



# TEAM STONE DOCTRINE

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## *Comprehensive Field Manual*

v30.32 Publisher's Edition - Completed 2026-09-25

*Radio · Roads · Family · Movement · Continuity*

**Know the road. Keep the signal. Carry the people.**

*Rooted. Useful. Unafraid of weather, distance, bad maps, weak signals, or long roads.*

### **FIELD DEFAULTS**

Direct voice: 147.510 primary 2m / 146.570 secondary 2m / 439.775 UHF simplex-crossband. 439.775 may crossband with either Team Stone 2m simplex channel.

Family fallback: GMRS Ch 6 DCS 073. Tone default: 110.9 Hz CTCSS / code 15 where used. Marine: Ch 69 working; Ch 16 distress/calling; Ch 9 boater calling. CB: Ch 30 FM 27.305 / Ch 32 AM 27.325. QSO One: shack runs beside APRSIS32; software connection suffixes are separate from APRS SSIDs. CQutie: 433.775 MHz C4FM Half Deviation; Quick Call for DMR destinations. APRS/GPS reporting remains on.

**Operating rule: memory first, geography first, reachable RF first, internet bridge last.**  
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## Document Control and Use Notice

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## Stone Tone

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**Rooted. Useful. Unafraid of weather, distance, bad maps, weak signals, or long roads.**

Team Stone is not built around gadgets. It is built around responsibility.

Not tourists. Not preppers. Not hobbyists only. Not equipment worship. Not fantasy command structure. Not cosplay emergency management.

Just a family with radios, maps, licenses, memory, and obligations.

The tools matter because the people matter. The radios, APRS tracks, repeater handoffs, legal notes, and binder pages are the operating layer for a real life lived across real geography.

Back roads. Ski passes. Fire country. Harbor towns. Tax offices. Trailheads. Long corridors. Bad cell coverage. Ordinary family chaos.

The question is simple: Can we stay oriented, stay connected, and be useful when it matters?

### That is the doctrine.

| This manual is for                                                                                                                                                   | Not for                                                                                                                                          | Operating posture                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Home QTH, corridor travel, harbor use, family coordination, mobile ops, scanner/receive awareness, digital interop, destination operations, and real-world movement. | Bench fantasy, random VFO improvisation, equipment worship, cosplay emergency management, or casual deletion of field-useful operating material. | Use the doctrine as a field manual: geography first, direct RF first, family continuity always. Revise only when the programmed memory file, legal context, or operating reality changes. |

## 1. Fleet, Identity, and Station Logistics

Station logistics are how Team Stone keeps the stack mentally clean: who is on-body, who is in the vehicle, what stays always-on at QTH, what the hotspot is for, and what should never be confused with direct voice.

### Vehicle GMRS quick-shuttle layer

Small, low-power, 3x AA-capable GMRS handhelds are staged in each vehicle glovebox for family/friend shuttles and short local coordination. Use Ch 6 DCS 073 where supported; use 110.9 Hz CTCSS / code 15 when tone-mode constrained. Disable bell/alert tones. Before Mexico/Baja travel, leave all GMRS radios at home.

| Family / channel        | Frequency / block                                                                       | Setting                                                    | Doctrine use                                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| GMRS Ch 6               | 462.6875 MHz                                                                            | DCS 073                                                    | Primary Team Stone family / convoy default.                                                                                |
| Glovebox GMRS handhelds | GMRS Ch 6; DCS 073 where supported / 110.9 Hz CTCSS code 15 where tone-mode constrained | 3x AA capable; no bell/alert tone                          | Quick family/friend coordination. Staged in U.S. vehicles; leave at home before Mexico/Baja travel.                        |
| FRS / GMRS 1-14         | 462/467 MHz interstitials                                                               | Ch 8-14 low-power / 0.5 W where radio settings allow       | Short-range family/camp/local convenience.                                                                                 |
| GMRS 15-22              | 462 MHz main/repeater outputs / 467 MHz inputs                                          | Power appropriate to radio capability and operating moment | GMRS main/simplex and repeater layer where legal. U.S./legal-jurisdiction use only; not part of the Mexico operating plan. |

| Platform                 | Identity              | Job                                                  | Operational note                                                                                                                                                      |
|--------------------------|-----------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FT-5DR HT                | K6RCS-7               | On-body field radio                                  | Carry-first manual. Memory-defined behavior matters more than wishful reconfiguration.                                                                                |
| TM-D700 mobile           | K6RCS                 | Driving / APRS / road utility                        | The moving station. Corridor doctrine stops being theory when this station is beaconing.                                                                              |
| TM-D700 QTH              | Packet / TNC utility  | Always-on shack support                              | Supports APRSIS32, packet utility, and quiet backbone work.                                                                                                           |
| IC-756 Pro III shack HF  | K6RCS                 | Primary PC-connected HF / WSJT-X station             | The shack HF rig and normal computer-digital baseline. Use the current official WSJT-X release and a saved IC-756 Pro III station profile.                            |
| FT-897D bedroom HF       | K6RCS                 | Bedroom HF / manual operating / iOS-assisted logging | No standing PC dependency. Use manual or iOS-assisted logging; connect a computer only for a deliberate temporary digital-mode session.                               |
| QSO One - Office Windows | K6RCS / DMR 317314705 | Fixed-site software network-radio console            | ESSID 05. Office client is currently not counted as operational under the present security settings. Access set: AllStarLink, EchoLink, IAX Direct, DMR, YSF and M17. |
| QSO One - Shack Windows  | K6RCS / DMR 317314704 | Always-running shack digital client                  | ESSID 04. Runs beside APRSIS32; mirror useful Office favorites. Randall is frequently away; do not assume an attended station.                                        |

| Platform                 | Identity                        | Job                                                       | Operational note                                                                                                                                                                                                                                   |
|--------------------------|---------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CQutie openSPOT4 Pro     | K6RCS-5                         | Physical-radio interface / cross-mode / remote deployment | Retained for FT-5DR operation, cross-mode, additional supported digital modes, APRS/pager workflows, and compact field/mobile deployment. It may remain off during routine fixed-site QSO One operation, but stays charged and current.            |
| APRSIS32 QTH digipeater  | K6RCS-10                        | Always-on APRS / packet presence                          | Home-side continuity layer and station awareness anchor.                                                                                                                                                                                           |
| iOS APRS                 | K6RCS-3                         | iOS APRS identity                                         | iOS uses K6RCS-3. The aprs.fi map is a viewer, not a separate station identity.                                                                                                                                                                    |
| Honda Accord vehicle kit | Accord field support            | Roadside / electrical / antenna reserve                   | Vehicle kit inventory: oversized battery for electrical demand, heavy-duty jumper cables, mylar blankets, spare flip-flops, fire blanket, reflective vests, fire extinguisher, and center-console 2m/70cm roll-up J-pole for external antenna use. |
| Field generator          | Field deployment power standard | Communications-first field power and charging             | Communications and device charging. Use the current unit nameplate and measured AC load; see Appendix J.                                                                                                                                           |
| Honda paper reference    | 2026 ARRL Repeater Directory    | Offline repeater reference supplement                     | Useful backup reference, but not more authoritative than the programmed FT-5DR memory file or current verified sources.                                                                                                                            |

Decision ladder: analog primary -> analog secondary -> direct Team Stone simplex/crossband -> GMRS Ch 6 DCS 073 family fallback -> reachable RF infrastructure -> QSO One shack/office software client when internet materially helps -> CQutie/openSPOT4 Pro when a physical radio, cross-mode, additional digital mode, or remote appliance is required.

