

ScannerDigest Newsletter

ISSUE 70 **OCT-NOV-DEC 2014**

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- ◆ **CANADA - Tracking the Air Traffic Controller (ATC) in Smaller Regional Airports by John Leonardelli - VE3IPS**

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Sorry no column this issue.

PUBLISHER

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NASWA Winter SWL Fest

Date: **February 27-28, 2015**
Location: **Plymouth Meeting, Pennsylvania**

The Winter SWL Fest is a conference of radio hobbyists of all stripes, from DC to daylight. Every year scores of hobbyists descend on the Philadelphia, Pennsylvania suburbs for a weekend of camaraderie. The Fest is sponsored by NASWA, the North American Shortwave Association, but it covers much more than just shortwave; medium wave (AM), scanning, satellite TV, and pirate broadcasting are among the other topics that the Fest covers. Whether

you've been to every Fest (all 26, starting with the first year at the fabled Pink & Purple Room of the Fiesta Motor Inn) or this year's will be your first, you're sure to find a welcome from your fellow hobbyists.

For 2015, the Winter SWL Fest will have two days of sessions where you can learn about the latest developments in the radio listening hobbies, but there's so much more going on. There's a silent auction that takes place, where you're bound to find something of interest. There's the Hospitality Suite, where attendees partake of tuning oil and other treats and engage in spirited conversations. There is the closing Banquet, with after-dinner remarks by a luminary from the field, often one of the many broadcasters who attend the Fest, followed by the raffle, where you could win one or more of the dozens of prizes, ranging from pens from stations up to top-notch communications receivers. And of course, the infamous midnight ride of Pancho Villa that closes things out every year.

Your hosts, Richard Cuff and John Figliozzi, work throughout the year to ensure that attendees have a great time over the weekend, and by all accounts, they succeed stunningly. How else could this event have lasted for 27 years (egad) and draw people from around the world to southeastern Pennsylvania? Won't you join us?

www.swlfest.com

A GUIDE TO PUBLIC SERVICE SCANNING FOR VENTURA COUNTY, CALIFORNIA

By Larry T. Smith

INTRODUCTION

Ventura County encompasses 1,873 square miles and is located along the southern California coast between Los Angeles (LA) and Santa Barbara counties. The Pacific ocean forms the southwest border of the county, Santa Barbara County the western border, Kern County the northern border, and LA County the eastern and southeastern borders. The northern 46% of the county, 860 square miles, is rugged mountain wilderness (peaks up to 8,831 feet) within the Los Padres National Forest (LPNF) and is virtually unpopulated. In the winter you can

cross-country ski and bask in the sun at the beach within a 2-hour time span!

There are ten incorporated cities in the county. From north to south and west to east they are Ojai, Ventura (actually San Buenaventura), Santa Paula, Fillmore, Port Hueneme, Oxnard, Camarillo, Moorpark, Simi Valley, and Thousand Oaks.

MAJOR HIGHWAYS

1. US 101 from the San Fernando Valley in LA County northwest to Santa Barbara County (from the city of Ventura to the Santa Barbara County line it follows the ocean).
2. CA 126 from Ventura east through Santa Paula, Fillmore, and Piru into LA County just north of Magic Mountain.
3. CA 33 north from the 101 in Ventura through the LPNF.
4. CA 1 from Oxnard southeast along the coast to the LA/Ventura county line just west of Malibu.
5. CA 23 from CA 1 north through Thousand Oaks and Moorpark ending at CA 126 in Fillmore.
6. CA 118 from the LA/Ventura county line near the northwest corner of the San Fernando Valley west through Simi Valley and Moorpark (crosses the 23), just north of Camarillo, ending at the 126 in east Ventura.
7. CA 150 from CA 126 in Santa Paula northwest to Ojai, around Lake Casitas, to US 101 at the county line.

RAILROADS

1. Union Pacific (UP) Railroad (ex. Southern Pacific Railroad) - The coast route runs from LA through Ventura County basically paralleling CA 118 from LA County to Camarillo, then on to Oxnard. From Oxnard the UP parallels US 101 to Santa Barbara County. Formerly this was all UP/Santa Barbara Division. Now the eastern portion from the LA County line to Moorpark (MP 426.4) is METROLINK (SCAX)/Ventura Subdivision while from MP 426.4 west through the county remains UP/Santa Barbara Division.

In addition to UP freight service, passenger service operates over this route as follows:

- a. AMTRACK:
 - (1) The COAST STARLIGHT (LA-Seattle) runs once a day each direction, northbound at noon and southbound at 7 pm.
 - (2) The SURFLINER (LA-Santa Barbara) runs several trains throughout the day both ways.
- b. METROLINK - Several commuter trains Monday-Friday early mornings and late afternoons between Ventura and LA sharing the same tracks as the UP.

3. Ventura County Railroad (VCRR) - A short line operating off the UP at Oxnard with two branches: (a) to the Port of Hueneme through the Port Hueneme site of Navy Base Ventura County, a distance of 4.9 miles and (b) a 5 mile branch serving industries in south Oxnard. A major portion of the VCRR is delivering automobiles arriving by ship at the Hueneme to the UP.
4. Fillmore & Western (FWRR) Railroad - A two faceted railroad headquartered in Fillmore operating excursion trains (Fillmore west to Santa Paula or east to Piru) and providing vintage engines, cars, and trains for the movie/video industry. The Santa Paula-Piru trackage is part of an ex-SP branch from Ventura to Santa Clarita. Trackage from Ventura to Santa Paula is still under UP control. Thus, the FWRR has access to the UP mainline at Ventura. The tracks between Piru and and Santa Clarita were removed many years ago by SP.

AIRPORTS

1. Camarillo - A general aviation airport operated by Ventura County with a FAA tower. Camarillo airport houses the Ventura County Sheriff's Aviation Unit, the Commemorative Air Force, and the Experimental Aviation Association. This is an ex-Air Force base.
2. Oxnard - A general/commercial aviation airport operated by Ventura County with a FAA tower. Commuter flights available to/from LAX.
3. Santa Paula - A small privately owned general aviation airport.
4. Naval Air Station (NAS) Point Mugu - Located 7 miles southeast of central Oxnard, a part of Naval Base Ventura County.

HARBORS

1. Port of Hueneme - The only deep water port between LA and San Francisco, the port is split between commercial and Navy. The commercial portion imports fruit from South America and automobiles from worldwide. The Navy side, through the Naval Surface Warfare Center (NSWC), tests and evaluates the latest ship-borne weapons systems.
2. Channel Islands Harbor, Oxnard - A small craft harbor operated by Ventura County. Coast Guard Station Channel Islands is located here (see **MILITARY**).
3. Ventura Harbor - A small craft harbor operated by the Ventura Port District (the city of Ventura). The harbor is headquarters for the Channel Islands National Park (CINP).

The three harbor entrances are within a nine-mile stretch of coastline. Each harbor has at least one sport fishing operation.

MILITARY

1. Naval Base Ventura County (NBVC) - NBVC consists of two main land sites, Point Mugu and Port Hueneme, and San Nicolas Island. NBVC is under the command of the U.S. Pacific Fleet. More than 70 military tenant organizations utilize NBVC. The Naval Air Station (NAS) occupies a large portion of the Point Mugu site which also is headquarters of offshore Pacific Missile Range and a division of the Naval Air Warfare Center. The Port Hueneme site houses the Naval Construction Force (Seabees) and was known as the Naval Construction Battalion Center (CBC) prior to 2000 merger of CBC and NAS to form NBVC. The Navy portion of the Port of Hueneme and the Naval Surface Warfare Center (NSWC) are also part of the Hueneme site.
2. California Air National Guard 146th Airlift Wing - Headquartered on its own property adjacent to the NAS.
3. U. S. Coast Guard Station Channel Islands - The station covers the area from Malibu to Point Conception and the offshore islands.

FIRE PROTECTION AND LAW ENFORCEMENT JURISDICTION

| <u>ENTITY</u> | <u>FIRE</u> | <u>LAW ENFORCEMENT</u> |
|----------------------------|-------------|------------------------|
| Los Padres National Forest | LPNF/VNC | VCSO/LPNF/CA F&G* |
| Unincorporated county | VCFD** | VCSO*** |
| Ojai | VCFD | VCSO (contract) |
| Ventura | Self | Self |
| Santa Paula | Self | Self |
| Fillmore | Self | VCSO (contract) |
| Port Hueneme | VCFD | Self |
| Oxnard | Self | Self |
| Camarillo | VCFD | VCSO (contract) |
| Moorpark | VCFD | VCSO (contract) |
| Simi Valley | VCFD | Self |
| Thousand Oaks | VCFD | VCSO (contract) |
| NBVC | Self | Self |

*Fish & Game; **Ventura County Fire Dept.; ***Ventura County Sheriff's Office

In addition, the California Highway Patrol (CHP) provides motor vehicle enforcement on all freeways, state highways, and roads in unincorporated areas of the county

All the fire departments have mutual aid (MA) agreements, including NBVC. On MA runs, the NBVC units operate on appropriate civilian frequencies. The Point Mugu site provides response to much of the area in the vicinity of the base and the Hueneme site (Station 73) acts as an equal responder with VCFD Station 53 (Port Hueneme) for responses in 53's area requiring more than one engine.

Station 73 also provides coverage for 53 when they are out of their area.

VENTURA COUNTY FIRE STATION LOCATIONS

- 11 Lockwood Valley
- Battalion 2 - North/West County
- Battalion 3 - Conejo Valley
- Battalion 4 - Morpark/Simi Valley
- 20 Summit
- 21 Ojai
- 22 Meiners Oaks
- 23 Oak View
- 24 Reserved
- 25 Rincon
- 26 Saticoy
- 27 Fillmore
- 28 Piru
- 30 Thousand Oaks CC
- 31 Thousand Oaks
- 32 Potrero
- 33 Lake Sherwood
- 34 Park Oaks
- 35 Newbury Park
- 36 Oak Park
- 37 Upper Ranch
- 40 Moorpark
- 41 Simi Valley CC
- 42 Moorpark
- 43 Susanna Knolls
- 44 Wood Ranch
- 45 W. Simi Valley
- 46 Simi Valley (Tapo)
- Battalion 5 - Oxnard Plain
- Battalion 6 - Oxnard FD
- Battalion 7 - NBVC FD
- 50 Camarillo Airport
- 51 El Rio
- 52 Camarillo
- 53 Port Hueneme
- 54 Camarillo
- Battalion 8 - Santa Paula FD
- 55 Las Posas
- 56 Hwy 1/South Coast
- 57 Somis
- 58 Reserved
- 60 Reserved
- 61 5th/th"K" St
- 62 Pleasant Valley Rd
- 63 Central region
- 64 Vineyard Ave
- 65 Colonia
- 66 Channel Islands Harbor
- 70 Reserved
- 71 Point Mugu

- 72 Point Mugu
- 73 Port Hueneme

- 80 Reserved
- 81 10th St
- 82 West Main St

Battalion 90 - Fillmore FD

- 91 Main & Central

Battalion 10 - Ventura FD

- 11 Venture Ave.
- 12 Seaward/Main
- 13 Telegraph/Victoria
- 14 Telephone/Montgomery
- 15 E Main/Donlon
- 16 Darling Road

**LAW ENFORCEMENT STATION ID
VCSO UNIT NUMBERING**

| | | | |
|----|---------------------------------|----|-------------------------------------|
| 1 | VCSO Headquarters | 1+ | Ojai PD |
| 2 | Ventura PD | 2+ | Moorpark PD |
| 3 | Oxnard PD | 3+ | West Patrol |
| 4 | Santa Paula PD | 4+ | East Patrol |
| 5 | was Fillmore PD | 5+ | Investigations/ Special Services |
| 6 | Ojai PD (SO contract) | 6+ | Fillmore PD |
| 7 | Main Jail | 7+ | Custody |
| 8 | Port Hueneme PD | 8+ | Camarillo PD |
| 9 | Simi Valley PD | 9+ | Thousand Oaks PD |
| 10 | East Valley SO | | |
| 11 | Lockwood Valley SO | | |
| 12 | Camarillo PD (SO contract) | | |
| 13 | Moorpark PD | | |
| 14 | Todd Road Jail | | |
| 15 | (Vacant) | | |
| 16 | Ventura Community College Dist. | | |

CALIFORNIA HIGHWAY PATROL

CHP coverage of Ventura County is provided through three offices, all dispatched by the Ventura Dispatch Center on the CHP Purple frequency: 42.40 Base-Repeater/42.16 Mobile with 42.40 also being car-to-car. The three offices are: 31 Ventura, 54 Moorpark, and 117 Conejo Inspection Facility. Unit prefix 54 became operational the first of 2005 when the Moorpark office became full-service rather than a satellite of Ventura. Office 117 units operates the Conejo Inspection Facility on the US 101 at the top Conejo Grade (just west of Newbury Park), the portable scale turn-out on CA 118 between Moorpark and Somis, and weight inspections wherever required throughout the county.

