Washakie/Clarks Fork Repeaters	
	South Pass	TG-2
	Black Mtn.	TG-3
	Beartooth	TG-4
	Sunlight	TG-5
	Cyclone Pass	TG- 6
	Blue Ridge	TG-7
	Washakie/Clarks Fork Portable	TG-11
7	BLM SOA	
8	BLM Repeaters	
	Black Mtn.	TG-1
	Cedar Mtn.	TG-2
	Copper Mtn.	TG-3
	Limestone	TG-4
	Crooks Mtn.	TG-5

Group 9 – Custer NF & Gallatin NF	
CH	**CHANNEL LABEL**
1	Custer NF Direct
2	CNF-Shane Ridge Repeater
3	CNF-Dryhead Repeater
4	CNF-Iron Mtn. Repeater
5	Maroon (Fire)
6	Ruby IC (Fire)
7	Red OPS (Fire)
8	Gallatin NF Direct
9	GNF-Tin Can Repeater
10	GNF-Monument Repeater
11	GNF-Sheep Mtn. Repeater
12	YNP North Direct
13	YNP -North Repeater - Mt. Washburn
14	YNP-West Repeater – Purple Mtn.
15	YNP-Holmes Repeater
16	MT07P AG 48

Group 10 – Bridger-Teton NF	
CH	**CHANNEL LABEL**
1	Hawk s Rest Repeater
2	Gravel Repeater
3	Lava Mtn. Repeater
4	Bradley Repeater
5	Bacon Repeater
6	Rendezvous Repeater
7	Ramshorn Repeater
8	Deadline Repeater
9	Green Knoll Repeater
10	Pinion Repeater
11	Elkhart Repeater
12	Muddy Repeater
13	Cottonwood Mtn. Repeater(Fire)
14	Sage Mtn. Repeater (Fire)
15	Pow Wow Repeater (Fire)
16	Huckleberry Repeater (Fire)

Handheld radio (front view)

Speaker – Receive audio
Microphone – Used in transmit mode, speak into microphone to transmit voice
Display – Alphanumeric display shows what channel is selected
Keyboard – Multi-user functions
Antenna – Used for an external antenna
Accessory – Used for extended Speaker/Mic
Audio – Used for extended Speaker/Mic
Mount – Fastener for extended Speaker/Mic
PTT – Keys radio when depressed

Handheld radio (top view)
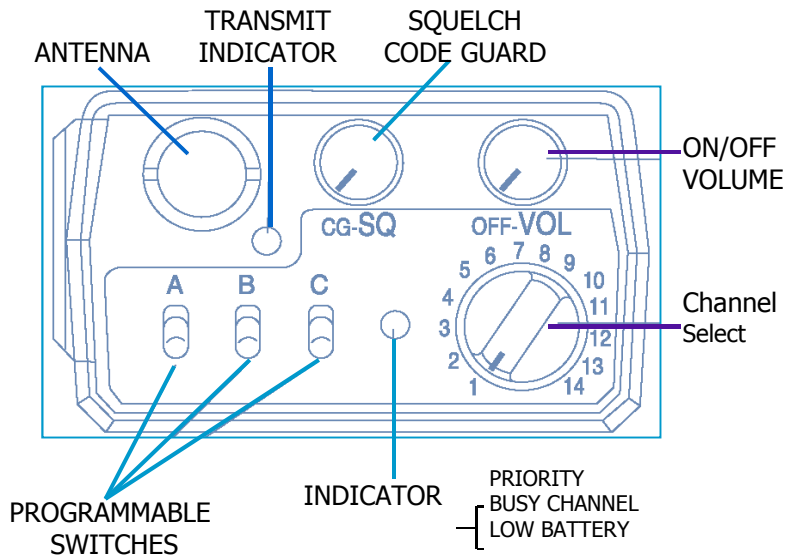
Antenna – Antenna connector – it should not turn with antennae
Transmit Indicator – Red light illuminates when in the transmit mode
Squelch – "Quiets" radio sets, level of the receiver sensitivity
On/Off Volume – Power and volume, turns radio on/off adjusts volume
Channel Select – Changes channel/frequency
Indicator – Multifunction indicator will illuminate when receiving signal
Programmable switches –
A – High/Low power switch, when in High power radio transmits 5 Watts in Low power radio transmits 2 watts
B – Scan on/off switch
C – Priority Scan on/off switch

CH	CHANNEL LABEL
	Group 7 – WY BLM & BIA
1	BLM Black Mtn. Repeater
2	BLM Cedar Mtn. Repeater
3	BLM Copper Mtn. Repeater
4	BLM Limestone Mtn. Repeater
5	BLM Crooks Mtn. Repeater
6	BLM Whiskey Peak Repeater
7	BLM Pumpkin Butte Repeater
8	BLM Fire 1
9	Shoshone TAC
10	WY04P AG 10
11	WY04S AG 15
12	VFIRE21
13	WY02P AG 14
14	WY02S AG 62
15	BIA Black Mtn. Repeater
16	BIA Fire

CH	CHANNEL LABEL
	Group 8 – Bighorn NF & Bighorn Canyon NPS
1	Dome Peak Repeater
2	Riley Point Repeater
3	Hunter Mesa Repeater
4	Sheep Mtn. Repeater
5	Brokenback Repeater
6	Shell Rim Repeater
7	Medicine Mtn. Repeater
8	Bighorn Tac
9	R2 Tac
10	Bighorn County VFD – Med Mtn. Repeater
11	VFIRE21
12	WY02P AG 14
13	NPS North Direct – Bighorn Canyon NRA
14	NPS South Repeater – Bighorn Canyon NRA
15	NPS South Direct – Bighorn Canyon NRA
16	WY State Forestry Direct

|| Group 5 – South Zone Resources 2014 ||	
CH	**CHANNEL LABEL**
1	**Washakie Direct**
2	**Washakie Black Mtn. Repeater**
3	**Cyclone Pass Repeater**
4	**South Pass Repeater**
5	**Blue Ridge Repeater**
6	**Wind River Direct**
7	**WR Black Mtn. Repeater**
8	**Lava Mtn. Repeater**
9	**Indian Ridge Repeater**
10	**Windy Ridge Repeater**
11	**Work 2**
12	**BLM Copper Mtn. Repeater**
13	**Fremont County Sheriff Copper Mtn. Repeater (Emergency ONLY)**
14	**Fremont County Search and Rescue**
15	**Wyoming Game & Fish Direct**
16	**Wyoming State Mutual Aid – Repeater (Emergency ONLY)**

