Digital/Analog Multimode Repeater Guide

Contents

Revision History

Date	Revised By	Description	Version
August 2, 2018	Elias Basse KD5JFE	Initial Document	1.0
August 3, 2018	Mike Decossas, KB5OZE	Added links to website policies and updated C4FM terminology	1.2
August 3, 2018	Elias Basse KD5JFE	Added Promiscuous mode as part of digital monitoring	1.3

Document Purpose

The purpose of this document is to introduce SELCOM members and non-members to the usage of the groups multimode repeaters. This document serves as a set of guidelines to the assets that SELCOM, its trustees, and its members have put into place for the use by the areas served by SELCOM.We wish to thank the technical committee, members, and sponsors for all of their support in expanding the amateur radio capabilities in our served regions. All users agree to follow SELCOM policies when using SELCOM sponsored repeaters.

Mode Information

SELCOM supports a variety of modes on the repeaters that have agreed to be part of the SELCOM repeater system. These modes are listed below:

- Analog FM (25khz deviation)
- C4FM (Yaesu System Fusion) Wide and narrow Mode Digital
- ICOM D-Star Digital
- DMR Dual Time-Slot Configuration

SELCOM currently is evaluating other digital modes for use on the repeaters and if a mode has enough following by its members may be added to this list in order to support SELCOM member communications.

All digital modes use a standard automatic in automatic out configuration and will switch between modes based upon traffic heard and transmitted based upon source and destination for the traffic (Network and Radio Based Sources and Destinations).

Analog Mode

All of our existing repeaters support Analog FM with CTCSS(PL) encode and decode. When programming your radio, it is requested that you program a radio to support this, but be aware that transmissions may occur on digital that you cannot hear, so please use channel free configuration where possible or be mindful of other modes in use on the system before transmitting.

C4FM (Yaesu System Fusion)

Some of our repeaters support C4FM mode in both narrow and wide voice modes depending upon the needs of the users of the system. There are some repeaters that have their C4FM side linked to the FCS Reflector Internet linking and can be connected to a group via the wires-x button.

Icom D-Star

Some of our repeaters support Icom D-Star mode of operation and our home reflector for these repeaters is reflector 048 on the DPlus Network. You may link using d-star mode by programming in the D-Star reflector into your radio that you wish to talk on utilizing dynamic reflector configurations in your programming.

DMR

Some of our repeaters support DMR modes of operation with the capacity for two timeslots. All Tier 2 Radios are compatible with the system, please do-not use a tier 1 only compatible radio on the system

as it will not function correctly through the system and the system will ignore traffic from Tier 1 only radios.

Timeslot 1
Timeslot 1 on our member repeaters is dedicated to static SELCOM talk-groups only, as well as the local repeater talk-groups (1,2,9).

Timeslot 2
Timeslot 2 on our member repeaters is dedicated for dynamic linking to any non-SELCOM talk-group and is open for use for anyone as long as it follows the guidelines as set forth in this document under "Usage Guidelines"

Usage Guidelines

Using any of our repeaters it is required that you abide by these as well as all FCC Part 97 guidelines for amateur radio use. Since our repeaters are established for open use by many operators, we ask that you follow them to ensure availability and courtesy to our members and non-members alike.

During a disaster or emergency, all SELCOM assets follow the plans and guidelines as dictated by the FCC, Government entities, or Pre-Established emergency operation guidelines in place by SELCOM. All users of repeaters that are assigned to served agencies will abide by the Emergency Net Protocol as set defined at http://www.selcoms.org/EMERG_NET.html . Repeaters asset assignments can be found here.

General Guidelines
Our established guidelines for all modes are listed below:

- Listen before transmitting and monitor received signals on the repeater that you are using as it may be used by a digital mode. Most radios have a received signal indicator that will show you if the repeater is currently in use by another mode that you may not hear, such as digital.
- Please pause between all transmissions as there may be other stations that wish to transmit between or make a contact. This is a courtesy to all other users of the system.
- Please ensure that courtesy is given to breaking stations, allowing them to pass their traffic and establish contact with a station and potentially move to another repeater if the repeater is currently being used. Breaking stations should move to another frequency with traffic as a courtesy to the in-progress QSO. THE ONLY EXCEPTION IS EMERGENCY TRAFFIC WHICH TAKES PRIORITY OF ALL OTHER TRAFFIC. The common mode voice signal BREAK BREAK or MAYDAY is our recognized emergency traffic signal as per the FCC/ITU emergency guidelines.
- Please feel free to welcome and assist any hams if you are able, we would like to encourage all users of the system to have an enjoyable experience.
- Please report any suspicious, malicious, or FCC rule violating activities to one of our established control operators, or a SELCOM member.
- Please report any system technical issues to one of our technical team members, or a control operator.

Digital Guidelines
For systems that are running multi-mode digital, we request that you follow the guidelines below **in addition to** the general guidelines for repeater usage.

- Please turn on monitor or promiscuous or digital monitor mode (especially for DMR) to ensure that you are not connecting to a talk group on a timeslot before keying. This is a courtesy to other users to ensure that you are not interrupting a QSO in progress on another talk group by connecting to a busy talk-group.
- Traffic on national talk-groups, reflectors, or internet links are reserved for calling only. Please call your traffic, use the disconnect command to disconnect from the national group/reflector and move traffic to a tactical channel or even the local talk-groups for the repeater.
- If you are to connect to a national talk-group or tactical channel, please do so for calling traffic or actively participating in the conversation that is taking place on that group/channel. Quick keying to connect to a talk-group/channelon DMR without identification is considered a non-identified communication. Your DMR ID is not considered a valid identification of your station in the FCC's eyes and must be performed in Digital Voice Mode. However other digital modes that transmit the callsign in clear text, is considered an identification (YSF/D-Star). Please Reference FCC CFR 47 part 97.119 for more information and clarity.
- Please be aware that there are other users to the systems that are in place within the city and the digital systems are actively monitored by both members and non-members alike. Please do not leave a talk-group on a dynamic slot connected to "monitor" the talkgroup as this puts undue wear on the repeater equipment and can be better suited using another means such as internet monitoring of talk-groups (Hoseline for DMR) or a local hotspot as this equipment is more suited for local receive only style of traffic.
- Please be aware that any and/or all traffic may be monitored and logged.