The Conejo Inspection Facility consists of north- and south-bound truck scales/inspection areas. The CHP covers Ventura County with eight beats as outlined below.

| <u>BEAT</u> | <u>COVERAGE</u> |
|-------------|---|
| 1 | CA 101 from the Ventura river (west boundary of Ventura city) west to Santa Barbara County line. |
| 2 | All of CA 33 in Ventura County and surrounding area. CA 150 from the summit between Ojai and Santa Paula west through the Ojai valley to the Santa Barbara County line. |
| 3 | US 101 between the Ventura and Santa Clara rivers (the city of Ventura). |
| 4 | CA 126 through the county and the surrounding Santa Clara river valley. CA 150 from its beginning in Santa Paula to the "summit" i.e., Upper Ojai. CA 23 from the South Mountain summit between Moorpark and Fillmore to its end in Fillmore. |
| 5 | US 101 from the Santa Clara river east to the Conejo Grade. All of CA 34 (from Oxnard to Somis). CA 118 from the Santa Clara river east through Somis to just west of Moorpark. |
| 6 | CA 1 (Pacific Coast Highway) from Oxnard to the LA County line and the surrounding Oxnard plain. |
| 7 | US 101 from the Conejo Grade east through the Conejo Valley to the LA County line. CA 23 from the Ventura/LA County line north to the summit between Thousand Oaks and Moorpark |
| 8 | CA 23 between Beats 4 and 7. CA 118 from Beat 5 east through the Simi Valley to the LA County line. |

A unit call sign consists of the unit's office number followed by the beat number and then the individual unit designation. Thus 3154 would be a beat 5 unit out of the Ventura office whereas 5472 would be a beat 7 unit out of the Moorpark office. Beat 4 is divided between the Ventura and Moorpark offices; thus there could be 3141 and 5441.

The Blue secondary frequency pair, 42.34 (base-mobile and C/C)/42.16 (mobile-base) are used for non-routine functions such as the air patrols on US 101 along the Rincon (west of the Ventura river) and traffic control for special circumstances (Point, Mugu Air Show, movie shoots, processions, construction etc.).

AMBULANCE/MEDICAL SERVICE

The ambulance services are:

1. Lifeline (500 series) serving the Ojai Valley area.
2. Gold Coast Ambulance (600 series) serving Oxnard plain area.
3. AMR (400 series) serving the rest of the county.
4. NBVC (700 series) provides on-base service. Gold Coast called for off-base transport.

-
5. Ventura County Sheriff's Aviation Unit out of Camarillo airport.

The hospitals are:

1. Ojai Community - Ojai.
2. Community Memorial (CMH) - Ventura.
3. Ventura County Medical Center (VCMC) - Ventura
4. St. Johns Regional Medical Center - Oxnard.
5. St. Johns Pleasant Valley Hospital - Camarillo.
6. Los Robles Regional Medical Center - Thousand Oaks.
7. Simi Valley Hospital - Simi Valley.
8. Santa Paula Hospital - Santa Paula

Ventura County Fire dispatches for AMR, Gold Coast, and Lifeline on 155.055

SOUTHERN NEW JERSEY *Michael P. Mollet, N2SRO*

Sorry, no column this issue

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Sorry, no column this issue

NEW HAMPSHIRE

John Bolduc
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Windham Fire on 154.175 PL 146.2 – Heard dispatcher talking with unit (out of my listening range) about switching to the digital channel for some communications. We'll be looking for that channel!

Hampstead Fire on 151.1875R has this past summer switched dispatch from Derry to Londonderry. Trying to listen to Hampstead on 151.1875R is tricky as Londonderry Fire is on 151.175. Also Londonderry Fire is less than a mile away from me (while the Hampstead transmitter is 15 miles away) and when they transmit of the input frequency for Hampstead, my high end scanner reception gets compromised with signal overload on the repeater out frequency. Therefore have both input and output frequencies in the scanner side by side.

Farmington NH has been heard using the unit designator of 49 when going mutual aid into the Lakes Region Dispatch district on 159.900 DCS331. This differs from their unit designator of 85 when they are being dispatched on 154.370 DCS723 by Strafford County

Public Service Company of New Hampshire – Electric Utility – Confirmed over last 3 months

| Use – Channel | Freq | PL |
|---------------------------|----------|-------|
| PSNH Common (2) | 153.4550 | 141.3 |
| PSNH Derry (24) | 153.5600 | 156.7 |
| PSNH Newport (9) | 153.6500 | 141.3 |
| PSNH Franklin/Laconia | 153.7100 | 141.3 |
| PSNH Mobile | 158.1300 | 156.7 |
| PSNH Nashua (6) | 158.2500 | 141.3 |
| PSNH Bedford (4) | 158.2650 | 141.3 |
| PSNH Meters Nashua (19) | 159.7500 | 141.3 |
| PSNH Epping (22) | 160.0950 | 123.0 |
| PSNH Monadnock/Keene (12) | 160.2450 | 131.8 |
| PSNH Hooksett (5) | 160.3350 | 141.3 |
| PSNH Coast/Portsmouth(13) | 160.8450 | 100.0 |
| PSNH Hillsboro (10) | 161.1450 | 141.3 |
| PSNH Milford (25) | 158.1600 | 127.3 |

Heard during major regional power outage over Thanksgiving were the following for PSNH or assisting crews - 154.515 with tones of 127.3, 218.1, and dcs632, all in the Manchester / Nashua area on simplex.

New Hampshire Electric Co-op changed radio system to a digital format with new frequencies, unable to monitor with my equipment.

Effective Wednesday, December 3, 2014, at 800 AM (EST) NWS will transfer all warning and forecast responsibility for Cheshire and Hillsborough counties, NH, to the NWS Weather Forecast Office in Gray, ME, from Taunton, MA

Recently Verified School Bus

| | | |
|----------------------------------|---------|-------|
| Bedford School Dist Bedford NH | 151.535 | d051 |
| 1st Student Bus Atkinson NH | 452.025 | 74.4 |
| 1st Student Bus Hampstead NH | 155.235 | d734 |
| 1st Student Bus Stratham NH | 155.295 | 103.5 |
| Goffstown Truck Center town?? NH | 151.985 | d051 |
| 1st Student Bus Hampstead NH | 151.235 | d734 |
| Timberlane Reg Sch Plaistow NH | 155.235 | d734 |

Recently Verified Ambulance and Hospital

| | | |
|-----------------------------------|----------|---------|
| Monadnock Comm Hospital Peterboro | 155.340 | 71.9 |
| Exeter Hospital Exeter NH | 155.385 | 85.4 |
| Catholic Medical Ctr Manchester | 155.340 | 91.5 |
| Frisbie Memorial Rochester NH | 155.340 | 103.5 |
| Portsmouth Regional Portsmouth NH | 155.340 | 107.2 |
| Huggins Hospital Wolfeboro NH | 155.340 | 114.8 |
| No Conway Memorial Hosp Conway NH | 155.340 | 123.0 |
| Franklin Reg Hosp Franklin NH | 155.340 | 131.8 |
| Parkland Medical Center Derry NH | 155.340 | 141.3 |
| Lakes Regional General Laconia | 155.340 | 151.4 |
| Elliot Manchester Manchester NH | 155.340 | 167.9 |
| Wentworth Douglas Hosp Dover NH | 155.340 | 173.8 |
| Dartmouth Hitchcock Hosp Lebanon | 155.340 | 186.2 |
| Linwood Amb Lincoln, Woodstock | 155.235 | 136.5 |
| Huggins Hosp Security Wolfeboro | 451.3125 | d346 |
| VA Hosp Manchester Security Phone | 407.8375 | NAC 600 |

Newer Police Frequencies Confirmed

| | | |
|------------------------------|----------|---------|
| Salem NH Police Department | 159.1500 | NAC 117 |
| Strafford County Police Disp | 155.7925 | NAC ABE |
| Hudson NH Police tactical | 155.7225 | NAC 470 |

John B

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Sorry, no column this issue

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Sorry, no column this issue

PHILADELPHIA

Column Editor Wanted

The following frequency information was provided by Glenn Mitchell. The weekly FCC grants and new applications are ready at: <http://home.comcast.net/~gmitch86/quick.htm>

| | | | | |
|----------------------------|-----|-----|---------|--|
| PW KRA485 | | | | |
| UPPER GWYNEDD, TOWNSHIP OF | | | | |
| 154.9800 | FB2 | 60p | 11K0F3E | |
| 151.3550 | MO | 60p | 11K0F3E | |
| 154.9800 | MO | | 11K0F3E | |

| | | | | |
|------------------------|-----|-----|-----|---------|
| PW WNB325 | | | | |
| PERKIOMEN, TOWNSHIP OF | | | | |
| 153.755 | FX1 | 10p | 30e | 11K0F3E |
| 155.700 | FB4 | 35p | 35e | 11K0F3E |
| 153.755 | MO | 35p | 35e | 11K0F3E |

| | | | | | |
|-------------------------------|-----|-----|-----|---------|---------|
| YW WQVB532 | | | | | |
| PENNSYLVANIA, COMMONWEALTH OF | | | | | |
| 156.1275 | FB8 | 60p | 44e | 8K00F1D | 9K60D1W |
| 151.4675 | FB8 | 60p | 44e | 8K00F1D | 9K60D1W |
| 155.5275 | FB8 | 60p | 44e | 8K00F1D | 9K60D1W |
| 153.7475 | MO8 | 35p | 70e | 8K00F1D | 9K60D1W |
| 153.8975 | MO8 | 35p | 70e | 8K00F1D | 9K60D1W |
| 153.9575 | MO8 | 35p | 70e | 8K00F1D | 9K60D1W |

| | | | | |
|-----------------------|-----|-----|-----|---------|
| PW WXW435 | | | | |
| HATFIELD, TOWNSHIP OF | | | | |
| 155.3100 | FB2 | 60p | 75e | 11K0F3E |
| 153.9950 | MO | 60p | 60e | 11K0F3E |
| 155.3100 | MO | 60p | 60e | 11K0F3E |

| | | | | |
|--------------------------|-----|-----|-----|---------|
| PW WNB244 | | | | |
| COLLEGEVILLE, BOROUGH OF | | | | |
| 153.7550 | FX1 | 10p | 30e | 11K0F3E |
| 155.7000 | FB4 | 35p | 35e | 11K0F3E |
| 153.7550 | MO | 35p | 35e | 11K0F3E |
| 155.7000 | MO | 35p | 35e | 11K0F3E |

| | | | | |
|--------------------------------------|-----|-----|------|---------|
| IG WQUE679 | | | | |
| Bucks County Water & Sewer Authority | | | | |
| 154.5050 | FB2 | 45p | 100e | 7K60FXE |
| 154.5050 | MO | 45p | 45e | 7K60FXE |
| 159.6600 | MO | 45p | 45e | 7K60FXE |
| 151.6700 | FB2 | 45p | 100e | 7K60FXE |
| 151.6700 | MO | 45p | 45e | 7K60FXE |
| 158.3400 | MO | 45p | 45e | 7K60FXE |

| | | | | |
|------------------------------|----|-----|-----|---------|
| IG WQUE705 | | | | |
| Lehigh Valley Health Network | | | | |
| 452.0125 | FB | 25p | 25e | 11K2F3E |
| 452.0125 | FB | 25p | 25e | 11K2F3E |
| 452.0125 | FB | 25p | 25e | 11K2F3E |
| 452.0125 | MO | 25p | 25e | 11K2F3E |

452.0125 MO 25p 25e 11K2F3E
452.0125 MO 25p 25e 11K2F3E

IG WPFU258

PENNSYLVANIA CONVENTION CENTER AUTHORITY

468.4125 MO 11K2F3E
469.4125 MO 11K2F3E
466.8250 11K2F3E 7K60FXD 7K60FXE
461.8250 11K2F3E 7K60FXD 7K60FXE
451.3125 MO 11K2F3E
456.3125 MO 11K2F3E
452.3375 MO 11K2F3E
457.3375 MO 11K2F3E
452.9875 MO 11K2F3E
457.9875 MO 11K2F3E
462.1875 MO 11K2F3E
467.1875 MO 11K2F3E
462.4875 MO 11K2F3E
467.4875 MO 11K2F3E
463.2125 MO 11K2F3E
468.2125 MO 11K2F3E
464.0375 MO 11K2F3E
469.0375 MO 11K2F3E
464.3375 MO 11K2F3E
469.3375 MO 11K2F3E
461.8250 FB2 11K2F3E 7K60FXD 7K60FXE
451.3125 FB2 11K2F3E
452.3375 FB2 11K2F3E
452.9875 FB2 11K2F3E
462.1875 FB2 11K2F3E
462.4875 FB2 11K2F3E
463.2125 FB2 11K2F3E
464.0375 FB2 11K2F3E
464.3375 FB2 11K2F3E

EASTERN PENNSYLVANIA

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IG WQIN522

Bear Creek Mountain Resort

461.2250 FB 40p 11K2F3E
461.3500 FB 40p 11K2F3E
461.4500 FB 40p 11K2F3E
461.6250 FB 40p 11K2F3E
461.7000 FB 40p 11K2F3E
462.5000 FB 40p 11K2F3E
463.2000 FB 40p 11K2F3E
463.4000 FB 40p 11K2F3E
463.6750 FB 40p 11K2F3E
464.4250 FB 40p 11K2F3E
461.225 MO 40p 11K2F3E
461.350 MO 40p 11K2F3E
461.450 MO 40p 11K2F3E
461.625 MO 40p 11K2F3E
461.700 MO 40p 11K2F3E
462.500 MO 40p 11K2F3E
463.200 MO 40p 11K2F3E
463.400 MO 40p 11K2F3E
463.675 MO 40p 11K2F3E
464.425 MO