Group 6 - Wyoming Air-to-Ground, NOAA Weather, Air Guard & National Flight Following	
CH	**CHANNEL LABEL**
1	**WY01P – AG 13**
2	**WY01S – AG 35**
3	**WY02P – AG 14**
4	**WY02S – AG 62**
5	**WY04P – AG 10**
6	**WY04S – AG 15**
7	**WY05P – AG 12**
8	**MT07P – AG 46**
9	**R2 SOA Repeater (Forest specific tones)**
10	**NOAA 1 (Cody)**
11	**NOAA 2 (Worland)**
12	**NOAA 3 (Dubois & YNP)**
13	**NOAA 4 (Lander)**
14	**NOAA 5 (Thermopolis)**
15	**Air Guard**
16	**National Flight Following**

Handheld radio (Display/Keypad)

DISPLAY

KEYPAD

Display – Alphanumeric display shows what channel is selected from Channel select knob on top of handheld radio
Keypad – Multifunction use
Keys (1 – 8) use these keys to change groups
FCN – Used in the programming mode
PRI – Used to program channel in the priority mode
ENT – Used for changing groups and entering channels in scan mode
CLR – Used for deleting channels out of the scan mode

Mobile Basics

Receive Mode
1. On the front panel, turn **OFF-VOL** knob clockwise, press the **MON** (or 1) button in and set the volume to desired level. Depress the **MON** button to "quiet" radio, volume is set. (Note*: **DMH mobiles – press the OFF-Vol knob in to turn the radio on.**)
2. Turn **CH** knob clockwise (cw) or counter clockwise (ccw) to desired channel.

Transmit Mode
1. Verify which group you are on by pressing the **#** key on mic keypad.
2. To switch groups, press the **GRP** (or 4) button in, dial the **CH** knob to the Group number you want, and press **GRP** (or 4) button back off. ***To see the group label, press the GRP button once to display group number and then press the GRP button again to display group name.***
3. Switch **CH** knob to correct repeater or net channel.
4. Hold **mic** at an angle and 2-3 inches from mouth.
5. Push the Push-to-Talk (**PTT**) switch on left-hand side of mic (red transmit light will light on display of radio), wait ½ second, speak into **mic**, then release **PTT** when finished talking.

Scanning
Setting up or Deleting Channels from the Scan List:
1. Disable **Scan** function by pressing **SCN** (or 2) button in (front panel display should not be blinking).
2. **To add a channel to the scan list**, rotate **CH** knob on front panel to desired channel to scan and using the mic keypad, press the **ENT** button. (Repeat Step 2 to add other channels.)
3. **To remove a channel from the scan list**, rotate **CH** knob to desired channel to remove and using the mic keypad, press the **CLR** button. (Repeat Step 3 to remove other channels)
4. When finished, enable **Scan** by pressing **SCN** (or 2) button in.

Priority Scan
Priority when activated will sample the channel you select more often than other channels in the scan list and will lock on traffic on the priority channel over all others it might be receiving.
1. To set priority channel, turn channel knob to desired priority channel and press PRI key on the mic keypad.
2. Activate priority scan press **PRI** (or 3) button in.
3. Deactivate priority scan press **PRI** (or 3) button on the front of the radio.

Group Scan
Groups **5,9** are all enabled for Group Scan, but none of the individual channels within those groups are selected for scanning. This is a feature set up by each individual user. The user can scan as few or many channels as they desire. *Remember: the more channels/groups you are scanning, the more drain on the battery life.*

Use the procedures above under the section for **"Setting up or Deleting Channels from the Scan List"** to customize what you are scanning in each Group.

Group 3 – North Zone Resources 2014	
CH	**CHANNEL LABEL**
1	NZ Direct
2	Dead Indian Repeater
3	Meadow Lake Repeater
4	Clayton Repeater
5	Carter Mtn. Repeater
6	Wood Ridge Repeater
7	Clarks Fork Direct
8	Sunlight Repeater
9	Beartooth Repeater
10	Clarks Fork Portable Repeater
11	Work 1
12	GYPO Timber
13	Park County Sheriff Direct (Emergency Only)
14	Park County Sheriff Dead Indian Repeater (Emergency Only)
15	Park County Sheriff Cedar Mtn. Repeater (Emergency Only)
16	Wyoming Mutual Aid (Emergency Only)

Group 4 – South Zone Fire 2014 (Tone Guard Select Group)		
CH	**CHANNEL LABEL**	
1	Shoshone Tac	
2	R2 Tac	
3	BLM Fire 1	
4	WR Direct	TG-1
5	Wind River Repeaters	
	Windy Ridge	TG-1
	Black Mtn.	TG -3
	Indian Ridge	TG-5
	Lava Mtn.	TG-8
	WR Portable	TG-11
6	Washakie Direct	TG-1
7	Washakie Repeaters	
	South Pass	TG-2
	Black Mtn.	TG-3
	Cyclone Pass	TG- 6
	Blue Ridge	TG-7
	Washakie Portable	TG-11
8	BLM Repeaters	
	Black Mtn.	TG-1
	Cedar Mtn.	TG- 2
	Copper Mtn.	TG-3
	Limestone	TG-4
	Crooks Mtn.	TG-5
9	BIA Black Mtn. Repeater	TG-10
10	Fremont Co. Fire Repeater	TG-10
11	Fremont Co Fire Direct	
12	Lander Rural Fire Direct	
13	Dubois FD	
14	VFIRE21	TG - 6
15	WY05P AG 12	
16	WY05S AG 13	