## 2. Operating Hierarchy and Switch-Over

The direct voice stack must remain mentally separate from software-client, hotspot, and internet-bridge behavior. The operator should know whether the immediate task is direct voice, close convoy fallback, RF-backed repeater work, QSO One fixed-site network access, or openSPOT physical-radio/cross-mode operation.

| Do not confuse these                          | Use case                               | Reality check                                                                                                                                                                                      |
|-----------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 147.510 / 146.570 / 439.775                   | Team Stone voice / simplex / crossband | The direct voice stack. Keep this mentally separate.                                                                                                                                               |
| GMRS Ch 6 DCS 073                             | Family fallback / close convoy         | Default short-range fallback for Team Stone.                                                                                                                                                       |
| 110.9 Hz CTCSS / code 15 where tones are used | Team Stone tone/subtone convention     | Use only where tones/subtones are appropriate. GMRS Ch 6 DCS 073 remains the main family fallback where supported.                                                                                 |
| 433.775 + 145.670                             | Hotspot access / OS4P access           | Digital bridge convenience. Not Team Stone direct voice.                                                                                                                                           |
| QSO One on Windows                            | Software network-radio client          | Internet-dependent software access to AllStarLink, EchoLink, IAX Direct, DMR, YSF and M17. Not itself an RF path; properly configured connections may reach amateur RF-linked nodes and repeaters. |

- openSPOT4 Pro CQutie: K6RCS-5, powered when appropriate.
- QSO One identities: Office ESSID 05; Shack ESSID 04. These are DMR connection suffixes, separate from APRS SSIDs. Office is currently not counted as operational under the present security settings; the shack client remains beside APRSIS32.
- Hotspot access frequencies: 433.775 MHz hotspot C4FM memory and 145.670 MHz OS4P VHF. These are not Team Stone voice channels.
- Team Stone voice/simplex: 147.510 MHz primary 2m, 146.570 MHz secondary 2m, and 439.775 MHz 70cm simplex/crossband. 439.775 may crossband with either Team Stone 2m simplex channel.
- Default family fallback: GMRS Ch 6 DCS 073.
- Switch triggers: corridor boundary, two failures, mission change, internet gained/lost, or transition from family convoy to local repeater/interop posture.

## 2.1 Receiving and Information Layer

Team Stone uses a layered information posture, not just a transmit posture. Amateur and GMRS remain the core communications layers, but situational awareness also comes from broadcast, OTA television, RDS/HDi/streaming, SWL/HF monitoring, APRS, and travel internet where available.

| Layer                              | Platforms                                                                                 | Team Stone use                                                                                                        | Doctrine note                                                                                                                                                                                                                                       |
|------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Broadcast                          | Honda, Jeep, nightstand Sangean                                                           | Fast scan of local FM identity, news, weather, and travel information                                                 | Used in both vehicles and at the nightstand. Nightstand Sangean includes HDi streaming capability.                                                                                                                                                  |
| RDS broadcast                      | Honda, Jeep, nightstand layer                                                             | Station identity and local travel/weather context                                                                     | RDS is a quick situational-awareness layer; do not overthink it.                                                                                                                                                                                    |
| OTA HDTV                           | Two sets + one PC tuner                                                                   | Local news, weather, destination TV, severe-event awareness                                                           | Primary fixed-site video layer because there is no cable or satellite TV.                                                                                                                                                                           |
| Streaming                          | Nightstand Sangean and Pioneer receiver                                                   | Audio news, redundancy, destination information, sports/weather coverage                                              | Useful parallel layer; do not confuse it with RF interoperability.                                                                                                                                                                                  |
| SWL / HF                           | IC-756 Pro III shack HF, FT-897D bedroom HF, local receivers, remote SDRs                 | Broadcast identification, propagation checks, wider awareness, and listening practice                                 | IC-756 Pro III is the PC-connected shack/digital platform. FT-897D remains the bedroom/manual and iOS-assisted HF platform.                                                                                                                         |
| Vehicle/mobile radio receive       | FT-5DR, TM-D700s, HT/mobile rigs                                                          | Primary RF awareness and comms stack                                                                                  | RF wins whenever reachable.                                                                                                                                                                                                                         |
| GPS / orientation layer            | Cell phones, radios, watches, manual compasses                                            | GPS on/reporting across carried electronics; manual compass remains on-person redundancy                              | Electronic location awareness is useful; manual compass discipline remains the battery-free backup.                                                                                                                                                 |
| Cellphone satellite emergency path | Satellite-capable cellphones                                                              | Emergency SOS / satellite messaging when terrestrial cell service is absent                                           | Emergency/degraded-communications path only. Keep RF, APRS, local repeaters, and plain-English family coordination mentally separate.                                                                                                               |
| DAPNET / POCSAG pager (planned)    | CQutie/openSPOT4 Pro DAPNET connector, DAPNET subscriber/RIC, compatible POCSAG pager     | Short alert/direct-message and H&W receive layer; regional ARES/network practice candidate                            | Planned, not current primary capability. Likely internet-backed through OS4P unless receiving direct local DAPNET RF; useful when outside the danger zone or for low-bandwidth notification discipline.                                             |
| Hotspot / internet bridge          | QSO One Windows, CQutie/openSPOT4 Pro, forthcoming QSO One iOS, APRS-IS, digital services | Fixed-site network-radio access, physical-radio/cross-mode access, and fallback interoperability                      | QSO One is not itself RF; configured linked-system connections may terminate on amateur RF nodes/repeaters. openSPOT4 Pro remains the physical-radio and remote appliance.                                                                          |
| Mexico travel internet             | Starlink                                                                                  | Backhaul for planning, messaging, streaming, and remote references in sparse-service travel                           | Keep RF posture separate; Starlink supports, not replaces, field radio. No GMRS radios, including glovebox handhelds, are brought into Mexico.                                                                                                      |
| Air/fire aviation reference        | FT-5DR receive, scanner, printed frequency card                                           | National Air Guard 168.625 FM PL 110.9 and Flight Following 168.650 FM PL 110.9                                       | AirGuard is emergency aviation; Flight Following is routine fire/aviation tracking. Receive/reference only unless authorized.                                                                                                                       |
| Mountain AWOS / ASOS / ATIS        | FT-5DR air-band receive; aviation weather listings; DOT/NWAC as companion sources         | Quick pass/ski weather: Truckee, Tahoe, Minden, Mammoth, Ellensburg, Wenatchee, Chehalis, Bellingham, Bend, Sunriver  | Prefer weather channels over tower/ground chatter for travel decisions. AWOS supplements, not replaces, avalanche/DOT/weather sources.                                                                                                              |
| State patrol / interop receive     | FT-5DR receive where analog, scanner where P25/trunked                                    | CHP low-band FM, OSP analog FM I-5 chain, NIFOG VCALL/VTAC/UCALL/UTAC references                                      | Receive/reference layer. WSP is generally scanner/P25 territory, not a useful FT-5DR memory layer.                                                                                                                                                  |
| Satellite mini-bank                | FT-5DR, APRS/packet awareness, pass prediction app                                        | ISS APRS 145.825 plus current amateur satellite APRS/digipeater opportunities; check pass and live status before use. | High-value beyond-terrestrial-coverage contingency for position/status/message traffic when a usable pass is available. Not a guaranteed distress service; success depends on satellite mode, pass geometry, antenna, and ground/network reception. |

## 2.2 Deployment, Setup, and Takedown Doctrine

- Home QTH setup: confirm primary local monitor, Team Stone GMRS, APRS/packet, QSO One Office/Shack identity and audio state, and CQutie profile state before adding external bridges.
- Vehicle departure: select the corridor bank first, then mission layer, then verify direct voice fallback and GMRS Ch 6 DCS 073.
- Remote setup: establish power, antenna, direct-voice/simplex, primary local repeater, and only then any digital or hotspot bridge.
- Takedown: release unneeded QSO One and CQutie network sessions, restore the intended local monitor, and secure deployed antennas/cables. At the shack, leave QSO One and APRSIS32 running in their intended idle/monitoring state; verify PTT is released.
- Emergency/interoperability: start with reachable RF, then corridor-linked RF, then digital bridge, then internet-dependent layers only if they materially improve continuity.