461.2250 FB 11K2F3E
461.3500 FB 11K2F3E
461.4500 FB 11K2F3E

461.6250 FB 11K2F3E
461.7000 FB 11K2F3E
462.5000 FB 11K2F3E
463.2000 FB 11K2F3E
463.4000 FB 11K2F3E
463.6750 FB 11K2F3E
464.4250 FB 11K2F3E
461.2250 MO 11K2F3E
461.3500 MO 11K2F3E
461.4500 MO 11K2F3E
461.6250 MO 11K2F3E
461.7000 MO 11K2F3E
462.5000 MO 11K2F3E
463.2000 MO 11K2F3E
463.4000 MO 11K2F3E
463.675 MO 11K2F3E
464.425 MO 11K2F3E

463.7250 FB2 11K2F3E 7K60FXE 7K60FXD
462.0875 FB2 7K60FXD 7K60FXE 11K2F3E
464.3250 FB2 11K2F3E 7K60FXD 7K60FXE
464.7750 FB2 7K60FXE 7K60FXD 11K2F3E
463.7250 MO 7K60FXE 7K60FXD 11K2F3E
468.7250 MO 7K60FXD 7K60FXE 11K2F3E
462.0875 MO 11K2F3E 7K60FXE 7K60FXD
467.0875 MO 7K60FXD 7K60FXE 11K2F3E
464.3250 MO 11K2F3E 7K60FXD 7K60FXE
469.3250 MO 7K60FXE 11K2F3E 7K60FXD
464.7750 MO 11K2F3E 7K60FXE 7K60FXD
469.7750 MO 7K60FXE 11K2F3E 7K60FXD
468.7250 FX1 7K60FXE 7K60FXD 11K2F3E
467.0875 FX1 7K60FXD 7K60FXE 11K2F3E
469.3250 FX1 11K2F3E 7K60FXD 7K60FXE
469.7750 FX1 7K60FXE 7K60FXD 11K2F3E

PW KFX328

Penna. Turnpike Comm.

156.225 FB2 11K0F3E
156.225 FB2 11K0F3E
156.225 FB2 11K0F3E
156.225 FB2 11K0F3E
156.225 FB2 11K0F3E
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156.225 FB2 11K0F3E

PW KFX329

Penna. Turnpike Comm.

156.195 FB2 11K0F3E
156.195 FB2 11K0F3E
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159.045 MO 11K0F3E
156.195 MO 11K0F3E
159.045 MO 11K0F3E

PW WNAR660
PINEGROVE TOWNSHIP OF
155.745 FB 11K2F3E
155.745 MO 11K2F3E

PW WPRS452
PENNA. TURNPIKE COMM.
156.195 FB2 11K0F3E
156.195 FB2 11K0F3E
156.195 FB2 11K0F3E
156.195 FB2 11K0F3E
156.195 FB2 11K0F3E
156.195 MO 11K0F3E
159.045 MO 11K0F3E
156.195 MO 11K0F3E
159.045 MO 11K0F3E
156.195 MO 11K0F3E
159.045 MO 11K0F3E

MILITARY

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No matter what your scanner radio listening passion (Public Service, Utilities, Aviation, Marine, Railroads, Military, etc) there is a certain language, lingo or specific terms and codes used by the communicators. Depending on what aspect of the hobby you listen to, some of these codes and terms may take considerable time to comprehend. This is mostly true for the military monitor.

Each branch of military service tends to use their particular verbiage. In an effort to coordinate these terms, the Air-Land-Sea Application (ALSA) Center develops a MULTI-SERVICE BREVIETY CODES publication with the approval of the participating service commands- the U.S. Army, Marine Corps, Navy and Air Force. The purpose for using brevity codes is to shorten messages rather than conceal their content.

The purpose of the MULTI-SERVICE BREVIETY CODES publication is to ease coordination and improve understanding among participants during multi-service military operations. While not authoritative in nature, all services agree to these brevity code meanings. The publication standardizes air-to-air, air-to-surface, surface-to-air, and surface-to-surface brevity codes. It is limited to voice brevity codes used in multi-service operations but does not include words unique to single-service operations. These joint brevity codes are forwarded for inclusion or modification in Allied Communications Publications of Canada, New Zealand, the United Kingdom, Australia, the United States and the North Atlantic Treaty Organization (NATO).

The ALSA Center reviews and updates the publication as necessary and includes a summary of changes, deleted terms and any changes to term meanings. Past publications dates include; April 1997, February 2002, June 2003, June 2005 and October 2007. The enclosed list is from April 2012. The current list (October 2014) remains classified.

For the experienced monitor, some or many of these terms will look familiar while some may provide new insights. Hopefully you will find the list a useful resource.

MULTI-SERVICE BREVIETY CODES YOU NEED TO KNOW

A complete list of Dan's Multi-Service Brevity Codes are attached to the end of this document.

[CLICK HERE](#)

The Great Unofficial Radioreference FRS/GMRS/MURS All-Inclusive Fact Sheet

Written by: [Darth_vader](#)

2013 September 30 0041 GMT

Hoookay. For what it's worth, here is a (rather messy) compilation of some of the most frequently-requested information on these boards regarding operation of the part-95 family/general mobile/multi use radio services (FRS/GMRS/MURS) in the United States. Advantages and disadvantages of each service, as well as comparisons to other services such as HAM and part-90 are avoided to maintain a neutral tone and point-of-view. Hopefully this will answer many of the recurring questions people have and clear up confusion.

DISCLAIMER: This document is for general informational purposes only; NOT intended as legal advice and should not be construed as such. Legal matters should be referred to a qualified attorney or lawyer. All information is considered current as of the date this post was submitted. Since regulations and practices may change over time, it is advisable to consult an official source such as the FCC for the most up-to-date information.

REDISTRIBUTE FREELY!

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2. MAXIMUM TRANSMITTER POWER LIMITS
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- 5B. FINDING TYPE-ACCEPTED TRANSCEIVERS FOR PART-95 USE
- 6. REPEATERS
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FREQUENCIES

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Note: Channel numbers are given in this list according to the widely-followed Motorola numbering convention. GMRS channels are also sometimes referred to according to their dial position in kilohertz (e.g. "550" for channel 15) but this is uncommon.

FRS/GMRS

- 01 462.5625
- 02 462.5875
- 03 462.6125
- 04 462.6375
- 05 462.6625
- 06 462.6875
- 07 462.7125

FRS ONLY

- 08 467.5625
- 09 467.5875
- 10 467.6125
- 11 467.6375
- 12 467.6625
- 13 467.6875
- 14 467.7125

GMRS ONLY

- 15 462.550
- 16 462.575
- 17 462.600
- 18 462.625
- 19 462.650
- 20 462.675
- 21 462.700
- 22 462.725

*Note: for repeater use on 15-22, assume a +5 MHz shift (Tx: 467.xxx/Rx: 462.xxx). Simplex operation is not allowed on 467 MHz GMRS frequencies and are used for repeater input only.

MURS

- 01 151.820
- 02 151.880
- 03 151.940
- 04 154.570 ("Blue dot")
- 05 154.600 ("Green dot")

=====

MAXIMUM TRANSMITTER POWER LIMITS

=====

FRS 1-7:
FRS: 0.5 watt
GMRS: 5 watt

FRS 8-14:
FRS: 0.5 watt
GMRS: prohibited

GMRS 15-22 (a.k.a. 550-725)
FRS: not applicable
GMRS: 5 watt (base); 50 watt (mobile/handheld)

MURS
All channels: 2 watt

=====

BANDWIDTH/DEVIATION

=====

FRS/GMRS - All channels
Bandwidth: 11 kHz
Deviation: 2.5 kHz

GMRS ONLY - 15-22*
Bandwidth: 20 kHz
Deviation: 5 kHz

*Note: GMRS may also be worked with 11 kHz bandwidth/2.5 kHz deviation, though most mainstream equipment (e.g. department-store HTs) is fixed for 20/5 operation.

MURS*
Bandwidth
1-3: 11 kHz
4-5: 20 kHz

Deviation
1-3: 2.5 kHz
4-5: 5 kHz

* Note: narrowband (11/2.5) transmissions are also allowed on MURS 4-5.

=====

LICENSING

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FRS
No license required when operating on any channel (1-14) at up to 0.5 watt ERP

GMRS
License always required on 15-22 and when operating at power levels greater than 0.5 watt ERP on FRS 1-7
No license required when operating a combination F/GMRS transceiver on FRS 8-14, or if said device does not exceed 0.5 watt ERP on FRS 1-7.

MURS
No license required for personal use on any channel

At the time of this writing, GMRS licensing is handled by the FCC. Fee is \$90 and the ticket is good for five years. A

GMRS ticket is valid for the holder and the immediate members of his family.

GMRS license holder must be aged 18 and up, but the service may be used by his family members of any age. No examination or test/quiz is conducted for GMRS licensing.

A part 90/business or HAM radio license does NOT legally grant any privileges to operate GMRS and vice versa. See also "THE FUTURE OF FRS AND GMRS" below.

People sometimes use handles (nicknames/pseudonyms) on all three services; this is not illegal in itself and usually a matter of personal preference.

HAM call letters are considered a handle in part-95, as they have no official meaning in these services. If using any handle on GMRS, it should be given in conjunction with one's official legal GMRS call, never in place of it.

GMRS call letters are not required to be announced on MURS, FRS 1-7 when operating at ≤ 0.5 watt ERP or FRS 8-14.

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TYPE ACCEPTANCE

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FRS

Equipment must be self-contained; if built to use detachable components (e.g. microphones/headsets) they must be designed specifically for use with their respective transceivers, batteries excepted Antenna must not be detachable or easily removable Mobile use permitted, but mobile FRS transceivers are difficult to find.

GMRS

Equipment may be self-contained (as in combination FRS/GMRS HTs which are currently very popular in the US) or have detachable components Transceivers excluding FRS coverage may use detachable aerials, but placement restrictions exist--specifically, antenna cannot exceed 20 feet elevation above ground level. HTs cannot have detachable aerials if they include FRS coverage Mobile use permitted

MURS

Transceivers may use detachable aerials. Antenna height limited to 20 feet above structure (e.g. the peak of a house's roof) or 60 feet above ground, whichever is greater.

All transceiver equipment used on F/GM/MURS must be Part-95 type accepted and meet certain criteria as stated in their respective FCC rules.

In general, FRS transceivers cannot have removable aerials; GMRS and MURS radios can have removable aerials (particularly in the case of base or mobile units.) but GMRS transceivers with removable aerials cannot be used to transmit on FRS.

Tone/code squelch is permitted on all services, although this functionality is sometimes omitted, especially in very low-cost transceivers or children's "toy" HTs where carrier squelch may be used instead.

Courtesy tones (or "end of transmission" or "roger" beeps) and calling or "attention" tones are also permitted, especially on FRS, but considered by many to be annoying.

Modifying an FRS/GMRS/MURS transceiver in ways not intended by the manufacturer or FCC generally voids its Part-95 certification and may render it illegal to operate.

Equipment can neither be tunable outside its prescribed frequency bands, nor manually or computer programmable as such. External amplifiers cannot be used with any transceiver on FRS/GMRS/MURS.

Many newer imported free band transceivers marketed for HAM use (Baofeng, TYT, Wouxun, etc.) and modified purpose-built HAM equipment are capable of emulating an FRS/GMRS/MURS transceiver. Although sometimes used, such equipment is illegal to operate in these services as they are not type-accepted for Part-95 operation, despite extremely lax enforcement by the FCC.

None of these restrictions apply to equipment designed specifically for receiving (e.g. a police scanner.)

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FINDING TYPE-ACCEPTED TRANSCEIVERS FOR PART-95 USE

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The FCC maintain a searchable database of all transceivers certified for Part-95 use on <https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> (Thanks, nd5y.)

1. Under "Application Information: Application Status:", select Grant Issued.
2. Under "Equipment Information: Rule Parts (up to three).": select "95A" for GMRS, "95B" for FRS or "95J" for MURS and tick "exact match" (selected by default). It's probably best to search each one individually, as this narrows your search and reduces confusion.
3. Under "Formatting Options: Show results in", select "HTML" (default).
4. Specify number of search results to display (default: 10).
5. Select "Start search". It may take several minutes to display if a large number of results is given in step 4.

NOSCRIPT USERS: Temporarily allow "apps.fcc.gov" to use the search page.

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REPEATERS
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Repeaters on GMRS are usually considered to be specifically for the private use of those who operate them, however many individuals and radio clubs operate "open" repeaters intended for public use.

Some open/public repeaters may require permission from the operators to work them, but not always (although it is typically considered polite to ask regardless.)

A good resource for GMRS repeater information, including non-exhaustive lists of repeaters around the United States is http://mygmrs.com/. At the time of this writing, the ratio of open versus private ("permission required") systems listed in MyGMRS seems to be fairly equal (271:308), indicating a slight bias toward private systems.