Group 1 - SHOSHONE NF 2014	
CH	CHANNEL LABEL
1	NZ Direct
2	Dead Indian Repeater
3	Meadow Lake Repeater
4	Clayton Mtn. Repeater
5	Carter Mtn. Repeater
6	Wood Ridge Repeater
7	Washakie Direct (Lander)/ Clarks Fork Direct (Clarks Fork RD)
8	Washakie Black Mtn. Repeater
9	Cyclone Pass Repeater
10	South Pass Repeater
11	Blue Ridge Repeater
12	Wind River Direct (Dubois)
13	Wind River Black Mtn. Repeater
14	Indian Ridge Repeater
15	Lava Mtn. Repeater
16	Windy Ridge Repeater

Group 2 - NORTH ZONE FIRE 2014 (Tone Guard Select Group)	
CH	CHANNEL LABEL
1	NZ Direct TG-1
2	NZ Repeaters Meadow Lake TG-2 Clayton TG-3 Carter TG-5 Dead Indian TG-6 Wood Ridge TG-8 NZ Portable TG-11
3	CF Repeaters Beartooth TG-4 Sunlight TG-5 CF Portable TG-11
4	Shoshone Tac
5	R2 Tac
6	WY01P AG 13
7	WY05P AG 12
8	BLM Fire 1
9	BLM Repeaters Black Mtn. TG-1 Cedar Mtn. TG-2 Copper Mtn. TG-3 Limestone TG-4 Crooks Mtn. TG-5
10	PCFD#2 Direct
11	PCFD#2 Repeater Cedar Mtn. TG-9
12	PCFD#3 Meeteetse Direct
13	VFIRE21 TG-6
14	Custer Direct TG-2
15	Gallatin Direct TG-2
16	YNP North Direct TG-7

Group Scan (cont'd)

Turn the Group Scan option ON by pushing the following keys on your mic keypad: **FCN, PRI (PRI SCN flashes) ENT**. The screen on the radio will look like the following:

Turn the Group Scan option OFF by pushing the following keys on your mic keypad: **FCN**, **PRI (PRI SCN flashes) ENT**

Squelch

1. Press the **SQL** (or 5) button in on front panel, then turn the **CH** knob clockwise to increase squelch or counter clockwise to decrease squelch.
2. Press the **SQL** button to leave the squelch mode.
3. To set to factory squelch level, press and hold the **SQL** (or 5) button in on the front panel until you hear an audible beep.

Troubleshooting Your Mobile Radio

* **Loud Continuous Squelch**
    a. Check to make sure your MON (1) button is not selected

* **Radio not Receiving**
    a. Press the **SQL** (5) button in to see if you get audible squelch on your radio (Indicates whether or not the internal speaker is working).
    b. If you have an **external speaker** attached to the back of your control head, remove the connector going into the control head and see if there is audible squelch (Indicates whether or not the external speaker is working).
    c. Make sure the antenna is on the truck.
    d. Make sure the connector is seated tightly on the base unit behind or under the back seat of your vehicle . **(Follow the cables from the control head to the base unit if you aren't sure where it's located.)**
    e. Try transmitting from your portable on a work channel to see if your mobile radio is receiving it . Make sure you are scanning that work channel on your mobile or dial the channel knob to the work channel. (Indicates problems that need to be looked at by a radio tech)

* **Radio not Transmitting**
    a. Key the mic – make sure display <u>does not</u> show "**low volts**". If it does, start vehicle and try again.
    b. Make sure **antenna** is on the truck.
    c. Make sure the **connector** is seated tightly on the base unit behind or under the back seat of your vehicle.
   d. Try transmitting from your mobile and listen on your portable(This tests the mic and radio at the same time).

Troubleshooting Your Mobile Radio (Cont'd)

* **Radio Won't Turn On**
  a. Make sure the yellow blade fuse is in the fuse holder under the hood of your vehicle. (Pulled out of vehicles being stored or not started for long periods in the winter).
  b. Press the Reset Button on your ChargeGuard. (Located under the dash of your vehicle – should hear an audible click as it resets indicating that there is power going to the ChargeGuard).
  c. Make sure the power leads (black/red) with white connector going to the base unit of the radio are still plugged in and that no wires are pulled loose.

If the radio continues to fail, open a service ticket through CHD so that a radio technician can schedule repair on your radio.

Mobile Radio Controls and Switches
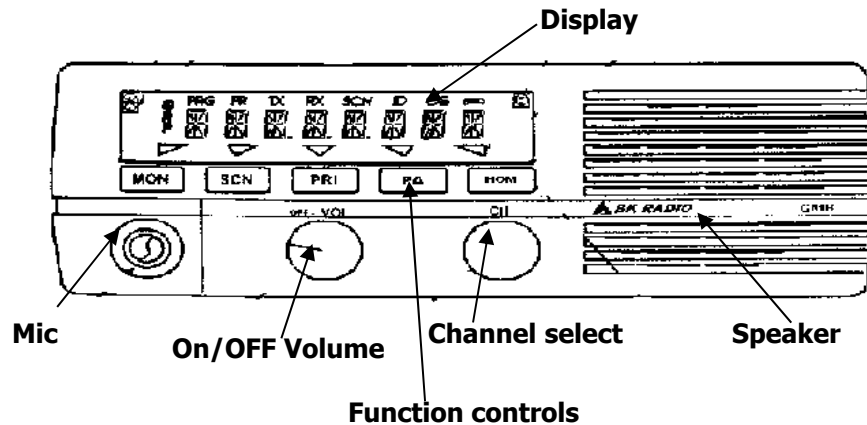
Mic – Connection for Mic, keypad on Mic is used to change groups and alter scan lists
On/Off Vol – Radio power and volume adjust
Function controls –
MON – used to go to first channel in the current group your in
SCN – Scan enable and disable
PRI – Priority enable and disable
GRP – push to change groups with mic keypad or channel selector
HOM – Used to change squelch – push and adjust with channel selector
Channel select – Channel/frequency select knob
Speaker – Receive audio speaker
Display – Alphanumeric display, displays selected channel

