



Standard Operating Procedure

Title / Subject

Encryption

References/Updates:
Approved: 10/11/2022

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1. Introduction/Purpose

This policy is pertinent to any agency/programmer that has a need for encryption and gives guidance to the programmer to correctly add encryption to a radio on the WV SIRN. Also included with this policy is a statewide list of allotted CKR assignments.

2. Definitions

All definitions are located in the “Definitions” document located on the SIRN Website at www.sirn.wv.gov.

3. Encryption

a. Encryption Group Types

- i. Local Use/Agency Use – Each participating agency or their umbrella agency will determine the need for and the configuration of encryption for internal purposes. The type of encryption will also be determined with this local planning. There are CKR’s reserved for local/internal use. Sharing of these local/agency encryption channels will be determined by the participating agency or umbrella agency, keep in mind technological limitations of certain types of encryption.
 - ii. Regional Use – RIC regions will be used for the purposes of regional encryption. Regional encryption standards will be determined by the RIC pertaining to the type of encryption and key management. The regional Task Force and Regional SECTAC talkgroup can be encrypted; all other regional talkgroups may not be encrypted. Regional SECTAC will require encryption.
 - iii. Statewide Use – For Statewide use encryption AES-256 is required. State agencies may designate CKR(s) for use on a statewide basis. Keeping with the allotment for each discipline. Management of the Keys will be up to the registered owner of the CKR.
- b. Any agency that desires to use a CKR in the allotment for statewide use must make that request with the SIEC Technical Committee to alleviate any conflicts. The SWIC will maintain a list of the assigned CKR’s.
 - c. Dispatch Channels are not permitted to be encrypted in anyway. However; a Dispatch Center is permitted to have secondary talkgroups available for transmitting information in a secure transmission.
 - d. Secure Strapped v. Selectable – While there are many programming methods for encryption it is the recommendation of the Technical Committee that radio channels be programmed either “Clear”/not encrypted or “Secure” /encrypted and not program a method for the user to enable or disable encryption on a channel. This will prevent missing of communications or transmitting clear when the user should be secure. The option to enable or disable encryption is not prohibited; however careful planning and consideration should be made before programming this feature. Also note some talkgroups will not work unless encryption is enabled (i.e. SECTAC).

- e. Table Explanation**
 - i.** Start/End – CKR values are reserved in blocks for certain uses, this is the first and last in the block.
 - ii.** User – This is the general intended user of the block of values.
 - iii.** Description – More detailed information of the intended and permitted use.
 - iv.** Encryption – The type of encryption permitted.
 - v.** AES – AES-256 type encryption.
 - vi.** APD – ADP (RC4) type encryption.
 - vii.** ANY – Can use any type as determined by the agency.
 - viii.** REG – The RIC will set the standard for these.
- f.** There is no requirement to include all encryption CKR's within programming, only the ones used or intended to be used should be included in programming.
- g. Special Shared CKR's**
 - i.** CKR 1 – 8, while not reserved these are the spaces used by ADP type encryption in some radios
 - ii.** CKR 1 - 20 may be used for Federal interoperability
 - iii.** CKR-30, Reserved for Local/County and State agencies to share an encrypted channel with the State Police
 - iv.** CKR-99, Designated for any public safety agency to include in a radio, must be AES-256 and is strapped to each regional secure talkgroup (REG1 thru 8 SECURE).
- h.** Allotted CKR Assignments (See Attached Table)

Allotted CKR Assignments				
Start	End	User	Description	Encryption
1	9	Shared	Shared Use	ADP/AES
10	29	Federal	Federal Interop	ADP/AES
30	39	Statewide	Law Statewide Shared	AES
40	49	Statewide	Fire Statewide Shared	AES
50	59	Statewide	EMS Statewide Shared	AES
60	69	Statewide	EMA Statewide Shared	AES
70	98	Statewide	Other Statewide Shared	AES
99		Statewide	Strapped for Regional Talkgroups	AES
100	109	Intra-State	State Agency Shared	AES
110	119	Harrison	County or Share Use	AES
120	129	Marion	County or Share Use	AES
130	139	Monongalia	County or Share Use	AES
140	149	Barbour	County or Share Use	AES
150	159	Doddridge	County or Share Use	AES
160	169	Preston	County or Share Use	AES
170	179	Ritchie	County or Share Use	AES
180	189	Taylor	County or Share Use	AES
190	199	Region 1	Regional shared slots	AES
1110	1119	Berkeley	County or Share Use	AES
1120	1129	Grant	County or Share Use	AES
1130	1139	Hampshire	County or Share Use	AES
1140	1149	Hardy	County or Share Use	AES
1150	1159	Jefferson	County or Share Use	AES
1160	1169	Mineral	County or Share Use	AES
1170	1179	Morgan	County or Share Use	AES
1190	1199	Region 2	Regional shared slots	AES
1210	1219	Ohio	County or Share Use	AES
1220	1229	Brooke	County or Share Use	AES
1230	1239	Hancock	County or Share Use	AES
1240	1249	Marshall	County or Share Use	AES
1250	1259	Tyler	County or Share Use	AES
1260	1269	Wetzel	County or Share Use	AES
1270	1279	Region 3	Regional shared slots	AES
1280	1289	Randolph	County or Share Use	AES
1320	1329	Gilmer	County or Share Use	AES
1330	1339	Lewis	County or Share Use	AES
1340	1349	Pendleton	County or Share Use	AES
1350	1359	Pocahontas	County or Share Use	AES
1360	1369	Tucker	County or Share Use	AES
1370	1379	Upshur	County or Share Use	AES
1380	1389	Webster	County or Share Use	AES
1390	1399	Region 4	Regional shared slots	AES

1410	1419	Cabell	County or Share Use	AES
1420	1429	Boone	County or Share Use	AES
1430	1439	Lincoln	County or Share Use	AES
1440	1449	Logan	County or Share Use	AES
1450	1459	Mason	County or Share Use	AES
1460	1469	Mingo	County or Share Use	AES
1470	1479	Wayne	County or Share Use	AES
1480	1489	Region 5	Regional shared slots	AES
1510	1519	Raleigh	County or Share Use	AES
1520	1529	Fayette	County or Share Use	AES
1530	1539	Greenbrier	County or Share Use	AES
1540	1549	Mercer	County or Share Use	AES
1550	1559	McDowell	County or Share Use	AES
1560	1569	Monroe	County or Share Use	AES
1570	1579	Summers	County or Share Use	AES
1580	1589	Wyoming	County or Share Use	AES
1590	1599	Region 6	Regional shared slots	AES
1610	1619	Kanawha	County or Share Use	AES
1620	1629	Charleston	County or Share Use	AES
1630	1639	Braxton	County or Share Use	AES
1640	1649	Clay	County or Share Use	AES
1650	1659	Nicholas	County or Share Use	AES
1660	1669	Putnam	County or Share Use	AES
1670	1679	Region 7	Regional shared slots	AES
1710	1719	Wood	County or Share Use	AES
1720	1729	Calhoun	County or Share Use	AES
1730	1739	Jackson	County or Share Use	AES
1740	1749	Pleasants	County or Share Use	AES
1750	1759	Roane	County or Share Use	AES
1760	1769	Wirt	County or Share Use	AES
1790	1799	Region 8	Regional shared slots	AES