All repeater and telephone patch operations are forbidden on FRS and MURS. Telephone patches may not be used on GMRS. As far as I know, there is no restriction on an F/GM/MURS operator manually relaying communications by voice between their respective band and other radio services like CB or HAM, or other media such as Internet chat servers or telephone calls.

===== OTHER FACTS =====

FCC RULES
FRS: 47 CFR 95B
GMRS: 47 CFR 95A
MURS: 47 CFR 95J

FRS and GMRS always use FM (see "BANDWIDTH/DEVIATION" above.) MURS may use other modulation formats, but FM is arguably the most commonly used.

GMRS channels 19 and 21 (650 and 700) are not allowed to be used near the Canadian border.

FRS transceivers are allowed to be used in Mexico on channels 1-14, however care must be exercised to avoid transmitting on GMRS 15-22 if a combination transceiver is used there.

FRS 1 and GMRS 20 are commonly used and advocated as "de facto" calling and emergency channels, especially when travelling. Usually used with CTCSS 141.3 Hz (Motorola QC #22).

It is legal for FRS and GMRS users to communicate with each other. The low maximum power level of FRS devices may cause problems when communicating to a GMRS station over any significant distance.

CTCSS and digital squelch is allowed on all services, and may be required to access repeaters on GMRS. Usage of a CTCSS tone/DCS code is completely optional on any FRS/GMRS/MURS channel, but one is likely to attract more attention using it.

FRS, GMRS and MURS were originally intended to be used for personal communications within one's group, however there is almost nothing prohibiting deviation from this (see next paragraph). There is no "content police" on F/GM/MURS and in some areas, portions of GMRS and MURS are used as an "alternative" HAM service; the subject matter discussed in them might be similar to what one would find scanning the several HAM bands.

Transmission of music is never allowed on any part-95 band including CB. (That includes YOU, "Fisherman" and "Robocop".) Morse code is allowed but rarely used for anything other than distress signals or automatic GMRS repeater self-identification. Data transmissions are allowed on MURS but may be restricted on the other services.

Business use of GMRS is generally prohibited, principally due to (expensive) licensing restrictions and its reclassification as a personal-use radio service in the 1980s. Exceptions exist for businesses licensed for GMRS before revision of the service's rule in the 1980s and are operating under the "grandfather" regulation. Many businesses are now using FRS for this purpose as it is free of such restrictions.

=====
THE FUTURE OF FRS AND GMRS
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It is speculated that licensing requirements on GMRS may be either greatly relaxed or completely eliminated in the coming years, and a slightly revised band plan implemented. One oft-stated example has GMRS being restricted to 2 watts maximum ERP, simplex communications being allowed on the 467 MHz repeater input channels and repeater usage discontinued. The resulting service would be an "extended" 30-channel implementation of FRS and be regulated as such.

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SEE ALSO
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http://wiki.radioreference.com/index.php/FRS - FRS description on the Radioreference wiki
http://wireless.fcc.gov/services/personal/family/ - FRS information from the FCC

<http://popularwireless.com/gmrsfaq.html>

- FRS/GMRS frequently asked questions

<http://wiki.radioreference.com/index.php/GMRS>

- GMRS description on the Radioreference wiki

- GMRS information from the FCC

<http://mygmrs.com/>

- GMRS repeater information and directory

<http://home.provide.net/~prsg/part95ae.htm>

- A very in-depth page about GMRS regulations that includes the FCC's rule

<http://wiki.radioreference.com/index.php/MURS>

- MURS description on the Radioreference wiki

<http://fcc.gov/encyclopedia/multi-use-radio-service-murs-0>

- MURS information

from the FCC

- Electronic Code of Federal Regulations title 47 part 95; the official document describing all this stuff (almost reads like an FAQ) (thanks, nd5y)

END

AMATEUR RADIO

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Amateur Radio: Feedlines (Part 2)

Robert AK3Q

Last time around I introduced the topic of feedlines. This is something in the scanner world we may or may not think a lot about; in the amateur radio world, it becomes very important. In my book, it is almost as important for scanning work—we just do not give it its due. Since we are looking at the cross-over between amateur radio and scanning in this column, I propose we have the best feedlines we can, regardless of the usage. Even small dividends add up, and I have found better coax on my scanning antennas produces better results, and it is certainly true from transmitting on the amateur bands.

I introduced some theory last time (Issue 68), and will continue now with more theory and some application.

Just A Little More Theory . . .

Under the most ideal conditions there is a certain amount of line loss due to the materials used and their size. Let's assume a 100 watt load from the radio is transmitted down a coax matched in impedance to the resistance at 50 Ohms, just as the radio requires.

Even with a coax line cut to the proper length for the given frequency, there is a certain amount of signal loss called *matched-line* loss. The conducting wire presents a certain amount of resistance, as does the dielectric material surrounding the conductor. Short runs of coax, say 50' or less, have minimal loss from this effect, but runs over 100'

start to become noticeable, and over 200' there can be quite a significant reduction in signal strength.

This effect is also increased as frequency increases, so again we come back to the point that good quality coax becomes a real issue for VHF and above transmissions. What happens when the line is mismatched? Forward power is met by reflected power. This mismatch produces a condition where some of the energy is lost due to the standing wave ratio, or SWR.

Losses by SWR mismatches don't actually account for much overall line loss, but when coupled with inadequate coax (that is, coax with insufficient matched-line loss ratings), the losses can get quite high.

And this assumes coax which is in perfect shape—no tears, shorts, or line RF pick-up along the way.

Since the problem of line loss increases with frequency, it is not unusual for systems to only radiate 10% or less of applied power at VHF frequencies. This happens much more often than you might expect, especially when using coax runs of 100' or more for the higher frequencies.

This is also why you cannot simply trust low SWR readings at the radio—without going into all the math, inadequate coax can actually *reduce* the measured SWR at the load end, fooling you into believing everything is okay. A bit of nasty business there, eh? Beware of low SWR readings across a band, especially at higher frequencies. SWR should and will vary significantly over a given band as most antennas have a fairly narrow bandwidth. Start looking for problems if SWR remains mostly constant over the band unless you know for sure the reasons behind it. The old adage remains, "If it seems to good to be true it probably is."

So What Should I Use?

The first rule of thumb when it comes to feedlines is to use the least amount possible to get the job done. The second rule of thumb is to use the best feedline for the job, which in VHF and above terms is high quality coax.

Ladder line is best used with HF when you have a basically straight run from the radio to the antenna with no nearby metal surfaces to de-tune the antenna. Ladder line should never lay on the ground, nor should it have any sharp or moderately sharp bends along its path. Keep in mind window frames, metal gutters, downspouts, etc. can all impact the function of ladder line.

The problem with using ladder line for VHF and above is that the balanced lines do not cancel each other out the way they do with HF signals. For 10 meters or 6 meters, even 2 meters, you might be fine if designed properly, but above these frequencies you almost have to use coax.

Higher power usually requires better quality coax, so research the coax you intend to use for its power limits if

you plan on using an amplifier or if you plan to use 200 watts or more. The higher the frequency the lower the power limits of coax as well, so bear this in mind when choosing coax for VHF and above.

When transmitting at VHF frequencies and above, there is no substitute for getting the best coax you can. Don't pinch pennies here because the differences are staggering, especially as you move into the 440 MHz range of frequencies.

LMR200 at 445MHz has a whopping 7dB attenuation, and that assumes no other mismatched line loss. RG213 clocks in at about 5.1dB, while LMR400 rates about 2.7dB. The additional money spent on high quality coax at this end of the band is better (and cheaper!) than buying a high powered amplifier!

Don't neglect this point—high frequencies require excellent, well-matched coax to keep the feedline from being an expensive dummy load. A lot of people complain about their 440MHz coverage, but I would hazard a guess the problem lies not in the band but rather in their feedlines. We hams tend to be a frugal bunch, but this is where you can be penny wise and pound foolish! Enough said.

Note: Charts abound on the internet for various coax/line loss combinations, as well as being available in books on antennas. Compare data from several charts to ensure the data is reasonably accurate for the coax/length/frequency combinations you intend to use.

SWR Readings

Let me make some final comments about SWR readings. If you have a measured SWR reading of 2:1 or less (real SWR from a properly set up antenna and transmission line) don't sweat over trying to get it down to 1.1:1.

Long before modern rigs which require low SWR to operate at max power-out, old timers didn't worry at all about SWR—they focused on having good antennas and quality feedlines and let their tube radios worry about the rest.

We have recently become obsessed with SWR readings, trying to tweak perfectly good systems to get the supposedly "magical" 1.1:1 match and accepting nothing less. Trust me, all that time spent tweaking your system could be spent yourself on the air. In some cases, the signals produced by a so-called perfect 1.1:1 are not as good as those at 1.5:1! Don't obsess over low SWR readings. Get (or build!) a good antenna, put the best feedline you can for your setup, and get on the air and have fun!

Keep in mind one change in S units is roughly equivalent to 6dB, so tweaking an already good system to get perhaps 1dB improvement isn't going to make any

difference to the person on the other end. It may make us feel good or give us bragging rights amongst our cronies, but real world difference won't matter one bit. There—I said it!

This column has been from the perspective of transmitting even though as scanning enthusiasts we are typically receiving. As a ham I regularly use some of the same equipment for both, and if I have good transmit capabilities, I then automatically have good receive capability for my scanners/amateur gear.

Here's hoping I catch you on the air sometime!

WASHINGTON DC REGIONAL

David Schoenberger
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DC hosted several major events this fall. The Taste of DC was Columbus Day weekend, the Marine Corps Marathon was a couple of weeks later, and the Concert for Valor was Veterans Day. Because these events used an abundance of frequencies and talk groups, I'll only cover some of the highlights of each.

The Taste of DC is held annually along Pennsylvania Avenue in downtown Washington. Organizers used rented UHF portables. Interestingly, some of the frequencies were not in the "usual" UHF business bands. 450.1250, 459.0750, and 460.0750 were all used. The remaining frequencies found were all between 461-470 MHz. I'm not sure how many channels the portables had, but there were probably more in use than I found. DC Homeland Security and Emergency Management (DCHSEMA) used talkgroup 33872 on the Project 16 trunked system and talkgroup 2117 on the Project 25 system.

The Marine Corps Marathon begins near Arlington National Cemetery, winds its way through DC, and concludes at the Iwo Jima Memorial in Arlington. The MCM is one of the largest annual events in the region, with a multitude of agencies providing security and logistical support. Organizers used talk groups (63xxx series) on site 403 of the DOD 14C trunked system. Arlington Police and Fire used numerous talk groups on the county's trunked system. DC Fire used the three "Special Events" talk groups on the Project 16 system. There was also a talk group used by the Virginia State Police on the Virginia STARS system, and a couple from the Washington Metropolitan Area Transit Authority (WMATA) system. Helicopters used 123.0250, which is a nationwide helicopter-to-helicopter frequency. Park Police used 166.7250, which is their special events channel.

The inaugural Concert for Valor, televised live on HBO from the National Mall, was expected to draw up to 800,000. An hour into the concert, a police source estimated approximately 250,000 people in attendance. This low figure was surprising, given the unseasonably

mild weather. The police and security presence seemed out of proportion to the attendees, and the Metro flowed smoothly, although there was an escalator fire at the L'Enfant Plaza station after the concert concluded. Talkgroups from the DC P16 system, DC P25 system, WMATA system, Virginia STARS system, and Arlington County system were all active. Park Police used 166.7250. The Red Cross used 453.4250 and 453.4750. On 450.8250, people were giving video cues/commands; this may have been used by HBO. Organizers used UHF business band frequencies.

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PW WZJ392 MONTOUR, COUNTY OF
155.1300 MO 11K2F3E
155.2500 MO 11K2F3E
155.4750 MO 11K2F3E
155.4900 MO 11K2F3E
155.1300 FB 11K2F3E
155.2500 FB 11K2F3E
155.4900 FB 11K2F3E
155.2500 FB2 11K2F3E
153.7400 MO 11K2F3E

IG WPGS240 GANNON UNIVERSITY
464.4250 FB2 11K2F3E
469.4250 FX1 11K2F3E
464.425 MO 11K2F3E
469.425 MO 11K2F3E

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Sorry, no column this issue

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Sorry, no column this issue

THINK BEFORE YOU ACT IRRATIONALLY

Be sure to check the "NEWS" page of the website for the latest distribution of the newsletter.



**"I can't wait for the next issue of the
Scanner Digest Newsletter"**

MASSACHUSETTS

Peter Szerlag
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Franklin County Massachusetts

All fire and ambulance units are dispatched on 460.40 R PL 173.8 by "Shelburne Control" (except for Greenfield FD, Orange FD/Amb, and Turners Falls FD/Amb). Shelburne Control is a 911 PSAP operated by the Massachusetts State Police from the Shelburne Barracks.

On scene operations frequently make use of Tac 1 453.1125 PL 156.7 for portable radio operations. On scene operations are also conducted on the regional repeaters that are scattered around the county.

Greenfield FD operates on 453.075 R PL 118.8.
Greenfield PD operates a 911 PSAP. Greenfield PD operates on 460.525 R PL 151.4.