Wapiti RD (Cont'd) FIRE Squad 2/Engine 421	Travis Braten, Hal Bromley, Matt Schauland
FIRE Squad 3/Engine 611	Michael Woods, Mickey Sirois
Washakie RD	Andy McWilliams (AFMO)
FIRE (ENGINE MODULE)	Jacob Binns *, Brett Heller, Ryan Barela
RECREATION/SAFETY	Matthew Walter
Wind River RD	Jay Slagowski (FMO)
FIRE (ENGINE MODULE)	Sean Snyder*, Nick Pieper*, Will Woods
LE&I (Special Agent)	Scott Bragonier
LE&I SZ	Dirk Chalfant
LE&I NZ	Ron Ostrom Travis Haworth

The following lists show the **STANDARD FREQUENCY PLAN** for the Shoshone NF. All portable and mobile radios are programmed this way.

All PORTABLE radios are either:
- **Model DPHX5102X,** 25 Groups with 16 channels per group
  Model GPH5102X, 15 Groups with 16 channels per group
(Only 15 groups currently programmed in the radios, Group 16 is for Programming at an Incident)
  Model EPH5102M, 2 groups with 16 channels per group
  Model GPH5102S, 1 group with 16 channels per group – for CG hosts

All MOBILE radios are either:
- **GMH5992R** (trunk mount)**/GMH5992X** (dash mount)**,** 15 Groups with 16 channels per group
- **DMH5992R** (trunk mount)/**DMH5992X** (dash mount), 25 Groups with 16 channels per group
  (Only 15 groups currently programmed in the radios, Group 16 is for Programming at an Incident)

NOTE: "FPD" or "FD" listed in programming stands for "Fire Protection district or Fire District"

PROGRAMMING

The ability to program radios on the Shoshone NF is expressly granted in writing by the Forest Supervisor. Only those individuals designated in that letter have the authority to program radios. **NOTE: The authority to program radios on the Shoshone NF does not extend past the boundaries of the Forest. If you are going to an Incident, see the Communications Unit at the Incident to have your radio cloned with the proper frequencies.**

(*) Denotes Radio Coordinator for that unit.

The following people have authorization to program radios:

Supervisor's Office ISO NZ6&7	Harold Bjork Josh Thornley
ISO NZ6&7	Bob Fischer
ISO NZ6&7	Dave Gebhard
ISO NZ6&7	Neil Maben Tracy Cleveland
ISO NZ6&7	Vacant
ISO NZ6&7	Andrew Barth
FIRE	Mark Giacoletto (Forest AFMO)
FIRE	Clint Dawson(Forest AFMO) *
GIS	Ken Ostrom (Helicopter Manager)
FIRE (Cody Dispatch Center)	Nick Janota, Katie Williamson
Wapiti RD	Tim Klukas(FMO) *
FIRE Squad 1/Engine 641	Lance Robinson, Trent Dunn

MISCELLANEOUS

Portable Radio Battteries:
- To remove the battery, turn the radio off. Press up the metal tab on the side of the case while twisting the battery pack counter clockwise approximately 30° and remove it from the radio.
- To reinstall the battery, locate the center hub on the base of the radio and place it in the recesses of the battery pack. Position the pack at the 30° offset, seating two metal studs in their recess. Apply upward pressure to the pack while twisting the pack clockwise to its original position. The metal tab will click, locking the pack in position.
- King battery packs are available in a variety of sizes and types for special applications. Rechargeable packs can be charged separately or while attached to a radio.
- Periodically check the contacts on battery packs for dirt that may prevent a good electrical contact with the charging base.
- Do not dispose of a battery pack in fire. An explosion may occur.
- **When using clamshell battery packs, the clamshell can only hold 9 AA batteries and a shorting bar in the 10th slot. NEVER remove the shorting bar.**
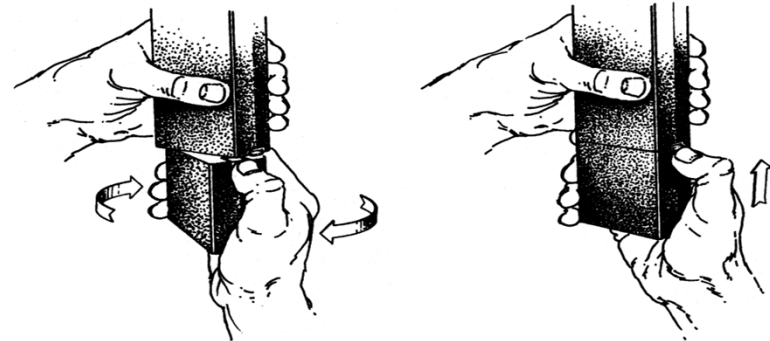
Nicad Battery Maintenance
- Nicad batteries should always be ran completely down before putting them in a charger or they will build a memory and not fully charge over time (leave them turned on overnight with the squelch turned up and the volume very low).
- Nicad batteries should be conditioned once every couple of months. This takes roughly 12 hours per battery. On the conditioner, make sure the battery is coming back with **10+ Volts** and **80% of the rated Amps** (on the bottom of the battery).