## 2.3 Net Calendar and Operating Skeds

Net Calendar is the authoritative recurring-sked table for this manual. V = volatile: verify the current operator source before travel or formal use. Later digital sections define destinations and access, not a second schedule.

| Net / event                      | Schedule                             | Frequency / access                                                                                                                                                              | Doctrine use                                                                                                                                     |
|----------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| GEARS Club Net                   | Tuesday 7:30 PM                      | 147.945 MHz; current GEARS net page lists PL 123.0. GEARS repeater page lists Bloomer 147.945 - / PL 110.9 and Mt. St. John 147.945 - / PL 123.0; V until club pages reconcile. | Primary QTH club net. 147.945 is the current net output; retain both GEARS 945 site/tone records until the club resolves the published mismatch. |
| OARS / W6AF 2-meter Net          | Sunday 8:00 PM                       | 146.655 MHz - / PL 136.5; WD6AXM current backup                                                                                                                                 | Oroville-area club net and North Valley awareness.                                                                                               |
| OARS / W6AF 10-meter SSB Net     | After the Sunday 8:00 PM 2-meter net | 28.450 MHz SSB                                                                                                                                                                  | Local HF/10m practice using the IC-756 Pro III shack station or the FT-897D bedroom/manual station.                                              |
| GARS Club Net                    | Monday 8:00 PM PT                    | 147.105 MHz +0.600 / PL 110.9 (W6GRC)                                                                                                                                           | Glenn / Artois / west-side valley awareness.                                                                                                     |
| Yuba Sutter Club Net             | Monday 7:00 PM                       | 146.085 MHz PL 127.3                                                                                                                                                            | Yuba-Sutter valley-area club monitoring option.                                                                                                  |
| PARS Club Net                    | Monday 6:30 PM PT                    | W6PAR 146.670 - / PL 131.8 and 145.370 - / PL 131.8; EchoLink W6PAR-R 234739                                                                                                    | Paradise / Magalia home-ridge club layer. Keep W6SCR 145.290 separate as the Friends of High Lakes-linked system.                                |
| Simplex Net                      | Thursday 7:30 PM                     | 146.520 MHz, no tone                                                                                                                                                            | Local direct/simplex practice; aligns with Wilderness Protocol habits.                                                                           |
| Yuba Sutter ARES Net             | Thursday 7:00 PM                     | 146.085 MHz PL 127.3                                                                                                                                                            | ARES/regional readiness and valley awareness.                                                                                                    |
| Sacramento Valley Traffic Net    | Nightly 9:00 PM                      | 146.850 MHz PL 110.9                                                                                                                                                            | Traffic handling and Sacramento Valley regional monitoring anchor.                                                                               |
| Sacramento Valley Section HF Net | V - section announcement             | 3.880 MHz LSB +/- 3 kHz; section announcements may pair 146.085 + / PL 127.3 first                                                                                              | Section awareness and HF traffic practice; use the current Sacramento Valley Section announcement.                                               |
| GEARS Slow Speed CW Net          | Thursday 3:30 PM PT                  | 7.052 MHz +/- QRM/QSB                                                                                                                                                           | GEARS CW practice and HF listening layer.                                                                                                        |
| WIN System Net                   | Sunday 10:00 AM                      | AllStar hub 2560; IRLP 9100; EchoLink KA6WIN-L 126012. From GEARS 440.650 / ASL 56934, connect WIN on request with *3 2560; *70 status; *1 2560 disconnect.                     | Wide-area linked-system practice. GEARS 440.650 is no longer permanently tied to WIN; connect only when wanted and clear the link afterward.     |
| WIN System Insomniac Trivia Net  | Nightly 10:00 PM Pacific             | WIN System: AllStar 2560; IRLP 9100; EchoLink KA6WIN-L 126012                                                                                                                   | Late-night linked-system check, casual operating habit, and wide-area audio test.                                                                |
| WIN System TechNet               | 1st and 3rd Friday 6:00 PM Pacific   | WIN System: AllStar 2560; IRLP 9100; EchoLink KA6WIN-L 126012                                                                                                                   | Technical-learning net and systemwide operating practice.                                                                                        |
| W6EK Coffee Break Net            | Daily / every morning, 0730-1000 PT  | W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X W6EK-2M-ROOM 62545                                                                                                        | Low-friction daily operating practice and social continuity.                                                                                     |
| W6EK Club Weekly Net             | Thursday, 1930-2030 PT               | W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X 62545                                                                                                                     | Primary Sierra Foothills / Auburn club anchor.                                                                                                   |

| Net / event                           | Schedule                               | Frequency / access                                             | Doctrine use                                                                                                                                                        |
|---------------------------------------|----------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W6EK Elmer Net                        | 1st and 3rd Wednesday, 1930-2030 PT    | W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X 62545    | Practice and skills support for ongoing learning and technical cleanup.                                                                                             |
| W6EK All-Nodes Net                    | Monday, 1800-1900 PT                   | W6EK linked/node family                                        | Interoperability and casual habit-building across linked systems.                                                                                                   |
| W6EK Friday Night Trivia              | 1st and 3rd Friday, 1930-2030 PT       | W6EK 2m system / AllStar 51018 / linked access                 | Casual linked-system habit-building and W6EK community contact.                                                                                                     |
| Placer County ARES Net                | 3rd Sunday, 1930-2000 PT               | W6EK 2m system / Placer ARES family                            | ARES readiness and Sierra foothill continuity.                                                                                                                      |
| NHRC / K6IS Tech and Simplex practice | V - current NHRC/K6IS schedule         | Sacramento/simplex practice layer                              | Optional simplex and technical practice model.                                                                                                                      |
| San Francisco Radio Club DMR Net      | Monday 7:30 PM PT                      | BM TG 31068 NorCal; W6PW UHF, hotspot, or other DMR repeater   | Monday Bay Area/NorCal regional DMR anchor. Useful through RF-backed W6PW or the CQutie/hotspot layer.                                                              |
| NorCal DMR Net                        | Thursday 7:00 PM PT                    | BM TG 31068 NorCal; RF-backed repeaters and hotspot            | Primary home-QTH/NorCal DMR net and North State digital operating habit.                                                                                            |
| MARS DMR Net                          | Tuesday 6:45 PM PT                     | BM TG 31068 Marin ARC; RF-backed repeaters and hotspot         | Bay Area / North Coast regional DMR practice relevant to west-side and Marin travel.                                                                                |
| SNARS Digital Weekly Net              | Tuesday 8:00 PM PT                     | BM TG 31328; YSF 29961; WIRES-X 84619 (digital only)           | Tuesday 8 PM Pacific regional digital practice for Reno/Tahoe. Operator net page also lists Ophir DG-ID 28; Fusion page lists 00. Verify local RF DG-ID before use. |
| Nevada RACES DMR Net                  | V - Monday 7:30 PM PT reference        | BM TG 3132 Nevada                                              | Retain as a statewide DMR reference; confirm organizer schedule before relying on it.                                                                               |
| PNWDigital Gathering                  | Wednesday 7:00 PM PT                   | PNW Regional TG 31771, TS2                                     | PNWDigital primary directed gathering; Oregon, Washington, Kitsap and Puget Sound relationships.                                                                    |
| Oregon Regional DMR Net               | Monday 7:00 PM PT                      | Oregon TG 3141, TS1; available via PNWDigital and BrandMeister | Current Oregon regional net; keep native-DMR/statewide policy separate from FT-5DR cross-mode shortcuts.                                                            |
| APRS group check                      | As needed before/while traveling       | ANSRVR/CQSRVR groups in current region                         | Keeps APRS messaging alive without creating emergency-only unfamiliarity.                                                                                           |
| SWL/HF sked card review               | Pre-trip and occasional evening checks | HFCC / Short-Wave.info / current net pages                     | Keeps SWL schedule data current rather than dead binder ink.                                                                                                        |
| SCRA Sonoma Fusion Net                | Thursday 7:00 PM PT                    | WIRES-X K6SON-ROOM 80798; local 441.375 +5 MHz, DG-ID 07       | Remote check-ins welcome. Conflicts with Thursday NorCal DMR; select one according to the trip or community.                                                        |
| Nevada Statewide Fusion Net           | Wednesday 9:15-9:30 AM PT              | WIRES-X NEVADA-USA 21676; linked CVRC/W7DEM digital system     | CVRC detailed net schedule. System reserved 9-10 AM; confirm before use.                                                                                            |
| WARREA weekly net                     | Suspended July 2, 2026                 | Retain YSF 68901 as a regional destination                     | Weekly net suspended; retain YSF 68901 for regional access.                                                                                                         |
| Ham Nation After Show                 | V - Wednesday 7:00 PM                  | REF014 module C via D-STAR connector                           | MDARC-listed net. Module C is distinct from Team Stone REF014B / SNARS Open D-STAR use.                                                                             |
| Western Digital D-Star                | V - Saturday 7:00 PM                   | REF029 module A via D-STAR connector                           | MDARC-listed net; save reflector and module together.                                                                                                               |