Orange PD operates a 911 PSAP. Orange PD operates on TG 36656 on Smart Zone 10 of the MSP TRS. (Orange PD also has a new channel licensed on 453.4375 R). Orange FD operates on 453.2875 R PL 156.7. Orange FD self-dispatches their first call via their on duty crew. 2ndary calls are dispatched by Shelburne Control.

Montague PD operates the 4th 911 PSAP in Franklin County. Montague PD apparently operates on 453.4875 R PL 156.7. Turners Falls FD pages out on 460.40 R but apparently does their responses on 453.20 R PL 156.7. Montague Center FD is dispatched by Shelburne Control on 460.40 R PL 173.8. Montague Center FD responds on 460.40 R and uses the Tobey Tower for on scene ops.

Police service in the small towns is provided by a mixture of local PDs (on 460.35 R PL 173.8) and State Police coverage (on the new P25 TRS).

MedCare is the name of the ambulance service that operates from Greenfield. MedCare serves many of the towns in Franklin County. On 460.40 R they identify as "MedCare 23", "MedCare 26", etc.

Other radio identifiers heard include - Montague (Center) C7 (a chief officer) - Montague (Center) Brush 1 - Amherst A3 - Leverett Rescue 1 - Leverett C2 - Leverett Engine 1 - Warwick Engine 2 - Northfield Med 9 (a EMT or paramedic) - Northfield Ambulance 2 (A2) - Warwick C3 - Shelburne Falls Ambulance - Colrain Ambulance - Colrain Med 11 - Colrain Med 23 - Turner Falls Fire - Turner Falls A1 - Turner Falls Eng 1 - Northfield A1 - South County A1 - Charlemont Car 1 - Sunderland C11 - Sunderland C2 - Sunderland Engine 3

If there is no answer to a page, re-tones are done at the 5 minute mark.

Berkshire County

"Berkshire County Control", located in Pittsfield at the County Jail, is a 911 PSAP that dispatches many of the smaller agencies in Berkshire County. Fire and ambulance dispatch is done on 154.31. Several new channels have been added this year.

Great Barrington FD is dispatched by Great Barrington PD on 154.31. Great Barrington FD units respond on 154.31 also.

Here is a list of all the 800 MHz radio licenses used by public safety agencies in Berkshire County. WNZV617 - WPMG792 - WPPZ275 - WQAG757 - WQAF218 - WQAX828 - WQLV701 - WQLV702 - WQQV358. Some of the Berkshire County sites include - 858.7875 at Monterey - 859.7875, 854.5625, 856.0625, & 859.9875 at Adams - 855.4875 at Williamstown. WPPZ275 has 854.3625 listed at Shelburne in Berkshire County, but the longs and lats indicate that the site is at Shelburne in Franklin County. There is no Shelburne in Berkshire County as far as I know.

I hope you have enjoyed this look at some of the radio communications systems in western Massachusetts. Peter Sz

VERMONT

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Last November, I traveled to my brother's house in South Burlington to cook Thanksgiving dinner for my family. Since I don't normally visit Chittenden County on a regular basis, this trip gives me a chance to find out what's changed in the Burlington area. I usually start cooking at around 6:00am and once the early preparation is done and the turkey is in the oven, there's not much to do so I turn to my scanner to occupy myself while everyone else in the house is still asleep. Here's what I monitored this year from within Chittenden County and the surrounding area.

Aviation

| Frequency | User |
|-----------|---|
| 118.3000 | Burlington International Airport tower |
| 118.8250 | Boston Center high altitude |
| 118.9000 | Montreal approach |
| 121.1000 | Burlington International Airport approach & departure |
| 121.3500 | Boston center southern Vermont low altitude |
| 122.9500 | Burlington airport fixed base operations |
| 123.8000 | Burlington International Airport ATIS |
| 124.5500 | Burlington International Airport approach & departure |
| 126.3000 | Burlington International Airport ground control |
| 128.3250 | Boston center high altitude over Lake George NY area |
| 131.1500 | Burlington International Airport de-icing operations |
| 133.2250 | Montreal center |
| 134.4000 | Montreal center |
| 135.7000 | Boston Center over northern Vermont |
| 257.8000 | Burlington International Airport tower |

Federal/Military

| Frequency | Tone | User |
|-----------|-------|--|
| 143.4250 | | VT ANG security |
| 162.4000 | | NWS off Mt. Mansfield |
| 163.1500 | \$363 | US Border Patrol (encrypted) |
| 163.7250 | \$359 | US Border Patrol (encrypted) |
| 165.1125 | D025 | VT ANG fire ops |
| 172.9000 | \$001 | TSA at Burlington International Airport |
| 410.1000 | | NOAA link from Burlington airport to Mt. Mansfield |
| 407.7250 | \$482 | USPS (encrypted) |
| 407.7750 | \$482 | USPS (encrypted) |
| 408.2000 | \$201 | US Federal Protective Service |

Local & County

| Frequency | Tone | User |
|-----------|-------|------------------------------|
| 150.7750 | 146.2 | Vergennes rescue, Ferrisburg |
| 151.1300 | D116 | Jericho road crew |
| 151.2575 | D162 | Essex town public works |
| 151.3175 | D065 | Willston fire |

153.8750 CSQ Clinton Co. NY fire & EMS dispatch
153.9050 D703 Fairfax fire and rescue
154.1450 110.9 Ticonderoga, NY area fire departments
154.1900 100.0 North Hero, South Hero rescue
154.3250 136.5 Shelburne dispatch, Charlotte
154.6950 CSQ New York State Police
154.9050 110.9 New York State Police
155.0550 162.2 Chester rescue
155.0850 162.2 road crew
155.2050 179.9 Derby Line rescue
155.3400 162.2 Ambulances with UVM Medical Center
155.4975 D065 Williston fire, Shelburne rescue
155.7150 114.8 Shelburne dispatch with Monkton fire, Starkboro fire
155.7900 131.8 Plattsburgh NY PD
155.8200 100.0 St. Albans central
156.2100 114.8 NY sheriff
158.8650 162.2 Bristol fire
159.1800 D114 State of Vermont Agency of Transportation-St. Albans
159.1950 D155 State of Vermont Agency of Transportation-Burlington/Colchester
159.4050 D115 State of Vermont Fish & Wildlife-Mt. Mansfield
159.4050 D125 State of Vermont Fish & Wildlife-Jay Peak
453.0500 \$656 University of Vermont PD (encrypted)
453.1000 D351 Burlington International Airport operations
453.1500 118.8 Shelburne PD
453.2500 D432 Franklin County sheriff office
453.2750 151.4 University of Vermont
453.3250 97.4 University of Vermont
453.4000 110.9 State of New York corrections
453.4125 D065 University of Vermont
453.5350 D243 Colchester fire, Malletts Bay
453.6125 141.3 New York State Dept. of Transportation
453.6750 D612 Hinesburg rescue
453.7500 \$264 Colchester PD
453.7750 110.9 State of New York corrections
453.8500 118.8 Williston PD dispatch
453.9750 118.8 Burlington International Airport operations
460.0250 173.8 Vermont State Police-St. Albans
460.0500 118.8 St. Albans PD dispatch "central"
460.1000 \$878 Essex PD P-25
460.1250 \$685 Burlington PD (encrypted)
460.1500 179.9 Vermont State Police
460.1750 D654 South Burlington PD dispatch
460.1750 \$846 South Burlington PD P-25
460.2000 D065 Winooski PD
460.2250 203.5 Vermont State Police-Williston
460.2750 151.4 Vermont State Police-New Haven
460.2875 D125 Burlington PD
460.3250 118.8 State of Vermont Dept. of Corrections
460.4000 \$893 Milton PD (encrypted)

460.4500 D114 Chittenden County sheriff
460.5250 118.8 Chittenden County sheriff
460.6250 D134 Burlington Fire dispatch

Perhaps the biggest surprise was the Franklin County sheriff's office abandoning P-25 encryption and returning to analog. However, Burlington, UVM and Milton PDs were completely encrypted and Colchester and Essex PDs now rely heavily on P-25 encrypted communications.

And that's it this time from Vermont. If Santa brought you a new toy for Christmas, why not share with all of us what you enjoy listening to? E-mail me and share with all of us what you're hearing.

CANADA

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Tracking the Air Traffic Controller (ATC) in Smaller Regional Airports

Hello from the great white north and as I complete this issue's column the snow has started to fall. It looks like it will be a cold winter but we will be warm and cozy busy scanning.

Like many scanner hobbyists I enjoy listening to air traffic for local airports and at times when travelling. I was always confused as to how it all worked so when my nephew was embarking on his pilot's license I asked him to help me out. I had always heard of those plane spotters that follow a plane from gate to take off and vice versa. It is easy to listen to local communications if you are near the airport or plane spotting parked by a runway but what's the sequence of communications? So grab a flight schedule and follow a plane from a smaller airport from gate to takeoff and maybe its return. You can animate this activity with live tracking using www.flightaware.com. Once you master these skills it is time to upgrade to following the busy city airports like Ottawa, Montreal, Vancouver and Toronto. I use my Radio Shack 200 channel analog scanner for this freeing up my trunk tracker for trunked monitoring. If you can program the alpha tags then it's a great idea to mark the channels as CYYZ GATC and CYYZ GTWR etc in order to keep track of what comms are on which channel. I have found a small 4 element beam handy as well to amplify the signal along with a preamplifier. Kent published a cheap yagi design in the March 2008 issue of Popular Communication. <http://www.wa5vjb.com> or check out <https://www.ab9il.net/aviation/airband-antenna1.html>.

| Departures | | | | |
|------------|-------|------|---------|--|
| Flight | Time | Gate | Remarks | |
| 2340 | 8:42P | S16D | On-Time | |
| 470 | 6:10P | D5 | On-Time | |
| 396 | 8:41P | D8 | On-Time | |
| 2024 | 9:05P | B10 | On-Time | |
| 476 | 9:28P | C16 | On-Time | |
| 2864 | 9:55P | B14 | Now 1 | |
| 390 | 5:56P | N6 | Now 7 | |

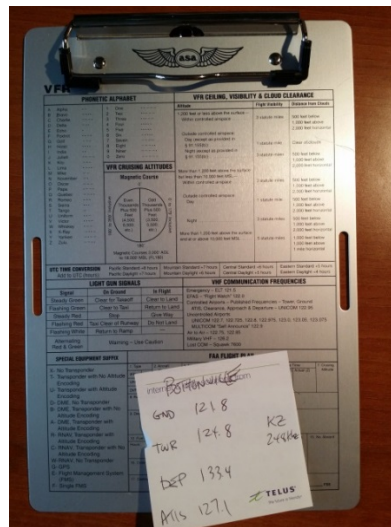


So let's start off with the basics of what the Control Tower does. The control tower has 3 different functions and associated frequencies: Ground Control, Tower Control and Approach/Departure Control.

Ground Control controls all areas in the airport prior to the taxi to the runway including parking or a trip to the maintenance hangar. The pilot when departing from the gate will get clearance to the taxi area just before the runway. The pilot must state exactly where they are (i.e. parking, taxiway, and ramp or gate #). The common black and yellow position signs are used as a reference. The Ground ATC sits up high on the tower and has visuals to the airplane under their control.

Tower Control is the next step and they control each runway for take-off or landing. You must get permission from the Tower ATC to take off or land on their runway number. The Tower ATC sits up on top of the tower here as well and they also have a visual on their airplanes.

Approach/Departure Control is where the ATC are in the radar bunker or TRACON room and they monitor and manage air traffic for their sector. They cannot see the airplanes they are managing except on their radar screen. This is where they stack airplanes, assign altitudes, have planes line up and manage the aerial highway.



Ok, so let's start our trip. I have 2 passengers in a hurry to travel.





We listen to ATIS then contact the Ground ATC and obtain taxi clearance to the named runway entrance. We then switch channels and contact Tower ATC and get clearance to enter the numbered runway and depart. Once you have taken off you then switch channels again to contact Departure ATC and communicate with them. Once you have flown beyond the range of airport radar you are in contact with the nearest **ACC** - Area Control Center and they now keep track of your flight along with all the others in and out of its area.

The **Area Control Center - ACC** has the primary function of managing the distances between airplanes as it climbs or descends from its flying altitude and transfers control to the local airport Approach ATC radar system.

ATIS - Automatic Terminal Information Service is used in some airports and broadcasts recordings that contain airport information, runways to be used, weather and wind direction, wind speed, visibility, etc. Pilots will listen to this recording before taking off and when landing to get up to date information. It is surprising in some airports how weather conditions can change quickly.

This system is updated every 30 minutes. When landing you contact the Approach ATC and they will then hand you off to the Tower Control ATC and provide you with landing clearance. Once you are at the end of the runway you contact Ground ATC and you drive the plane to the ramp or gate that assigned for your flight.

Some uncontrolled airports have a **FSS - Flight Service Station** where the pilot will make contact to file a flight plan, obtain weather information, aeronautical information or flights following. This will be outlined in the flight manuals and may also be known as Unicom. Some airports such as Buttonville are uncontrolled after 11pm and thus your landing procedure will be done without the help of an ATC. Your radio procedure will be more specific as you are informing other possible pilots your intentions.