Shoshone NF Repeaters & Base Stations

Communication Sites
▲ WY-SHF, Base Station
● WY-SHF, Repeater
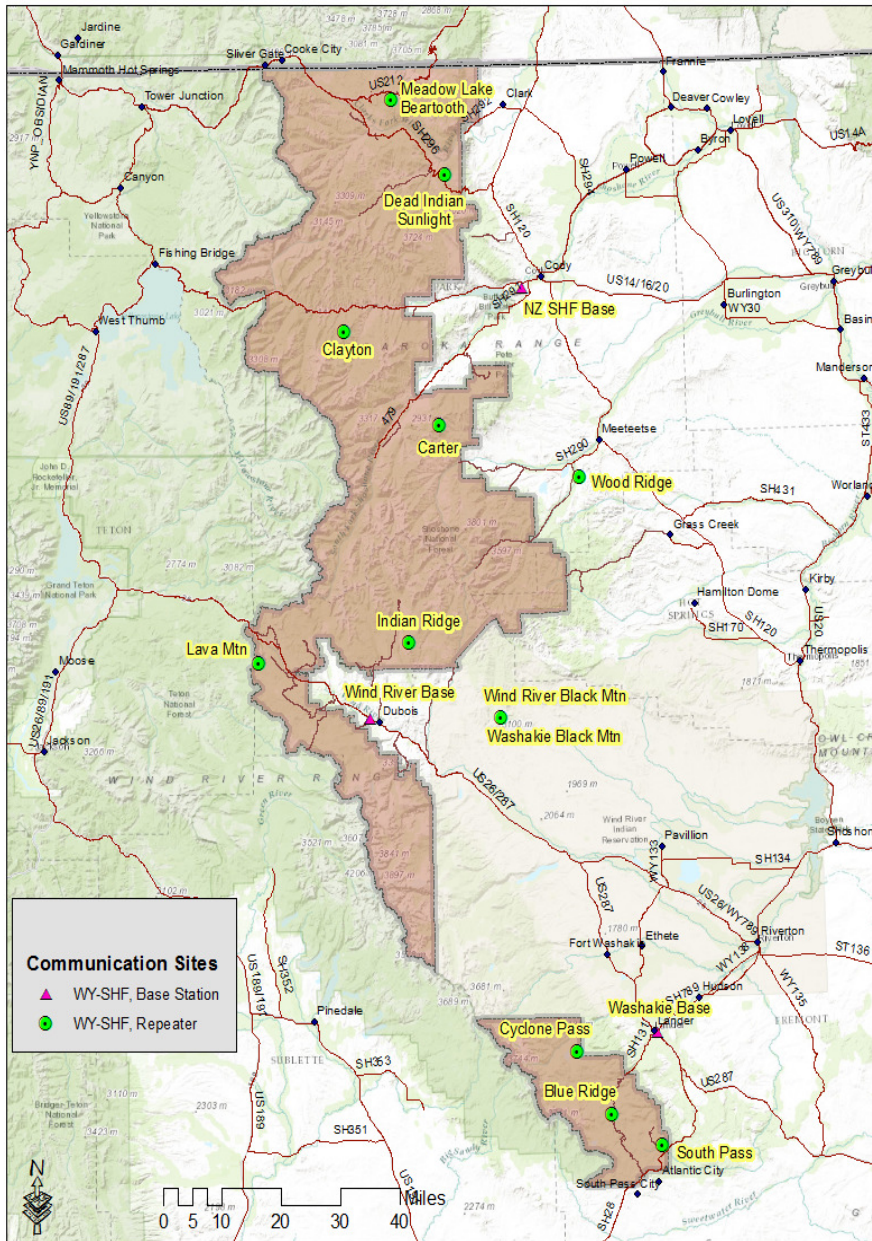
If appropriate communications cannot be established, mitigate the problem using one of the following suggestions or some other solution:

1. **Leave the area.**
2. **Establish hourly check-ins from a point that has communications**
3. **Establish a human repeater that can communicate with you and thru a repeater.**
4. **Plan in advance to have a portable repeater set up in the area (i.e. Prescribed burning).**
5. **You may need to move one direction or another (maybe as little as a foot).**
6. **Face in the direction of the repeater.**
7. **BOTTOM LINE – USE COMMON SENSE!**

****

All **EMERGENCY** traffic will be handled through **Cody Dispatch Center** with the District Office acting as a backup.

Any **"Flight-for'Life"** coordination will be done by Cody Dispatch Center or District Offices acting as a backup. Make sure that Cody Dispatch Center notifies the helicopter's dispatch that the frequency to be used between *personnel on the ground and the helicopter* will be the **Wyoming State Mutual Aide frequency (RX 154.875/TX 159.195 tone 100.0)**. This frequency can be found in <u>Group 4</u>, <u>Channel 16</u> or <u>Group 7</u>, <u>Channel 16</u> in all portables and mobiles, but cannot be monitored by Cody Dispatch or any of the offices.

Remember – this is an **emergency channel only** and is not to be used on a daily basis.
****

CLARKS FORK REPEATERS (WAPITI RD)

The Clarks Fork Net is used primarily for logistics with recreation activities in the Clarks Fork area, however; it can be used by fire as a second frequency pair if there is initial attack activity simultaneously on the North Fork area of the Wapiti RD and the Clarks Fork area. This will keep the two areas from walking over the top of each other on radio communications back to dispatch.

If this situation occurs, fire will do a general broadcast letting all users in the Clarks Fork area know that fire is using the Clarks Fork repeaters for primary fire use. All recreation and admin traffic in that area will need to work around fire. ALL USERS need to keep in mind that **emergency traffic is priority** regardless if it's Fire or Recreation/Admin.

Creeks & NE portion of Wiggins Fk. Brown Rock Canyon, East Fork & Teepee Crk. to Fremont County line. S & E of Lava to Fitzpatrick Wilderness Boundary. Soapstone Crk. S and W to Ram Flat. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

North Zone, **Clarks Fork**, **Washakie**, **and Wind River Portable Repeater** these repeaters are portable repeaters that can be moved from one location to another to provide additional coverage in an area that is not covered by our regular forest repeaters. You can request these repeaters be set up through **CHD** by calling **(866) 945-1354** or creating a ticket online. Start a ticket and one of the North Zone Electronics Technicians will be dispatched to set it up. When you start the ticket, give as much information as possible on where you want the repeater to be set up or what area you want it to cover. Make sure you provide a valid contact number where you can be reached. We will also need to know if you need the repeater to be monitored by a district office or Cody Dispatch, or if you just need to provide field-to-field coverage from one point to another.