Regular digital routine: Thursday 7 PM NorCal TG 31068 is the home anchor. Rotate Tuesday SNARS and Wednesday PNWR for travel relationships; use SFRC/MARS for additional local practice. All PT entries follow Pacific local time, including daylight saving; fixed UTC equivalents must be recalculated.

## Local Practice / In-Person Radio Culture

Eyeball QSOs, breakfasts, meetings, and low-pressure practice are part of Team Stone readiness because local relationships make the radio system real.

| Eyeball QSO / practice event      | Where                                                                 | Schedule                           | Doctrine use                                                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Chico / GEARS Ham Radio Breakfast | Farmer's Skillet, 690 Rio Lindo Ave, Chico                            | 2nd Saturday, 8:30 AM              | Local QTH club relationships and informal operating awareness.                                                                 |
| OARS Breakfast                    | V - location by current club announcement                             | V - current announcement           | Oroville-area club relationships; OARS currently publishes each breakfast date/location rather than a durable binder schedule. |
| GEARS Meeting                     | Golden Beaver Distillery - Park Ave Still House, 2420 Park Ave, Chico | 3rd Monday, 7:00 PM; doors 6:00 PM | Home-club coordination and local operating culture.                                                                            |

| Eyeball QSO / practice event             | Where                                                                 | Schedule                                     | Doctrine use                                                                                                       |
|------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| OARS Meeting                             | 1430 Pine Street, Oroville; V - current club announcement             | V - current announcement                     | Oroville-area club contact. Current OARS page publishes the next meeting rather than a durable recurring schedule. |
| GARS Meeting                             | St. Paul's Church Fellowship Hall, 565 Main St., Artois               | 2nd Friday, 6:30 PM PT                       | Glenn / Artois-area club contact.                                                                                  |
| PARS Meeting                             | Old Magalia Community Resource Center                                 | 2nd Thursday; doors 6:00 PM; meeting 6:30 PM | Ridge / Paradise / Magalia relationships.                                                                          |
| GEARS Morse code class / social practice | Golden Beaver Distillery - Park Ave Still House, 2420 Park Ave, Chico | Wednesday 6:00-7:00 PM                       | CW practice, club culture, and low-pressure skill building.                                                        |

## 2.4 HF Net, SWL, and Digital Bulletin References

| Reference                             | Schedule / channel                                                   | Access / frequency                                               | Doctrine use                                                                                        |
|---------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| OARS / W6AF 10m SSB Net               | After Sunday 8:00 PM 2m net                                          | 28.450 MHz SSB                                                   | Local HF/10m practice using the IC-756 Pro III shack station or the FT-897D bedroom/manual station. |
| GEARS Slow Speed CW Net               | Thursday 3:30 PM PT                                                  | 7.052 MHz +/- QRM/QSB                                            | GEARS CW practice and HF listening layer; authoritative recurring sked is Section 2.3.              |
| ARRL Sacramento Valley Section HF Net | V - current section announcement                                     | 3.880 MHz LSB +/- 3 kHz                                          | Regional HF awareness and section traffic/practice layer; use the current Section announcement.     |
| K6IS / NHRC 75m Net                   | Saturday 8:00 PM                                                     | 3.9185 MHz LSB                                                   | Sacramento-region HF practice and social net candidate.                                             |
| The Noontime Net                      | Daily; 40m informal 10:30 PT, 75m informal 11:30 PT, formal noon PT  | 7.284 MHz LSB summer 40m; 3.970 MHz LSB 75m; alternate 7.265 MHz | West Coast daytime HF check and casual operating habit.                                             |
| California Amateur Radio Service Net  | Monday-Friday 11:00 AM PT                                            | 7.248 MHz LSB                                                    | California HF special-interest / regional watch candidate.                                          |
| Maritime Mobile Service Net           | Daily morning Pacific-time listening window; verify current schedule | 14.300 MHz USB                                                   | HF maritime and emergency-watch listening reference; not a VHF harbor channel.                      |
| ARRL digital bulletins                | Scheduled W1AW transmissions                                         | RTTY/Baudot, PSK31, MFSK16 frequencies in Mode Quick Reference   | Digital receive/practice reference.                                                                 |
| Radio Relay / traffic-net watch       | Verify current RRI traffic-net directory                             | Northern California / Sixth Region CW and traffic frequencies    | Traffic-handling awareness and CW/traffic curiosity layer.                                          |

## 2.5 Destination Nets, Meetings, and Eyeball QSO Watch List

Destination entries are planning targets for recurring Team Stone haunts. Rows are grouped by practical travel priority and geography from the Chico/Home QTH orbit, then roughly by weekday within each destination family; least-traveled Newport is retained at the bottom. Verify current meeting status before showing up, especially for travel, weather, holiday, and border-region destinations.

| Destination                | Net / meeting                           | Schedule                                                 | Access / location                                                | Doctrine use                                                                             |
|----------------------------|-----------------------------------------|----------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Sacramento / Auburn / I-80 | W6EK Coffee Break Net                   | Daily 0730-1000 PT                                       | W6EK 2m system; EchoLink 4128; AllStar 51018; WIRES-X room 62545 | Primary Sacramento foothill / I-80 digital and club haunt.                               |
| Sacramento / Auburn / I-80 | W6EK Club Weekly Net                    | Thursday 1930-2030 PT                                    | W6EK 2m system; EchoLink 4128; AllStar 51018; WIRES-X room 62545 | Sacramento / Auburn destination operating anchor already aligned with Team Stone haunts. |
| Reno / Tahoe               | Tahoe Amateur Radio Association VHF Net | Monday 19:30 local                                       | 147.240 MHz repeater                                             | Tahoe/Reno destination net candidate for ski/pass and regional travel layers.            |
| Reno / Tahoe               | Tahoe Amateur Radio Association Meeting | 2nd Saturday, 13:00; noon social/brown-bag noted by club | Verify current meeting location before attendance                | Eyeball QSO / destination club culture for Tahoe-side trips.                             |