Buttonville Airport CYKZ (Toronto Airways) is a local airport, north of Toronto that offers flight schools, executive jets and runways for hobby pilots. They only have two runways so it's a bit easier to keep track of their

communications. The local ATIS is 127.1 Mhz, the Ground Control is on 121.8 Mhz, Tower is on 124.8 Mhz and 119.9 Mhz and departure for the local Toronto major airport is 133.4 Mhz. Their NDB is KZ on 248 KHz. Runway 15 is the primary runway. The Unicom FSS frequency is 123.500 Toronto Airways FBO.

Darryl Dahmer of Skymaster 1 680 News is a popular airport citizen. He has flown his Cessna over Toronto for over 40 years providing traffic reports. During poor weather he will sit in his plane and dispatch traffic reports as if he was flying. They are also sending him answers to popular radio show contests to make him be a winner. He has also been a surveillant for the police <http://www.citynews.ca/2013/09/13/york-police-bust-1m-richmond-hill-grow-op/#ad-image-0>. He is all eyes up in the air and is a common frequency entry for many scanners, tow truck and ham enthusiasts.

CHFI, 680 News, The Fan 590 traffic updates



Since this airport is in an area that has a sprawling subdivision of homes and the airport owners complaining that the revenue is weak there have been several reports that the airport will be sold and paved over to make townhomes. <http://renx.ca/skys-the-limit-for-cadillacs-buttonville-development/>. My airport highlight was listening to friends take flying lessons and giving a shout out as they flew over as well as the Good Year Blimp making a landing here around 10 years ago. I did not see the Pink Floyd blimp....shucks!



The downtown city airport **CYZ** called **Billy Bishop Airport** is named after a famous WW1 pilot and is a hub for executive jets and the regional Porter and Jazz Airlines (typically using Bombardier Q400 turboprop jets). ATIS is on 133.6 Mhz, Tower is on 118.2 Mhz and Ground Control is on 121.7 Mhz.

This is also the staging area for the Toronto International Airshow every September.

Airshow Specific Frequencies

<http://www.canairradio.com/airshow.html>



| Freq | License | Tone | Alpha Tag | Description |
|---------|---------|-------|---------------|------------------------------------|
| 150.800 | VCR540 | 110.9 | Darryl Dahmer | Darryl Dahmer - Skymaster 1 C-GGZD |
| 150.670 | CJY731 | 110.9 | Rogers | Traffic |
| 151.790 | CJY731 | 110.9 | Rogers | Air to Ground |
| | | | | |
| | | | | |



Vancouver CYHC also has a wonderful harbour airport. The Westin Bay Shore Hotel offers a front row seat to the float plane and helo activity. This airport has the highest

Air Traffic Control tower in the world, situated on the 29th floor of the Vancouver Sun Building at 200 Granville Street.

Vancouver Harbour (CYHC)

Air Traffic Control

| Freq | License | Alpha Tag | Description |
|---------|----------|-----------|---------------------|
| 118.400 | XLK677 | Tower | Tower |
| 125.350 | XLK677 | Tower | Tower |
| 126.800 | XLK677 | ATIS | ATIS |
| 128.600 | Multiple | Arr / Dep | Arrivals/Departures |
| 132.300 | Multiple | Arr / Dep | Arrivals/Departures |

| Freq | License | Alpha Tag | Description |
|---------|---------|--------------|---------------------------|
| 122.350 | VXJ54 | Pacific Helo | Pacific Heliport Services |

| Freq | License | Alpha Tag | Description |
|---------|---------|-----------------|----------------|
| 156.600 | XLK677 | Harbour Traffic | Vessel Traffic |



NEWS UPDATE:

York Regional Police have moved over their communication platform to Motorola P25 Phase II encrypted. Local Fire has also moved over but is still offering unencrypted channels in simulcast A2, B2 and C2 in the clear.

Toronto Police Services is also testing their P25 system. Looks like the days of analog scanners are slowly becoming silent as Public Safety moves over to encrypted communications onto new P25 technologies. No wonder my taxes keep going up to fund P25 systems in my community.

Stay warm this winter and do not forget to program in any local tow truck, electrical utility or public works channels. Always fun to hear a snow plow call for a tow truck to get them out of a ditch after knocking over a power line. Dispatcher responds "Hank not again!"

Cheers es 73



John VE3IPS



ScannerDigest Newsletter

Welcome to the Scanner Digest Newsletter! We're currently publishing quarterly e-magazine containing information for the scanner hobbyist. If it can be monitored on a scanner, we'll attempt to cover it from 30 to 1300 MHz and beyond!

Our purpose is to produce a newsletter to facilitate the exchange of information pertaining to the various services covered by a typical scanner radio. Dedicated regional column editors make up the heart of this publication.

The Scanner Digest Newsletter is not responsible for the accuracy or consequences incurred regarding the use of information listed in this publication. Since the purpose of this newsletter is to provide a platform for the submission and exchange of radio communication information, it thus becomes impossible to deem all contents as accurate. The very nature of radio licensing and usage makes it difficult to verify the accuracy of the information contained within. Generally information listed within the pages of the newsletter are derived from multiply sources including current FCC files, hobbyists and those directly involved with various public safety agencies.

Scanner Digest's policy has been not to limit or edit the individual columns submitted, unless we deem the information sensitive in nature which may jeopardize the safety of the parties involved.

*Only in this case will we edit out this type of input.
(Example: We will not publish the frequencies used by a law enforcement surveillance team.)*

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MULTI-SERVICE BREVITY CODES YOU NEED TO KNOW

A

ABORT- Cease action/attack/event/mission.

ACTION - Initiate a briefed attack sequence or maneuver.

ACTIVE- Referenced emitter is radiating at the stated location or along the stated bearing.

ADD- Add a specific system or EOB (Electronic Order of Battle) category to search responsibilities.

ALARM - Terminating EMCON (Emergency Condition) procedures. Opposite of **SNOOZE**.

ALFA CHECK - Request for/confirmation of bearing and range from requesting aircraft to described point.

ANCHOR (location) - Refueling track flown by tanker orbiting about a specific point.

ANGELS - Your altitude in thousands of feet.

ANYFACE - Friendly agency when call sign is not known

ARIZONA - No ARM (anti-radiation missiles) ordnance remaining

ARM - CONTACT within a single group that maneuver outside of group

AS FRAGGED - Unit or element will be performing exactly as stated by the ATO (Air Traffic Organization/FAA)

ATTACK - Commence air-to-surface delivery on a specific ground target. Direction/bearing from which the weapon will be coming may be given.

AUTHENTICATE - Response to a coded challenge.

AUTOCAT - Any communications relay using automatic retransmissions

AWAY (weapon) - Release/launch of specified weapon

AZIMUTH- A picture label describing two GROUPs separated laterally. Direction to the threat

B

BANDIT - Hostile or enemy aircraft

BANZAI - Execute launch and decide tactics

BASE - Reference number used to indicate such information as headings, altitude, fuels, etc.

BAY - Carry out deception plan indicated or in accordance with previous orders.

BEAD WINDOW - Last transmission potentially disclosed unauthorized information.

BEAM - Stabilized within 70 to 110 degrees of aspect

BEANSTALK - Datalink users should check equipment for spurious tracks.

BENT - System indicated is inoperative. Cancelled by **SWEET**

BINGO - Preset amount of fuel, that when reached, results in mission termination

BIRD - Friendly SAM (surface-to-Air-Missile)

BLIND - No visual contact with **FRIENDLY** aircraft/ground position. Opposite of **VISUAL**

BLOTTER - ECM (Electronic Countermeasures) receiver

BLOW THROUGH - Continue straight ahead at the merge and do not become **ANCHORED** with target(s).

BOARDS - Slang for speed brakes

BOGEY - Unknown if aircraft is **FRIENDLY** or enemy

BOGEY DOPE - Request for target information

BOX- Picture label with GROUPs in a square or offset square. (See **CHAMPAGNE** and **VIC** for **GROUP** names.)

BRAA - Bearing, Range, Altitude, Aspect

BRACKET - Maneuver to a position on opposite sides

BREAK - Perform an immediate maximum performance turn in the indicated direction

BREAK AWAY - Tanker or receiver call indicating immediate separation

BROKE LOCK - Loss of radar lock-on

BRUISER - Friendly air launched anti-ship missile
BUDDY (LASE/GUIDE) - Request to have guidance of a weapon from a source other than delivering aircraft
BUDDY LOCK / SPIKE- Radar locked to a known friendly aircraft
BUGOUT - Separation from that particular engagement
BUGSY - Conducting terrorist warfare activities
BULLDOG - Friendly surface/submarine launched anti-ship missile
BULLRING - Maritime aircraft patrol zone
BULLSEYE - An established reference point from which the position of an object can be referenced by bearing (Magnetic) and range (NM)
BUMP / BUMP-UP - A climb to acquire LOS (line-of Sight) to the target or laser designation.
BURN - Electro-Optical /Infer-Red R illuminator is being used to provide illumination of surface points of interest.
BURNER- Go full afterburner.
BUSTER - Fly at maximum continuous speed (military power)
BUTTON - Radio channel setting
BUZZER - Electronic communications jamming

C

CANDYGRAM - Electronic warfare targeting information available on a briefed secure net
CANYON - Use electronic jamming on radar frequency indicated
CAP – Combat Air Patrol
CAPTURED -Surface target has been acquired and is being tracked with an on-board sensor.
CAV-OK – ICAO (International Civilian Aviation Organization) term meaning no significant clouds below 5,000 feet, visibility at least 6 miles, no precipitation or storms
CEASE - Discontinue tactical action against a specified target
CEASE ENGAGEMENT- A fire control order used to direct air defense units to stop tactical action against a specified target.
CEASE FIRE - Discontinue firing. Do not open fire
CEASE LOADING - An order to fire rounds that have already been loaded, but no additional rounds may be loaded.
CHAMPAGNE - A picture label of three distinct **Groups** with two in front and one behind
CHARLIE - The expected landing time on the ship. Directive to land aircraft on ship
CHATTERMARK - Begin using briefed radio procedures to counter communications jamming
CHEAPSHOT - Active missile data link terminated
CHECK - Turn (number) degrees left or right and maintain new heading
CHECK FIRE / FIRING - Immediate pause of planned or current indirect fires
CHECK CAPTURE / FOCUS - Target appears to be no longer tracked by sensor. Sensor image appears to be out of focus.
CHECK TIDS- Check data-link display
CHERUBS- Height of a friendly aircraft in hundreds of feet above surface
CHICKS- **FRIENDLY** aircraft
CLEAN, CLEAR, NAKED - Aircraft is not carrying anymore external stores. No radar contacts, spikes or threats.
CLEARED (HOT) - Requested action is authorized (release ordnance on this pass)
CLEARED TO ENGAGE- Attack aircraft may initiate attacks
CLIFF- Jamming signal
CLOAK / CLOAKING- Switch/switching from normal/overt external lighting to covert Night Vision Device

CLOSING- Decreasing in separation
COLD- Defined area is not expected to receive fire. Pass or roll-out behind the target.
COLOR (system/position)- Request for information on a type (system) at stated location
COMEBACK- Directive call to reverse course
COME OFF - Directive to maneuver as indicated to either regain mutual support or to deconflict flight paths
COMMIT- Intercept the **Group(s)**
CONFETTI- Chaff
CONS/ CONNING- Unknown/non-friendly aircraft producing contrails
CONTACT- Acknowledges sighting of a specified reference point / radar return
CONTAINER- GROUP formation with four contacts oriented in a square
CONTINUE- Continue present maneuver
COVER- Assign weapons or establishes a posture that will allow engagement of a specified track or threat
CRISS CROSS- A position or track derived from the plotting of Direction Finding bearings
CROSSING- Two groups initially separated in Azimuth decreasing azimuth separation to pass each other.
CRUISE- Return to cruise speed after **BUSTER or GATE**
CURVE- Deception signal
CUTOFF (direction)- Requests for or directive to intercept
CYCLOPS- Unmanned Aerial Vehicle

D

DAKOTA - Out of air-to-ground munitions
DANGER CLOSE- FRIENDLY troops are within close proximity
DASH (#) - Aircraft position within a flight. Used if specific callsign is unknown.
DEADEYE- Laser designator system inoperative
DECLARE- Inquiry as to the identification of a specified track(s) or target(s).
DECLUTTER- Minimize on-screen graphics to prevent an object of interest from being obscured
DEEP- Indicates separation between the nearest and farthest **Groups**
DEFENSIVE- Aircraft is under attack, maneuvering defensively, and unable to ensure deconfliction or mutual support
DEFENDING- Aircraft is in a defensive position and maneuvering with reference to a surface-to-air threat
DELOUSE- Detect, identify, and engage (if required) unknown platform trailing friendly platform
DELTA- Hold and conserve fuel at altitude and position indicated during shipboard operations
DEPLOY- Maneuver to briefed positioning
DIAMONDS- A surface Infrared (IR) event location
DIRT- Radar Warning Receiver (RWR) indication of surface threat in search mode (see **MUD**)
DIRTY- Link is not encrypted
DIVERT- Proceed to alternate base
DOG- Air towed decoy
DOWN (system) - Emitter has stopped radiating
DRAG- Contact aspect stabilized
DROP- Stop monitoring a specified emitter/target/contact and resume search responsibilities
DRY- Ordnance release not authorized
DUCK- Descend and increase speed
DUFFER- Direction Finding equipped unit
ECHELON - Groups/contacts/formation with wingman displaced approximately 45 degrees behind the leader