Base Stations at WCs or GSs are King GBH base radios. They operate similar to the mobiles in the vehicles, but only have one group and only the repeaters they are able to reach from that site programmed into them. Depending on the site, they may also have some of the following frequencies programmed into them:
  • Tactical Fire
  • Air-to-Ground
  • NOAA Weather Stations

SECTION II
COVERAGE

Not every location on the Forest is covered by radio communications. There are some locations that are obstructed from direct line-of-sight to repeaters and other radios. These locations have been identified through a computer generated propagation survey and are shown on a map in the **Forest Offices** and **at some Work Centers**.

These coverage's are based on 5 Watt handhelds. Mobile radios should have more coverage.

Before you leave the office, check to make sure your radio is working.

All personnel should check the coverage of those areas they intend to work or travel in to determine if the area has radio coverage and which repeater provides coverage for that area. They should also perform radio checks to verify that the area is in fact covered and that their radio is working properly once arriving at their destination.

WYOLink State Digital Trunking System

In 2006, the State of Wyoming decided to implement a statewide radio system that all City, County, State, and Federal agencies could utilize. They decided on a **VHF digital trunking** system. This system is designed around 100 Watt mobile communications.

• **City Police Departments** most of these within the State have converted to this system.

• **County Sheriff Departments** many within the state have converted but several still monitor the analog frequencies that are programmed in our radio's

• **County Fire Districts** many within the state have converted but local fire departments in Park and Fremont County have not or have two radios to communicate with Federal agencies.

• **FS LE&I** most of the LE&I vehicles have the WYOLink mobiles installed as well as a FS King radio due to issues with scanning between WYOLink and FS, NPS, BIA, and County analog systems.

Use of Transmit Tone Guards

The Fire Groups (Groups 2, 4 & 12) require a transmit tone guard (**TG**) to be entered by the radio user to use the that channel.

Channel label's that are **red highlighted**, require an appropriate **TG code** (1-16) shown in **green** for the repeater or frequency you are using.

Steps to talk with transmit tone guards:
• Select **red** channel with **TG** (ex. (a) Group 4, channel 5), or (ex. (b) Group 2, channel 1).
• Press appropriate **TG** numeric value (1-16) on the keypad or microphone. (ex. (a) "5" for Indian Ridge), or (ex. (b) "1" for NZ Direct)
• Press transmit button

Once you select a tone guard you will remain on that transmit tone guard until changed. You do not need to enter the **TG** with each transmission on that repeater unless you are changing repeaters or to other channel or frequencies with a **TG** that are in **red.**

Turning the radio off does not remove the last tone guard entered.

Channels in **blue** transmit without a **TG**.

Entering a **TG** of **"0"** clears the tone guard memory.

PHONETIC ALPHABET	
A	ALPHA
B	BRAVO
C	CHARLIE
D	DELTA
E	ECHO
F	FOXTROT
G	GOLF
H	HOTEL
I	INDIA
J	JULIETT
K	KILO
L	LIMA
M	MIKE
N	NOVEMBER
O	OSCAR
P	PAPA
Q	QUEBEC
R	ROMEO
S	SIERRA
T	TANGO
U	UNIFORM
V	VICTOR
W	WHISKEY
X	X RAY
Y	YANKEE
Z	ZULU

WASHAKIE (WASHAKIE RD)

Washakie Direct used for line of sight communication and will transmit to Wind River RD, SO Office and Cody Dispatch Center when within sight of Wind River RD Office. Not a repeater.

- **Cyclone Pass Repeater** covers from Little Valentine Lake south and east to Thumb Lake in the Popo Agie Wilderness and a large portion east and south of the wilderness to Blue Ridge. It can be answered from the following sites: Dickinson Park GS; Lander and Dubois Offices; and Cody Dispatch Center.

- **Blue Ridge Repeater** covers a majority of the area south of Cyclone Pass including the Popo Agie Wilderness (except for the Popo Agie River Drainage and from Pennecker Peak south and west). It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

- **South Pass Repeater (located on Limestone Mtn)** covers the area south and west of Blue Ridge down into Hwy 287(except from Pennecker Peak south and west) . Also covers an area north around Mt Arter. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

- **Washakie Black Mountain Repeater** covers the very northern portion of the Washakie RD around Moss Lake Trail system and the Squaw Creek area. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

WIND RIVER (WIND RIVER RD)

Wind River Direct used for line of sight communication and will transmit to Washakie RD Office, SO Office and Cody Dispatch Center if within sight of Washakie RD Office. Not a repeater.

- **Lava Mountain Repeater** covers most of the area south and east of Lava Mtn. to Windy Ridge. Covers north of Lava to Brooks Lake, east to FS boundary, and east of Jakey's Fork Trail to Shale Mtn. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

- **Wind River Black Mountain Repeater** basically covers any drainage along eastern side of district that runs NE to SW. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

- **Windy Ridge Repeater** covers drainages N, NE, & NW of Windy Ridge including Horse Creek. Covers NW portion of Fitzpatrick Wilderness except area west of Jakey's Fk. It can be answered from the following sites: Lander and Dubois Offices; and Cody Dispatch Center.

- **Indian Ridge Repeater** covers most drainages running N, NE, & NW of Indian Ridge into the Washakie Wilderness except Horse & Twilight

NORTH ZONE (Clarks Fork, Wapiti & Greybull RD)

North Zone Direct used for line of sight communication and will transmit through Cedar Mtn. Base Station to Wapiti RD, SO Office and Cody Dispatch Center when within sight of Cedar Mtn. Not a repeater.