| Destination             | Net / meeting                       | Schedule                                     | Access / location                                                  | Doctrine use                                                                                                               |
|-------------------------|-------------------------------------|----------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Monterey / Monterey Bay | Monterey County ARES Net            | Wednesday 19:30                              | KR6JE 145.470 MHz (-), PL 94.8                                     | Monterey / Santa Cruz destination emergency-awareness net; worth retaining if in haunt/memory orbit.                       |
| Monterey / Monterey Bay | MBARA Net                           | Verify current day/time                      | WR6ABD / 146.640 MHz (-), PL 162.2                                 | Monterey Bay operating candidate. Keep because it is destination-relevant; verify current club schedule before attendance. |
| San Jose / Sunnyvale    | Sunnyvale ARES Net                  | Monday 19:30                                 | K6SNY 145.170 MHz (-), PL 94.8; alternate 444.525 MHz (+), PL 94.8 | SJC / Sunnyvale haunt layer. Priority because it aligns with destination geography.                                        |
| SJC / South Bay         | SBARA Chat Net                      | Monday 19:30-20:00 PT                        | WA6PWW 147.015 MHz +, PL 103.5                                     | South Bay destination net.                                                                                                 |
| SJC / South Bay         | Tri-Cities Emcomm Net               | Tuesday 19:30 PT                             | WA6PWW 147.015 MHz +, PL 103.5                                     | South Bay emergency/interop awareness.                                                                                     |
| SJC / South Bay         | Castle Rock club net                | Thursday 20:00                               | K6FB 442.575 MHz +, PL 100                                         | South Bay / ridge layer.                                                                                                   |
| SJC / South Bay         | Los Gatos / Monte Sereno W6PLY nets | Sun 20:30, Mon 20:00, Tue 19:30              | W6PLY 147.390 MHz +, PL 151.4                                      | South Bay / Los Gatos destination layer.                                                                                   |
| SJC / South Bay         | Saratoga club net                   | Sunday 21:00                                 | K6SA 146.655 MHz -, PL 114.8; linked 443.150 + PL 100              | South Bay / Saratoga destination layer.                                                                                    |
| Oregon / SW Washington  | Oregon ARES District 1 net          | Daily 19:30-20:00                            | K7RPT linked repeaters; verify current frequencies                 | Oregon corridor / Portland area linked-net watch.                                                                          |
| Bremerton / Kitsap      | KCARC 2m social net                 | Wednesday 19:00                              | 146.620 MHz (-), PL 103.5                                          | Kitsap destination operating anchor.                                                                                       |
| Bremerton / Kitsap      | KCARC 10m net                       | Wednesday 19:45                              | 28.330 MHz                                                         | Useful HF destination habit for either the IC-756 Pro III shack station or FT-897D bedroom/manual station.                 |
| Bremerton / Kitsap      | KCARC GMRS social net               | Saturday 18:00                               | Gold Mountain GMRS Ch 17 / 462.600+                                | GMRS destination practice where licensed.                                                                                  |
| Bremerton / Kitsap      | KCARC meeting / breakfast           | Meeting 3rd Saturday; breakfast 1st Saturday | Verify location before attendance                                  | Eyeball QSO / local relationship layer.                                                                                    |
| Newport, OR             | Lincoln County ARC / N7OY meeting   | 2nd Tuesday monthly, 7:00 PM                 | Samaritan Center for Health Education, 740 SW 9th St., Newport     | Least-traveled current destination reference; retain at bottom and verify before Hallmark/Newport trips.                   |

### 3. Memory Bank Architecture and Doctrine

The official memory list and Memory Bank structure are part of the operating baseline. Banks are not decorative: they are how Team Stone changes geography, mission, and service emphasis without losing discipline.

| Bank | Name             | Doctrine purpose                                                                                                                                                                                     |
|------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Home QTH         | Daily footprint and nearby real-world reach.                                                                                                                                                         |
| 2    | GMRS             | Home-region convenience, not statewide dumping ground.                                                                                                                                               |
| 3    | Sacramento       | Sacramento Valley and capital-region corridor.                                                                                                                                                       |
| 4    | Tahoe/Reno       | Separate operating region. Do not reference memories 888-890.                                                                                                                                        |
| 5    | Bay Area/Salinas | Bay Area, South Bay, Salinas/Monterey reach.                                                                                                                                                         |
| 6    | Mendocino        | North Coast/US-101 and inland-coast reach.                                                                                                                                                           |
| 7    | Mt Shasta/NorCal | North State and Shasta/Siskiyou layer.                                                                                                                                                               |
| 8    | I-5/Oregon/PNW   | Oregon and Pacific Northwest travel corridor.                                                                                                                                                        |
| 9    | Bremerton/Kitsap | Kitsap and Puget Sound destination base.                                                                                                                                                             |
| 10   | Seattle Metro    | Seattle-area metro coverage.                                                                                                                                                                         |
| 11   | Seattle Ski Pass | Pass and mountain travel layer.                                                                                                                                                                      |
| 12   | Marine NOAA      | Marine and NOAA receive/monitor discipline.                                                                                                                                                          |
| 13   | Business Commc   | Business, commercial-dot, and MURS receive/use-where-authorized reference block. Current export uses rows 451-488, with adjacent USHPA rows 443-447 and ISS APRS row 449 summarized in Appendix V.1. |

| Bank | Name             | Doctrine purpose                                                                                                                                                                                     |
|------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14   | Air Band NOAA    | Airband and weather receive-only layer.                                                                                                                                                              |
| 15   | Citizens Band    | CB receive/road layer.                                                                                                                                                                               |
| 16   | Public Safety    | Public safety scan block and awareness.                                                                                                                                                              |
| 17   | Nat'l Parks/Frst | Parks/forest receive and destination support.                                                                                                                                                        |
| 18   | NV/UT/Las Vegas  | Nevada, Utah, Las Vegas corridor/destination layer.                                                                                                                                                  |
| 19   | SoCal Corridor   | South Corridor bank, bifurcated in doctrine into Southern Inland and Southern Coastal operating legs. Baja approach, desert/crossing travel. GMRS radios are left at home before Mexico/Baja travel. |
| 20   | Winlink / Packet | Packet and Winlink entry points.                                                                                                                                                                     |
| 21   | PCT              | Separate parallel reference layer, not South Corridor.                                                                                                                                               |
| 22   | QMB              | Scratch pad / on-the-fly only.                                                                                                                                                                       |

- Home QTH reaches into the nearby Northern California world Team Stone actually uses. It is not just city limits.
- Out-of-area GMRS belongs in geographic banks so operators reach for geography first while traveling.
- Corridor banks reduce thought under motion: select geography, then operate from the memories already collated for that movement pattern.
- Memory duplication is deliberate where the same system serves different operating moments or regions.
- PCT remains parallel and distinct; QMB is never the planned doctrine bucket.

Latest memory-file reconciliation: the current programmed export adds the Newport Oregon coast spur at memories 518-519 and the SLO / Morro Bay Central Coast spur at memories 521-523. These are programmed-memory facts first; doctrine text follows the FT-5DR export rather than reserving speculative rows.