ECHO- Positive System Mode X reply
EMPTY- No emitters of interest detected
ENGAGE- Fire control order used to direct or authorize units and/or weapon systems to fire on a designated target.
ENGAGED- Inter-flight call from a fighter maneuvering in the visual arena
ESTIMATE- Estimate of the size, range, height, or other parameter of a specified contact
EXTENDING- Short-term maneuver to gain energy, distance, or separation
EYEBALL- Fighter with primary visual identification responsibility- Electro Optical /Infra Red acquisition of an aircraft

F

FADED - Radar contact is lost.
FAKER- A **FRIENDLY** track acting as a **HOSTILE** for exercise purposes
FATHER- Surface TACAN station
FEELER- Shipborne fire control radar
FEET WET / DRY - Over water / Over land
FENCE CHECK (IN/OUT)- Set cockpit switches as appropriate before entering/exiting the combat area
FERRET- Airborne electronic reconnaissance activity or aircraft
FINGER FOUR - A four-ship formation
FLASH- Activate system for Identification Friend or Foe (IFF) purposes
FLASHLIGHT- Directive term for helicopter to turn on IR floodlight
FLAVOR- Visually identified nationality of a contact
FLOATING- Expanding the formation laterally within visual limits to maintain radar contact or prepare for a defensive response
FLOW- Fly stated heading
FOX - Simulated/actual launch of Air-to-air (A/A) weapons
FOX ONE- Launch of (A/A) Semiactive radar-guided missile
FOX TWO- Launch of (A/A) IR-guided missile
FOX THREE- Launch of (A/A) Active radar-guided missile
FOX MIKE-VHF/FM radio
FREEZE BURN- Freeze the Electro Optical /Infra Red illuminator position in the present location
FRIENDLY- A positively identified friendly aircraft, ship, or ground position
FUEL STATE- A helicopter's fuel quantity, expressed in hours and minutes before having to make a controlled emergency landing
FURBALL- Non-friendly aircraft and **FRIENDLY** aircraft are in close proximity to each other
FRAG- Fragments from an explosion.

G

GADABOUT- Upper limit of height sanctuary for fighters in the Missile Engagement Zone (MEZ)
GADGET- Radar or emitter equipment
GATE- Fly as quickly as possible, using afterburner or max power
GENIE- Emitter is employing electronic protection measures.
GIMBLE- Radar target is approaching azimuth or elevation limits.
GINGERBREAD- Voice imitative deception is suspected on this net
GO ACTIVE- Go to briefed frequency agile net
GO BROADCAST- Switch to broadcast control format
GO CLEAR- Use unencrypted voice communications

GO SECURE- Activate encrypted voice communications
GO TACTICAL- Switch to tactical control
GOODWILL- Boundary of an active friendly Missile Engagement Zone (MEZ)
GOPHER- A **CONTACT** that has not conformed to safe passage routing, airspeed, or altitude procedures
GORILLA- Large force of indeterminate numbers and formation
GRANDSLAM- All **HOSTILE** aircraft of a designated track (or against a tasked mission) are shot down
GREEN- Direction of no known enemy threats
GREYHOUND- Friendly ground attack cruise missile
GRIDIRON- Jamming signal appears on my Plan Position Indicator (PPI radar) scope
GROUP- Any number of air contacts within three NM in azimuth and range of each other

H

HANDSHAKE- Air Control Network Participation Group (NPG) initiation between air control unit and controlled aircraft
HARD (direction) - High-G, energy sustaining turn in the indicated direction
HARM- AGM-88 High Speed Anti Radiation Missile
HEADS UP- Alert of an activity of interest
HEAVY- A **GROUP** known to contain three or more individual entities
HIGH- CONTACT is greater than 40,000 ft MSL.
HIT(S)- Momentary radar return(s)
HITS THERE- Radar contacts on your Fire Control Radar in the position called
HOLD DOWN- Key transmitter for Direction Finding (DF)steer
HOLD FIRE- An emergency fire control order to stop firing on a designated target
HOLDING HANDS- Aircraft in visual formation
HOLLOW- Data link message not received
HOLLOW (expect) - A condition will likely exist that limits **ROVER** reception
HOME PLATE- Home airfield or ship
HOMING- Friends returning for recovery
HOOK- Perform an in-place 180-degree turn
HOOTER- FRIENDLY Jammer
HOSTILE- A contact identified as enemy upon which clearance to fire is authorized in accordance with theater rules of engagement.
HOT- Defined area is expected to receive fire. Ordnance employment intended or completed.
HOTDOG- Friendly aircraft is approaching or is at a specified standoff distance
HOTEL FOX- HF radio
HOUNDOG- Call made by free fighter indicating that he is in a position to employ weapons.
HUSH- Execute emission control in accordance with emission control policy.
HUSKY- Active radar missile is at High Power Radio Frequency (HPRF) active range.

I

ID- Identify the target.
IDLE- Surface vehicles are stationary.
IN- Turning toward a known threat
INDIA- Mode Four IFF
IN PLACE- Perform indicated maneuver simultaneously.
INTERROGATE- Interrogate the designated contact of the IFF
INTERVENE- Immediately divert a track of interest clear of a restricted or prohibited area.
IN THE DARK- Contact is in known radar blind zone.

INTRUDER- An individual, unit or weapon system in or near an operational or exercise area, which represents the threat of intelligence gathering or disruptive activity.

INVESTIGATE- Verify specified element(s)

J

JACKAL- Surveillance NPG

JAMMER- Non-friendly jammer

JELLO- Inverse synthetic aperture radar

JINK- Perform an unpredictable maneuver

JOKER- A fuel state above **BINGO** at which separation/bug-out/event termination should begin

JUDY- Aircrew has radar or visual contact on the correct target, has taken control of the intercept and only requires situation awareness information; controller will minimize radio transmissions.

K

KICK- Change radio or datalink to a specified net or frequency

KICK (Heading) - Offset element move away from threat using maximum performance profile

KILLBOX- A thirty-mile square piece of airspace Kill boxes are used for deconfliction between fighters.

KLICK- A kilometer, about one-sixth of a mile

KNOCK IT OFF- Cease all air combat maneuvers/attacks/activities/exercises

L

LADDER- Picture label with three or more groups on the same azimuth but separated by range.

LAME DUCK- An aircraft in a minor state of emergency

LASER- Platform is capable to laser target designate

LASER ON- Start/acknowledge laser designation.

LASING- The speaker is firing the laser.

LAST- Last contact altitude from a high fidelity source (fighter radar, etc)

LEAD-TRAIL- Inner **GROUP** formation of two contacts separated in range.

LEAKER(S) - Airborne threat has passed through a defensive layer

LEAN (direction) - Offset package/element in specified direction maintaining briefed altitude, airspeed, and formation.

LIGHTBULB- Turn all position lights to bright.

LINE ABREAST- Inner **GROUP** formation of two or more contacts separated in azimuth.

LINER- Fly at speed giving maximum cruising range

LOCKED- Radar lock-on

LONG RIFLE- FRIENDLY, long range Air-to-Surface (A/S) missile launch

LOOKING- Aircrew does not have the ground object, reference point, or target in sight (opposite of **CONTACT**).

LOST CONTACT- Previous contact/ information on a target/friendly aircraft are lost.

LOW vs. MEDIUM vs. HIGH- Used when talking about the general altitude of another aircraft.

LOWDOWN- A request to provide tactical ground information pertinent to the mission

M

MADDOG- Visual AIM-120 launch.

MAGNUM- Warning call made to indicate a HARM firing.

MANEUVER- Specified **GROUP** is maneuvering in azimuth, range, and/or altitude

MANFRED- I am unable to operate (radar or emitter indicated) for reasons of national security.

MAPPING- Multifunction radar in an A/G mode
MARK- Record the location of a point/object of interest.
MARK- Spotting round, normally White Phosphorous or illumination on the deck to indicate targets to aircraft, ground troops, or fire support.
MARKING- Friendly aircraft is leaving contrails
MARKPOINT- Geographic point of interest
MARSHALING- Established at a specific point
MATCH SPARKLE- Overlay IR point.
MELD- Bias radar coverage
MERGED- FRIENDLIES and targets have arrived in the visual arena.
MICKEY- HAVE QUICK time-of-day signal
MIDNIGHT- Opposite of **SUNRISE**. Radar functions/advisory is unavailable due to degradation.
MILLER TIME- Completion of air-to-ground ordnance delivery; generally used by the last striker in conjunction with a pre-coordinated egress plan.
MIKE- Microphone. Also denotes millimeter or minutes.
MIL POWER or BUSTER- Full non-afterburner power
MINIMIZE- The radio frequency is becoming saturated, degraded or jammed and briefer transmissions must follow.
MONITOR(ING) – Maintain sensor awareness on specified **GROUP/object**.
MOTHER- Parent ship
MOVE BURN- Move Electro-Optical (EO)/IR illumination in specified direction.
MOVER(S) - Unidentified surface vehicles(s) in motion
MUD- Indicates Radar Warning Receiver (RWR) ground threats with no launch indication See **DIRT** and **SINGER**.
MULTIPLE- There are a number of stations on the same frequency.
MUSIC- Radar electronic deceptive jamming

N

NAILS- RWR indication of AI radar in search OR 2.75-inch Flechette rockets
NAKED - No Radar Warning Receiver (RWR) indications.
NEAR-FAR- Fighter term depicting a radar-apparent description of two or more contacts within a **GROUP** separated in range
NEGATIVE CONTACT- Aircraft has not acquired Laser energy
NEW PICTURE- Used by controller or aircrew when tactical picture has changed
NEUTRAL- A positively identified aircraft, ship, or ground position whose characteristics, behavior, origin or nationality indicate that it is neither supporting nor opposing **FRIENDLY** forces.
NO FACTOR- Not a threat
NO JOY- Aircrew does not have visual contact with the target/bandit/landmark. Opposite of **TALLY**
NOTCHING- Aircraft is in a defensive position. Maneuvering with reference to an air-to-air threat
NOSE COLD- Target is heading away
NOSE HOT- Target is coming towards you.

O

OCCUPIED- Ground equipment present at tasked target location. Opposite of **VACANT**.
OFF- Attack is terminated and maneuvering to the indicated direction.
OFFSET- Maneuver in a specified direction with reference to the target
ON STATION- Unit/aircraft has reached assigned station
OPENING- Increasing in separation.

ORBITING- Holding on current or indicated position.

OUTLAW- CONTACT has met point of origin criteria for Rules Of Engagement ROE.

P

PACKAGE- Geographically isolated collection of **GROUPs**.

PACMAN-Fighters have found the end of the threat formation and are converging; given in range and bearing from the **BULLSEYE**

PADLOCKED- Aircrew cannot take eyes off an aircraft, ground target, or surface position without risk of losing **TALLY/VISUAL**

PAINT- An interrogated group/radar contact that is responding with any of the specified IFF (Identification, Friend or Foe) /SIF (Selective Identification Feature) modes and correct codes established for the ID criteria.

PAN- Move the sensor in the indicated direction relative to the current image.

PANCAKE- Wish to land (reason may be specified, e.g., **PANCAKE AMMO, PANCAKE FUEL**).

PARROT- Identification, Friend or Foe (IFF) / Selective Identification Feature (IFS) transponder

PASSING- Two **GROUPs** initially separated in range, decrease range separation and are passing each other.

PAVEWAY- Laser guided bomb dropped.

PEDRO- Rescue helicopter

PEEPSHOW- Perform non-traditional Intelligence, Surveillance, and Reconnaissance (ISR) on the referenced target/track

PHANTOM- A position track derived from the triangulation of Spikes originating from **HOSTILE** jamming

PICTURE- A request to provide air information pertinent to the mission in a digital bullseye format unless briefed otherwise

PIGS- Friendly glide weapon(s)

PIGEONS- Magnetic bearing and range to **HOMEPLATE**.

PILLOW- Pulse repetition interval

PINCE- Threat maneuvering for a bracket attack

PINNACLE- An emission believed to originate from a platform assumed to be **FRIENDLY**.

PITBULL- AIM-120 is at MPRF (Medium Pulse Repetition Frequency) active range.

PITCHBACK- Execute a nose-high heading reversal.

PLAYMATE- Cooperating aircraft

PLAYTIME- Amount of time aircraft can remain on-station / over target or a CAP given in hours plus minutes

POGO (freq #) - Switch to communication channel number preceding **POGO**. If unable to establish communications, switch to channel number following **POGO**. If no channel number follows **POGO**, return to this channel.

POND- Carry out jamming plan indicated or in accordance with previous orders.

POINT- Datalink sensor point/track of interest

POLAR BEAR- **FRIENDLY** aircraft has **VISUAL/CONTACT** on the **FRIENDLY** package and is joining.

POP- Starting climb for Air-to-Surface attack.