•**Meadow Lake Repeater** covers along the Beartooth Highway to the MT State Line. It covers the Sunlight and Crandall areas and northern portions of the North Absaroka Wilderness. It can be answered from the following sites: Crandall and Sunlight RS; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

•**Dead Indian Repeater** covers a large portion of the area west of Sunlight RS and north and east to the MT State line. It can be answered from the following sites: Crandall and Sunlight RS; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

•**Clayton Repeater** covers large portions of the North Fork drainage including the southern portion of the North Absaroka Wilderness and the northern portion of the Washakie wilderness. It can be answered from the following sites: Wapiti RS; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

•**Carter Mtn. Repeater** covers the South Fork drainage and an area south and east of Carter Mtn. It can be answered from the following sites: Timber Creek RS; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

•**Wood Ridge Repeater** covers the Timber Creek and Wood River areas. It can be answered from the following sites: Timber Creek RS; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.
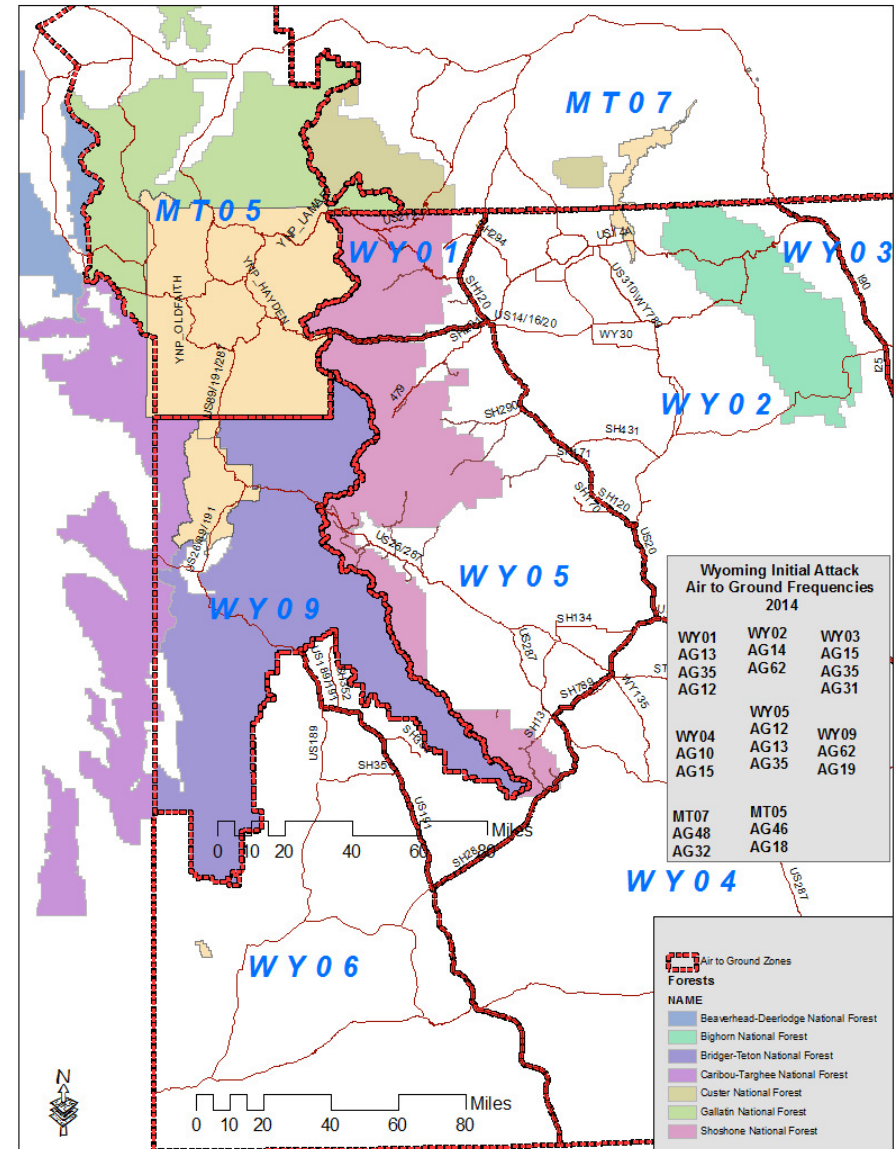
CLARKS FORK (Clarks Fork RD only)

Clarks Fork Direct – used for line of sight communication and will transmit through Cedar Mtn. Base Station to Wapiti RD, SO Office and Cody Dispatch Center when within sight of Cedar Mtn. Not a repeater. – an alternative to NZ Direct.

These repeaters on the Clarks Fork provide an admin and a secondary fire net on the Clarks Fork RD to split the North and South Fork areas from the Clarks Fork area.

•**Beartooth Repeater (physically located @Meadow Lake Repeater Site)** covers along the Bear Tooth Highway to the MT State Line. It covers the Sunlight and Crandall areas and northern portions of the Absaroka Wilderness. It can be answered from the following sites: Crandall and Sunlight RSs; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

•**Sunlight Repeater (physically located @Dead Indian Repeater Site)** covers a large portion of the area west of Sunlight RS and north and east to the MT State line. It can be answered from the following sites: Crandall and Sunlight RSs; Cody-Wapiti and Cody-SO Offices, and Cody Dispatch Center.

Air-to-Ground Initial Attack Zones

Wyoming Initial Attack Air to Ground Frequencies 2014		
WY01 AG13 AG35 AG12	WY02 AG14 AG62	WY03 AG15 AG35 AG31
	WY05 AG12 AG13 AG35	
WY04 AG10 AG15		WY09 AG62 AG19
MT07 AG48 AG32	MT05 AG46 AG18	

Air to Ground Zones
Forests
NAME
- Beaverhead-Deerlodge National Forest
- Bighorn National Forest
- Bridger-Teton National Forest
- Caribou-Targhee National Forest
- Custer National Forest
- Gallatin National Forest
- Shoshone National Forest

Programming Notes

INTRODUCTION

The objective of this manual is to provide a working knowledge of the Shoshone National Forest radio system and to outline the operating procedures for its effective utilization in carrying out official duties. It is a ***Narrowband, Analog*** radio system.