### 3.1 Home QTH High-Value Block

| Ch | Name             | Frequency MHz | Comment                                                                                                                                      |
|----|------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Hotspot C4FM     | 433.7750      | Team Stone hotspot access                                                                                                                    |
| 3  | GEARS            | 146.8500      | W6RHC GEARS (Platte Mountain), primary local monitor / QTH club anchor                                                                       |
| 4  | GEARS Bloomer    | 147.9450      | W6RHC GEARS Bloomer; established Memory 4 home-region coverage layer.                                                                        |
| 5  | GEARS WinSys     | 440.6500      | W6RHC UHF + / PL 110.9; AllStar 56934. WIN remains an on-request path via AllStar hub 2560; *3 2560 connect, *70 status, *1 2560 disconnect. |
| 6  | W6SCR            | 145.2900      | Linked full time to Friends of High Lakes / K6FHL                                                                                            |
| 7  | W6SCR 440        | 440.9000      | W6SCR 70cm                                                                                                                                   |
| 8  | Willows          | 146.1150      | K6LNK                                                                                                                                        |
| 10 | Stonyford EL     | 443.0750      | N6MVT                                                                                                                                        |
| 12 | Elk Creek        | 147.1050      | N6YCK                                                                                                                                        |
| 13 | W6ECE-L          | 146.9400      | W6ECE                                                                                                                                        |
| 14 | W6ECE 440        | 442.3750      | W6ECE; high-value local repeater                                                                                                             |
| 15 | Paradise-L YSF   | 146.6700      | W6PAR                                                                                                                                        |
| 16 | Magalia-XL EL    | 145.3700      | W6PAR                                                                                                                                        |
| 17 | Sutter Buttes    | 146.0850      | WD6AXM                                                                                                                                       |
| 18 | Friends High Lks | 146.7000      | K6FHL                                                                                                                                        |
| 19 | Trinity          | 146.9250      | N4SMF; high-value local repeater                                                                                                             |
| 21 | Grass Valley     | 146.6250      | W6YDD                                                                                                                                        |
| 22 | Grass Valley 2-L | 147.2850      | W6DD; high-value local repeater                                                                                                              |
| 23 | Grass Valley 3-L | 147.0150      | W6DD; high-value local repeater                                                                                                              |
| 24 | Red Bluff        | 145.4500      | KF6KDD                                                                                                                                       |
| 25 | Redding          | 146.6400      | W6STA                                                                                                                                        |

| Ch  | Name            | Frequency MHz | Comment                                                                                                              |
|-----|-----------------|---------------|----------------------------------------------------------------------------------------------------------------------|
| 26  | KE6CHO EL       | 145.1100      | KE6CHO - verify current EchoLink ID before programming                                                               |
| 29  | Berryessa EL    | 146.9700      | K6BER; high-value local repeater                                                                                     |
| 40  | Sacramento      | 145.5500      | K6SAC Sacramento Valley / capital-region local reference.                                                            |
| 41  | Mt Diablo EL    | 147.0600      | W6CX                                                                                                                 |
| 900 | APRS            | 144.3900      | APRS North America standard                                                                                          |
| SET | FT-5DR WX Alert | 162.550 MHz   | WXL88, South Fork Mountain — northern valley / Red Bluff area. Select the received NOAA station and enable WX Alert. |

## 3.2 Wilderness and VHF/UHF Call Memories

| Channel | Name                    | Frequency | Comment                                                                                                         |
|---------|-------------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| 885     | VHF Call                | 146.520   | National 2m calling; primary Wilderness Protocol watch/call frequency; pair with LiTZ only as attention signal. |
| 884     | VHF Call Alt            | 146.540   | Alternate                                                                                                       |
| 883     | VHF Call Mtn            | 146.550   | Mountain convention                                                                                             |
| 882     | VHF Coast               | 147.480   | Coastal/local convention                                                                                        |
| 879     | UHF Call                | 446.000   | National 70cm calling; Wilderness Protocol secondary where equipment supports it.                               |
| 878     | UHF Call Alt            | 446.500   | Alternate                                                                                                       |
| 877     | UHF Urban               | 445.925   | Urban/simplex / packet-adjacent awareness                                                                       |
| WP6M    | 6m Call / Wilderness    | 52.525    | Wilderness Protocol secondary where equipment supports it.                                                      |
| WP220   | 1.25m Call / Wilderness | 223.500   | Wilderness Protocol secondary where equipment supports it.                                                      |
| WP23C   | 23cm Call / Wilderness  | 1294.500  | Wilderness Protocol secondary where equipment supports it.                                                      |

## 3.3 FM satellite field reference

Satellite APRS/packet is a high-value contingency layer beyond terrestrial coverage. ISS APRS remains the primary memorized reference at 145.825 MHz; use any current amateur APRS/digipeater satellite only after checking live status and a usable pass. Position/status/message traffic may escape an otherwise isolated area, but this is not a guaranteed distress service. For FM voice satellites, use VFO tuning or a separate satellite setup and check the active mode and pass prediction before transmitting. The FT-5DR cannot hear the downlink while it transmits; use a separate receiver when full-duplex monitoring is needed.

| Satellite / FM         | Uplink TX MHz / tone | Downlink RX MHz   |
|------------------------|----------------------|-------------------|
| ISS crossband repeater | 145.990 / 67.0 Hz    | 437.800 nominal   |
| SO-50                  | 145.850 / 67.0 Hz    | 436.795 nominal   |
| Pass progression       | ISS receive MHz      | SO-50 receive MHz |
| Approaching            | 437.810              | 436.805           |
| Approaching center     | 437.805              | 436.800           |
| Closest approach       | 437.800              | 436.795           |
| Receding               | 437.795              | 436.790           |
| Late pass              | 437.790              | 436.785           |

Manual Doppler: tune the received UHF signal downward through the pass in 5 kHz steps. These are approximate starting points; follow the clearest audio. For these VHF-uplink FM satellites, normally hold the listed TX frequency. If fine correction is available, TX correction is below nominal on approach and above nominal on departure (roughly  $\pm 3$  kHz on 2 m); UHF uplinks need larger correction in the same direction.

SO-50 activation, only if needed: transmit a 2-second carrier with 74.4 Hz CTCSS, then return to 67.0 Hz for contacts. Use no receive tone squelch. Keep calls short and leave pauses.

Pass/status references: [amsat.org/live-fm-satellites/](https://amsat.org/live-fm-satellites/) • [ariss.org/current-status-of-iss-stations.html](https://ariss.org/current-status-of-iss-stations.html)

## 4. Digital Destinations and Mode Competency

C4FM / WIRES-X / YSF, DMR and D-STAR serve the physical-radio digital layer. AllStar is established through QSO One in the shack; EchoLink is consistently monitored. IRLP, P25 and NXDN remain experimental.

| Mode / family        | Doctrine handling                                                                                                                                                                                                             |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C4FM / WIRES-X / YSF | Primary digital bridge layer. Store 5-digit room IDs with leading zeroes intact. Preserve Yaesu simplex references separately from Team Stone voice doctrine.                                                                 |
| DMR                  | Store RF anchors, talkgroups, color code, and timeslot where they actually serve operations.                                                                                                                                  |
| D-STAR               | Store reflectors/modules and corridor repeaters by region and purpose.                                                                                                                                                        |
| DAPNET / POCSAG      | Planned paging/message layer through CQutie/openSPOT4 Pro. Treat as a lightweight direct-message/H&W and regional ARES/network-practice layer, not as direct voice, APRS replacement, or first-line emergency communications. |
| EchoLink             | Consistently monitored. Established local and regional linked access.                                                                                                                                                         |
| AllStar              | Established shack operating system through QSO One.                                                                                                                                                                           |
| IRLP / P25 / NXDN    | Experimental modes; maintain working familiarity.                                                                                                                                                                             |

| Digital priority ladder                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Reachable RF infrastructure -> 2) QSO One shack/office software client -> 3) CQutie/openSPOT physical-radio, cross-mode, or remote-appliance layer -> 4) iOS adjunct workflow when released and tested -> 5) lower-probability destination families and planned DAPNET/POCSAG. Keep digital practical, not performative. |