POPCORN- CSAR aircraft departing the LZ usually followed by number of recovered personnel

POPEYE- Flying in clouds or area of reduced visibility

POP-UP- **GROUP** that has suddenly appeared inside of briefed range

POSIT- Request for friendly position; response in terms of a geographic landmark or from a common reference point

POST ATTACK- Desired direction/directives after completion of intercept/engagement

POST HOLE- Rapid descending spiral.

PRESS- Requested action is approved (cleared to engage) and mutual support will be maintained.
PRINT- Active Non-Cooperative Target Recognition (NCTR) reply
PULSE- Illuminate an enemy position with flashing IR energy
PUMP- A briefed maneuver to minimize closure on the threat or geographical boundary with the intent to re-engage. Used to initiate a Grinder tactic
PUPPIES- Emission control plan
PURE- Pure pursuit is being used or directive to go pure pursuit.
PUSH (channel) - Switch to designated frequency
PUSHING- Departing a designated point.

Q

QUAIL- Enemy air-/surface-launched cruise missile

R

RACKET- Intercepted electronic emission that has been assigned to a number of the Track Block.
RANGE- A picture label describing two **GROUPS** separated in distance along the same line of bearing. **GROUPS** names will be **LEAD GROUP/TRAIL GROUP**
RAYGUN- Radar lock-on to unknown aircraft. A request for a **BUDDY SPIKE** reply from friendly aircraft meeting these parameters
RED LIGHT- Time when SAR aircraft is no longer SAR capable
REFERENCE (direction) - Assume stated heading.
RENEGADE- A civil platform that is assessed as operating in such a manner as to raise suspicion that it might be used as a weapon to perpetrate a terrorist attack
RENT- Report of characteristics of an intercepted signal
REPEAT- Fire again using the same method of fire and same number of rounds
REPORTED- Information provided is derived from an offboard source.
RESET- Proceed to a pre-briefed position or area of operations.
RETAKE- Drive a new STAKE at the target centroid reported with direction of travel and elevation, initiated by aircrew.
RESUME- Resume last formation/route/mission ordered.
RETROGRADE- Withdraw while executing defensive procedures in response to a threat
RIDER- A **BOGEY** that is complying with Airspace Control Order (ACO) for safe passage procedures
RIFLE- Friendly air-to-surface missile launch.
RIPPLE- Two or more munitions released or fired in close succession
ROBBER- A surface vessel that is identified as an enemy in accordance with theater ID criteria. The term does not necessarily imply clearance to engage.
ROGER- Radio transmission received; does not indicate compliance or reaction.
ROLEX (+/ - time) - Time line adjustment in minutes always referenced from original preplanned mission execution time.
ROPE- Circling an IR pointer around an aircraft to help the aircraft identify the friendly ground position.
ROTATOR- MTI (Moving Target Indicator-radar) returns that signifies a high probability of a rotating antenna.
ROVER- Platform is video downlink capable
RUMBA- 1) Radar has detected jamming/ interference but has not resolved the type.
2) Own navy ship maneuvering for ranging.

S

SADDLED- Wingman or element has returned to briefed formation position

SAME- Aircrew has the identical information as was just stated

SANDWICHED- Aircraft or element is between opposing aircraft or elements.

SAUNTER- Fly at best endurance

SCAN- Search sector indicated and report any contacts

SCRAM (direction) – 1) Friendly asset is in immediate danger. Implies that the target aircraft is being engaged by SAMs or other air defense fighters. Take immediate evasive action. Withdraw clear in the direction indicated for survival. No further mission support from the friendly asset is expected.

SCRAMBLE- Takeoff as quickly as possible

SCRUB- MTI return that signifies a low slow airborne target

SCUD- Any Tactical Ballistic Missile (TBM) threat

SEPARATE- Leaving a specific engagement

SEPARATION- Request for separation between two **GROUPS**

SET- Set at a particular speed

SHACKLE- One weave. (Single crossing of flight paths; maneuver to adjust or regain formation parameters)

SHADOW- Follow indicated target.

SHIFT (direction) - Shift laser/IR/radar/device energy

SHOOTER- Aircraft/unit designated to employ ordnance

SHOPPING- An aircraft request to Forward Air Control (FAC) / Joint Tactical Air Control (JTAC) / Command & Control (C2) platform for a target.

SHOT- Rounds have been fired

SHOTGUN- Pre-briefed weapons state

SICK- System indicated is degraded/partially operative. Cancelled by **SWEET**

SIDE-SIDE- Fighter term depicting a radar-apparent description of two or more **CONTACTS** within a **GROUP**

SILENT (system) – 1) System will be unavailable for time indicated
2) Datalink is, or should be placed, in receive only
3) Broadcast station is not transmitting

SINGER- RWR indication of SAM launch

SINGLE- One **GROUP**, **CONTACT**, etc

SKATE- Executing launch-and-leave tactics

SKINNY- Current survivor coordinates

SKIP IT- Veto of fighter **COMMIT**, usually followed with further directions

SKOSH- Aircraft is out of/or unable to employ active radar missiles

SKUNK- A maritime surface contact that has not yet been identified

SLAMMER- Term for the AIM-120 radar guided missile.

SLAPSHOT- Immediately employ a best available HARM against a specified threat at the specified bearing.

SLICE/ SLICEBACK- Perform a high-G descending turn in the stated direction, usually 180-degree turn

SLIDE- Continue present mission while flowing from station in response to perceived threat

SLIP - Time delay to individual flight/element event

SLOPE- Pulse repetition frequency

SLOW- Contact with ground speed of 150-400 knots

SMACK- Clearance to employ ordnance/fires on surface target coordinates

SMASH (ON/OFF) - Turn on/off anti-collision lights

SMOKE- Smoke marker used to mark a position

SNAKE- Oscillate an IR pointer about a target

SNAP- Fighter request for immediate BRAA (Bearing, Range, Altitude, and Aspect) call to the group described. Indicates fighter intent to intercept/join.

SNAPLOCK - Fighter has obtained a radar contact inside briefed BRAA

SNAPSHOT- A quick reaction HARM shot along a line of bearing to a threat

SNEAKER- An intelligence-gathering vessel

SNIFF- Passive sensor indication of a radar emitter

SNIPER- Aircraft to employ a range-known HARM against a specified threat at the specified location

SNOOZE- Initiating EMCON (Emission Control) procedures. Opposite of **ALARM**.

SORT- Assignment of responsibility within a **GROUP**

SOUR- Opposite of **SWEET** 1) Invalid or no response to an administrative IFF/SIF check
2) Equipment indicated is not operating efficiently

SPADES- An interrogated group/radar contact that lacks all of the ATO (Air Tasking Order), or equivalent, IFF/SIF modes and codes required for the ID criteria.

SPARKLE- Mark target by IR pointer

SPIKE/SPIKED- RWR indication of an AI threat in track or launch.

SPIN- Execute a timing/spacing maneuver

SPITTER- An aircraft that has departed from the engagement or is departing the engaged fighter's targeting responsibility.

SPLASHED- Weapons impact/ Target destroyed. Informative call to observer or spotter five seconds prior to estimated time of impact

SPLIT- Flight member is leaving formation to pursue a separate attack

SPOOFER- An entity employing electronic or tactical deception measures

SPOOFING- Voice deception is being employed

SPOT- Acquisition of laser designation

SQUAWK (mode/code) - Operate IFF/SIF as indicated

STACK- Two or more **CONTACTs** within **GROUP** criteria with an altitude separation in relation to each other

STAKE- Reference point for A/S targeting operations. A full motion video system mark has been set and is used as a frame of reference.

STANDBY- More information is coming. Eyeball fighter is preparing to call Visual ID of target aircraft.

STARE- Cue the laser spot search/tracker function on the specified laser code in relation to the specified reference point.

STATUS- Request for an individual's tactical situation or request a full positional update on a specified group

STEADY- Stop oscillation of IR pointer

STINGER- Three-ship inner **GROUP** formation with two lead **CONTACTs** line abreast and the **SINGLE** in trail

STOP- Stop IR illumination of a target

STOP BURN- Directive call to stop IR/EO Electro-Optical illumination of a target

STRANGER- Unidentified traffic that is not a participant with the action in progress

STRANGLE- Turn off equipment indicated

STRENGTH- Numerical strength of a **TRACK/GROUP**

STRIPPED- Aircraft is out of pre-briefed formation.

STROBES- Radar indication(s) of noise jamming

SUNRISE- C2 (Command and Control) radar functions are available. Opposite of **MIDNIGHT**.

SUNSHINE- Illuminating target with artificial illumination

SUPER- Speed 600kts / 1.0M or greater

SUPPORTING- Speaking unit or element is assuming a supporting role, is in a position to influence the outcome, and assumes deconfliction responsibility.

SWEET- Valid response to an administrative IFF(Identification, Friend or Foe) /SIF (Selective Identification Feature) check request. Opposite of **SOUR**; cancels **SICK, BENT**.

SWEPT- Inner GROUP formation with the trailer displaced approximately 45 degrees behind the leader

SWITCH- Switch the setting on the referenced item. (**CAMERA/ POLARITY**)

SWITCHED- Attacker is changing from one aircraft to another.

T

TAG- Response to an emitter ambiguity resolution request

TALLY- Sighting of a target, non-friendly aircraft, landmark, or enemy position. Opposite of **NO JOY**.

TARGET- Assignment of targeting responsibilities

TARGETED- GROUP responsibility has been met.

TEN SECONDS- Standby for **LASER ON** call in approximately 10 seconds

TD BOX- Target Designator Box, which is put around anything locked onto by the F-16 radar when in Air-to-Ground mode.

TERMINATE- Stop laser illumination of a target. In training, cease local engagement without affecting the overall exercise.

THREAT- Untargeted **HOSTILE/BANDIT/ BOGEY** is within a briefed range of a friendly aircraft.

THROTTLES- Reminder to set throttles appropriately considering the IR threat and desired energy state.

THUNDER- One minute until Air-to-Surface (A/S) weapons impact.

TIED- Positive radar contact with element or aircraft

TIGER- Enough fuel and ordnance to accept a commitment

TIMBER- Link 16 Network

TIMBER SWEET- Confirms receipt of datalink information

TIMECHECK- Check/change IFF code

TOGGLE- Execute a briefed change of an avionics setting

TOT- Time-over-Target

TOY- HTS (Hazard Tracking System) pod.

TRACK- GROUP/CONTACT's direction of flight/movement

TRACKING- IR lock-on. Enemy air defense system is maintaining situational awareness on **FRIENDLY**.

TRAILER- The last aircraft in a group

TRASHED- Missile has been defeated.

TRAVEL- Change radar frequency

TRESPASS- The addressed flight is entering the threat SAM ring of a specific (system) at the stated location.

TUMBLEWEED- Limited situational awareness, (i.e., **NO JOY, BLIND**) and request information.

U

UNABLE- Cannot comply as requested or directed.

UNIFORM- UHF Radio

V

VACANT- Ground equipment not present at tasked target location. Opposite of **OCCUPIED**.

VAMPIRE- Hostile anti-ship missile

VECTOR- Alter heading to magnetic heading indicated.

VERY FAST- Target speed greater than 900 knots / 1.5 Mach.

VERY LOW- Target altitude less than 1,000 feet above surface.

VERY SLOW- Target speed less than 150 kts.

VIC- Picture label with three **GROUPS** with the single closest in range and two **GROUPS**, azimuth split, in trail.

VICTOR- VHF/AM radio

VISUAL- Sighting of a friendly aircraft or ground position. Opposite of **BLIND**.

W

WALL- Picture label with three or more groups primarily split in azimuth.

WARNING (color) - Air defense warning. Hostile attack is: (RED) Imminent or in progress, (YELLOW) Probable, (WHITE) Improbable.

WEAPONS- Weapons control status. Fire only: (FREE) at targets not identified as **FRIENDLY** in accordance with current ROE (rules of engagement), [TIGHT] at targets positively identified as **HOSTILE** in accordance with current ROE or (HOLD/SAFE) in self-defense or in response to a formal order.

WEDGE- Three-ship inner **GROUP** formation with a single

WEEDS- Aircraft flying below 2,000ft

WEIGHTED- Multiple **GROUP** formation (**WALL, LADDER, VIC, CHAMPAGNE**) that is offset in one direction.

WHAT LUCK- Request for results of missions or tasks.

WHAT STATE- Request for amount of fuel and missiles remaining.

WIDE- Separation between the farthest **GROUPS** in azimuth in a relative formation of three or more groups, used to describe a **WALL, VIC, CHAMPAGNE, or BOX**.

WILCO- Will comply with received instructions.

WINCHESTER- No ordnance remaining

WOOFER- Off board active radar decoy

WORDS- Directive or interrogative call regarding further information or directives pertinent to the mission

WORKING- 1) Platform gathering electronic order of battle on a designated emitter. 2) Platform executing electronic identification on a specific aircraft/group to obtain identification necessary for beyond visual range employment.

Y

YARDSTICK- Use A/A TACAN for ranging.

Z

ZAP- Request for data link information

ZIPLIP- Limit transmissions to critical information only. (See **MINIMIZE**)

ZIPPER- Clicking the mic two times in a short interval by way of an affirmative reply.

ZOOM (IN/OUT) - Increase/decrease the sensor's focal length