The radio system is an FM (Frequency Modulated) VHF 2-way radio communications system operating in the 154-174 Mhz band. The system consists of multi-channel ***portable and mobile radios, base stations, and repeaters***. This radio system operates within the "line-of-site" principle. This means that the system operates best when there is an obstruction-free path for the radio waves between users (radio-radio, radio-repeater, etc.). The picture below illustrates this principle. If a user is standing at **Point A** and wants to talk to a user at **Point B**, they will be unable to do so on a net or work frequency because of the mountains between them. The only way the users can communicate is if they utilize a repeater that sits at an elevation above Points A and B, such as **Point C** (Aerial photo is taken from the repeater site at Point C looking down to Point B and across and down to Point A).
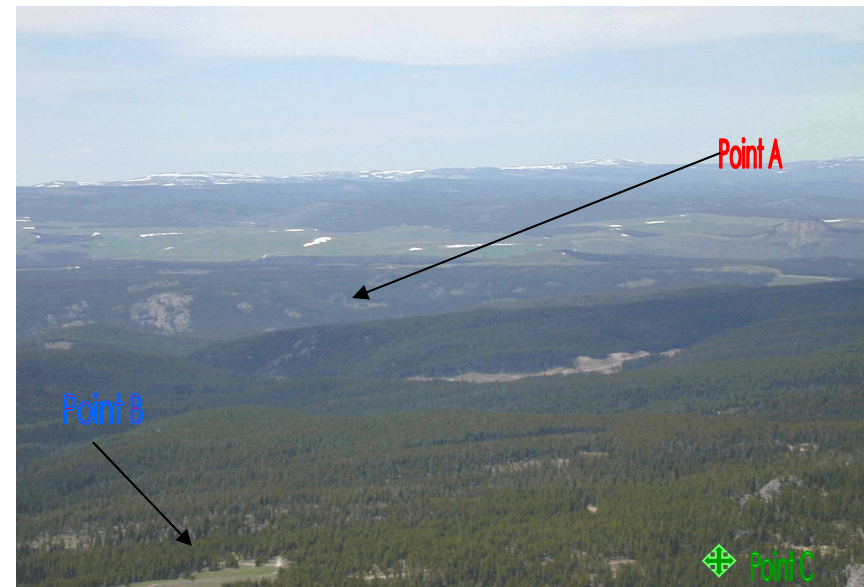
The Forest is split into four frequency pairs, two on the North end **(North Zone Net)** and the **(Clarks Fork Net),** and two on the South end **(Washakie RD)** and **(Wind River RD)**.
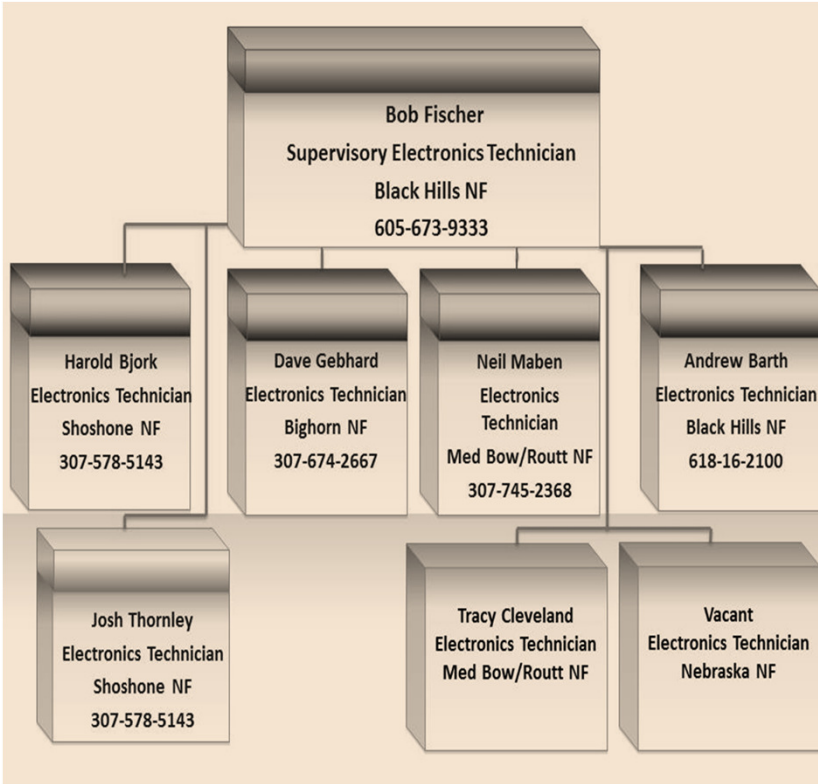
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- Nicad Battery Maintenance
- Shoshone NF Repeaters & Bases Map
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- Use of Transmit Tone Guards
- Phonetic Alphabet
- Shoshone Repeater Map
- Air to Ground Initial Attack Frequency Map

ISO Organization Chart

Region 2
Radio Technicians

(Shoshone, Bighorn, Medicine Bow NF/Thunder Basin NG, Black Hills, & Nebraska NFs, and Dakota Prairie Grasslands)

Bob Fischer
Supervisory Electronics Technician
Black Hills NF
605-673-9333

Harold Bjork
Electronics Technician
Shoshone NF
307-578-5143

Dave Gebhard
Electronics Technician
Bighorn NF
307-674-2667

Neil Maben
Electronics Technician
Med Bow/Routt NF
307-745-2368

Andrew Barth
Electronics Technician
Black Hills NF
618-16-2100

Josh Thornley
Electronics Technician
Shoshone NF
307-578-5143

Tracy Cleveland
Electronics Technician
Med Bow/Routt NF

Vacant
Electronics Technician
Nebraska NF

- **Shoshone NF**
  - **Radio**
- **User's Guide**

- **(For Handheld and Mobile Radios)**

1

Shoshone NF Radio User's Guide

2014

(For Portable and Mobile Radios)

Date & Time: Wed Sep 18 11:48:51 MDT 2013
Position: +044°55'32.2" / -109°33'18.4"
Altitude: 9983ft
Azimuth/Bearing: 012° N12E 0213mils (True)
Elevation Angle: +06.0°
Horizon Angle: +01.1°
Zoom: 1X