### 4.1 Node ID Completion and Memory Update

| System / callsign                 | Companion system             | Node / Room ID                                                      | Location / family                  | Doctrine handling                                                                                                                                                    |
|-----------------------------------|------------------------------|---------------------------------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| W6EK 2m / W6EK-R                  | EchoLink / AllStar / WIRES-X | EL 4128;<br>AllStar 51018;<br>WIRES-X 62545                         | Auburn / SFARC 2-meter system      | Coffee Break and 2-meter club-net access. Separate from YSF 06040 / WIRES-X 43847 on the 70cm system.                                                                |
| W6RHC GEARS VHF / UHF             | AllStar / EchoLink / RF      | VHF ASL 57364; EL 7818. UHF ASL 56934. WIN hub ASL 2560 on request. | Chico / Butte County               | 146.850 - / PL 110.9 is the primary local VHF ASL/EL path. 440.650 + / PL 110.9 is the UHF AllStar path; from RF use *3 2560 to WIN, *70 status, *1 2560 disconnect. |
| AG6AU                             | IRLP                         | 7195                                                                | El Dorado linked system            | Retain 7195 from EDCARC records.                                                                                                                                     |
| W6PAR / W6PAR-R                   | EchoLink / local ridge       | 234739                                                              | Paradise / Magalia pair            | Home-area EchoLink family and ridge continuity.                                                                                                                      |
| KE6QK-L                           | EchoLink link                | 976012                                                              | Fallon, Nevada                     | NV / US-50 / Reno-to-desert corridor haunt and companion link.                                                                                                       |
| W7PRA-L                           | EchoLink link                | 521741                                                              | Puget Sound / AB7BS admin          | Retained as companion link where RF system context matters.                                                                                                          |
| WA7HXO-L                          | EchoLink link                | 481877                                                              | Las Vegas metro                    | Retained south-Nevada link reference.                                                                                                                                |
| W6EK 70cm / NorCal Repeater Group | YSF / WIRES-X / C4FM RF      | YSF 06040;<br>WIRES-X 43847                                         | Auburn and NorCal linked repeaters | 440.575 MHz +5 MHz, DN, DG-ID 00. Preserve the leading zero in 06040.                                                                                                |

### 4.2 EchoLink Favorites and Companion Systems

★ Team Stone EchoLink contact: K6RCS node 206608. Consistently monitored.

| System / callsign | Companion system  | Node / Room ID | Location / family           | Doctrine handling                                |
|-------------------|-------------------|----------------|-----------------------------|--------------------------------------------------|
| W6PAR-R           | EchoLink repeater | 234739         | Home QTH / Magalia-Paradise | Home-area ridge reference and family continuity. |

| System / callsign | Companion system  | Node / Room ID            | Location / family           | Doctrine handling                                                                                                                                      |
|-------------------|-------------------|---------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| W6EK-R            | EchoLink repeater | 4128                      | Auburn / Sierra Foothills   | Primary W6EK / SFARC doctrine anchor.                                                                                                                  |
| W6RHC-R           | EchoLink repeater | 7818                      | Chico / GEARS               | Current GEARS 146.850 companion path; paired with AllStar 57364.                                                                                       |
| KE6CHO-R          | EchoLink repeater | 390402                    | North State / KE6CHO family | WARREA lists KE6CHO-R 390402. Separate analog/EchoLink and digital YSF access records.                                                                 |
| W6AF-R            | EchoLink repeater | 197558                    | Oroville / OARS family      | Published W6AF EchoLink node; repeater move is back on RF, but OARS says EchoLink completion at the new site is still pending. V before relying on it. |
| W6BML-R           | EchoLink repeater | Verify before programming | Mt Shasta candidate         | Verify current node and RF association before programming.                                                                                             |
| N6NA-R            | EchoLink repeater | 646535                    | Shingle Springs / El Dorado | US-50 / foothill companion.                                                                                                                            |
| W6VVR-R           | EchoLink repeater | 454312                    | Vacaville / Solano          | I-80 / Solano corridor reference.                                                                                                                      |
| W6CX-R            | EchoLink repeater | 133896                    | Concord / Mt Diablo         | East Bay / Diablo anchor.                                                                                                                              |
| W6BXN-R           | EchoLink repeater | 424068                    | Turlock / Central Valley    | Hwy 99 / Central Valley reference.                                                                                                                     |
| W6UU-R            | EchoLink repeater | 688640                    | San Jose / South Bay        | SJC / South Bay reference.                                                                                                                             |
| KB6LED-R          | EchoLink repeater | 45808                     | San Francisco Bay Area      | Bay Area reference.                                                                                                                                    |
| N6SPD-R           | EchoLink repeater | 202044                    | Monterey Bay                | Monterey / Salinas / coast reference.                                                                                                                  |
| WB6QAZ-R          | EchoLink repeater | 288318                    | Cloverdale / US-101         | US-101 / Sonoma-Mendocino corridor.                                                                                                                    |
| KA6SUB-R          | EchoLink repeater | 983970                    | Gold Run / I-80 Sierra      | I-80 / Sierra foothill reference.                                                                                                                      |
| KA6GWY-R          | EchoLink repeater | 95726                     | Pollock Pines / US-50       | Sierra / El Dorado foothill reference.                                                                                                                 |
| WA6EWV-R          | EchoLink repeater | 7240                      | South Lake Tahoe            | Tahoe / Sierra reference.                                                                                                                              |
| W6DWY-R           | EchoLink repeater | 793849                    | Brookings, OR               | Southern Oregon coast reference.                                                                                                                       |
| W7VW-R            | EchoLink repeater | 470009                    | Klamath Falls, OR           | Southern Oregon / Klamath corridor.                                                                                                                    |
| W7JVO-R           | EchoLink repeater | 159091                    | Bend, OR                    | Central Oregon / Bend reference.                                                                                                                       |
| N7NPA-R           | EchoLink repeater | 188961                    | Thurston Hills, OR          | Oregon I-5 / Willamette Valley reference.                                                                                                              |
| W7PRA-L           | EchoLink link     | 521741                    | Puget Sound / AB7BS         | Puget Sound companion link.                                                                                                                            |
| N7JN-R            | EchoLink repeater | 441527                    | San Juan Islands, WA        | Puget Sound / islands reference.                                                                                                                       |
| W7ACS-R           | EchoLink repeater | 146713                    | Seattle metro               | Seattle metro reference.                                                                                                                               |
| W7AW-R            | EchoLink repeater | 56575                     | Seattle / Western WA        | Western WA reference.                                                                                                                                  |
| W7EAT-R           | EchoLink repeater | 229737                    | Pierce County, WA           | Tacoma / Pierce County reference.                                                                                                                      |
| WW7PSR-L          | EchoLink link     | 770247                    | Seattle / Puget Sound       | Puget Sound Repeater Group link.                                                                                                                       |
| WW7PSR-R          | EchoLink repeater | 447770                    | Seattle / Puget Sound       | Puget Sound Repeater Group repeater.                                                                                                                   |
| WW7SEA-R          | EchoLink repeater | 48845                     | Seattle / Queen Anne        | Seattle QA-area repeater reference.                                                                                                                    |
| KE6QK-L           | EchoLink link     | 976012                    | Fallon, Nevada              | Nevada / US-50 corridor haunt.                                                                                                                         |
| W7JCA-L           | EchoLink link     | 294842                    | Las Vegas, NV               | Las Vegas link-node reference.                                                                                                                         |
| WA7HXO-L          | EchoLink link     | 481877                    | Las Vegas, NV               | Las Vegas link-node reference.                                                                                                                         |
| W7HEN-R           | EchoLink repeater | 740644                    | Henderson, NV               | Las Vegas / Henderson reference.                                                                                                                       |
| WA7SCA-R          | EchoLink repeater | 479173                    | Sun City Anthem / Henderson | Henderson / Las Vegas-area reference.                                                                                                                  |
| N7RSL-R           | EchoLink repeater | 553217                    | Las Vegas, NV               | Southern Nevada reference.                                                                                                                             |
| KP4UZ-R           | EchoLink repeater | 9212                      | Las Vegas, NV               | Southern Nevada reference.                                                                                                                             |
| K7SDC-R           | EchoLink repeater | 64264                     | Eastern Utah                | Utah / NV corridor candidate.                                                                                                                          |

## 4.3 WIRES-X / YSF / C4FM Reference Set

★ Team Stone Fusion meeting place: YSF 06040 NorCal Repeater Group / WIRES-X 43847. Direct Team Stone C4FM uses DN, DG-ID TX 73 / RX 73; hotspot memory 1 retains TX/RX 00. Use each repeater's own DG-ID on repeater channels.

| Callsign / room / memory                          | Node / room IDs / frequency                                                                                                                 | Location / notes                                                                                                                                               |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hotspot C4FM - Memory 1                           | 433.775 MHz DN                                                                                                                              | CQutie/openSPOT4 Pro local access. Digital bridge convenience; not the primary family voice layer.                                                             |
| W6EK 2m system                                    | WIRES-X W6EK-2M-ROOM 62545; W6EK node 52998; EL 4128; AllStar 51018                                                                         | Auburn / SFARC primary NorCal/Sierra Fusion and companion-system anchor.                                                                                       |
| W6EK 70cm / NorCal Repeater GRP                   | Memory 34, 440.575 MHz DN; WIRES-X NorCal Repeater GRP 43847; YSF06040 US-NorCalRptGrp                                                      | Sierra Foothills ARC 440 Fusion/C4FM layer.                                                                                                                    |
| GEARS 147.945 - Memory 4                          | 147.945 MHz; AMS-capable memory. Tone/site V: GEARS net page says PL 123.0; repeater page lists Bloomer PL 110.9 and Mt. St. John PL 123.0. | Current GEARS net output. Preserve both published site/tone records until GEARS reconciles its pages; do not assume the old 110.9 value for the net.           |
| Paradise-L C4FM RF - Memory 15                    | 146.670 MHz AMS; PL 131.8; Fusion DG-ID 05; WIRES-X node 92322; W6PAR family                                                                | Home/ridge Fusion-aware local layer. W6PAR-R EchoLink 234739. 145.370 - / PL 131.8 is the Magalia companion repeater.                                          |
| KE6CHO C4FM RF - Memory 27                        | 440.050 MHz +5 MHz, DN; YSF 68901                                                                                                           | WARREA South Fork Mountain; Hatchet W6POC 440.075 +5 MHz links to the same YSF reflector.                                                                      |
| Lincoln C4FM RF - Memory 32                       | 147.300 MHz DN; K6PAC                                                                                                                       | Lincoln / Sacramento Valley YSF layer. RF memory reference; reflector endpoint requires separate verification.                                                 |
| Woodside C4FM RF - Memories 60/61                 | 145.370 MHz DN; 440.450 MHz DN; N6ZX                                                                                                        | Bay Area / Peninsula digital layer. RF memory reference; reflector endpoint requires separate verification.                                                    |
| Willits C4FM RF - Memory 167                      | 145.130 MHz DN; W6MMM                                                                                                                       | Mendocino / US-101 digital layer. RF memory reference; reflector endpoint requires separate verification.                                                      |
| SeaTac C4FM RF - Memory 258                       | 146.660 MHz DN; NC7G                                                                                                                        | Seattle / airport digital layer. RF memory reference; reflector endpoint requires separate verification.                                                       |
| Belfair C4FM RF - Memory 263                      | 145.170 MHz DN; NM7E                                                                                                                        | Bremerton/Kitsap connector. RF memory reference; reflector endpoint requires separate verification.                                                            |
| Seattle C4FM RF - Memory 272                      | 442.900 MHz DN; WA7LZO                                                                                                                      | Seattle metro digital haunt. RF memory reference; reflector endpoint requires separate verification.                                                           |
| Rattlesnake C4FM RF - Memory 275                  | 441.650 MHz DN; N7NFY                                                                                                                       | Eastside / I-90 / Seattle-area digital layer. RF memory reference; reflector endpoint requires separate verification.                                          |
| Bend C4FM RF EL - Memory 499                      | 443.750 MHz; W7JVO                                                                                                                          | Central Oregon digital/linked reference. RF memory reference; reflector endpoint requires separate verification.                                               |
| Ophir Peak-C4FM RF - Memory 569                   | 146.610 MHz DN; W7TA                                                                                                                        | SNARS Ophir RF memory. Net page lists DG-ID 28; Fusion page lists 00. Verify current local setting; remote YSF 29961 / WIRES-X 84619 are separately published. |
| LV C4FM RF / Henderson C4FM RF - Memories 673-675 | 445.875 MHz W7JCA; 145.280 / 445.680 MHz WA7SCA                                                                                             | Southern Nevada / Las Vegas digital layer. RF memory reference; reflector endpoint requires separate verification.                                             |
| Yaesu C4FM simplex reference                      | C4FM Call Memories 875/876: 445.5625 / 145.5625 MHz DG-ID 00                                                                                | Reference conventions only; not Team Stone primary voice channels.                                                                                             |
| FCS reference destinations                        | FCS00206 California; FCS00237 Oregon; FCS00247 Washington; FCS00228 Nevada                                                                  | Separate FCS network, not YSF or a statewide RF coverage guarantee. Retained candidates; verify directory presence and traffic before use.                     |
| Nevada statewide Fusion                           | WIRES-X NEVADA-USA 21676                                                                                                                    | CVRC/W7DEM digital system. Wednesday Fusion net 9:15-9:30 AM PT; system reserved 9-10 AM. FCS00321 is a separate FCS access path, not a YSF ID.                |
| SNARS regional digital                            | YSF 29961; WIRES-X 84619; BM TG 31328                                                                                                       | Reno/Tahoe regional favorite; WIRES-X access digital only. Tuesday digital net 8 PM PT.                                                                        |
| Sonoma K6SON-ROOM                                 | WIRES-X 80798; local 441.375 +5 MHz, DN, DG-ID 07                                                                                           | North Bay haunt; Thursday 7 PM PT Fusion net. No YSF endpoint inferred.                                                                                        |

| Callsign / room / memory | Node / room IDs / frequency                                                         | Location / notes                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bay-Net WW6BAY-ROOM      | WIRES-X WW6BAY-ROOM; local 444.425 +5 MHz, DN, DG-ID 00; BM TG 31075; AllStar 55915 | Bay-Net cross-mode family. TG 31075 is usually bridged to AllStar 55915; numerical WIRES-X room ID/YSF endpoint still require operator/directory confirmation. |

## 4.4 Companion Digital Mode Records

| Mode / family                        | Records to retain                                                                                                                                                                                                                                                               | Doctrine handling                                                                                                                                                                                                                                                                       |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EchoLink                             | Primary records live in the corridor-sorted EchoLink Favorites table. Home anchors: W6RHC-R 7818, W6PAR-R 234739, W6EK-R 4128. KE6QK-L is 976012. Excluded: KN6TED-R, W6LND-R, W6SUV-R, WW6BAY-R.                                                                               | Use for RF-backed/corridor bridging; not a substitute for direct local voice.                                                                                                                                                                                                           |
| IRLP                                 | AG6AU IRLP 7195; WIN System reflector 9100.                                                                                                                                                                                                                                     | AG6AU remains 7195 only. WIN also has AllStar 2560 and EchoLink KA6WIN-L 126012.                                                                                                                                                                                                        |
| AllStar                              | QSO One Node/WT modes. Home: W6RHC 57364 VHF, 56934 UHF. Regional: W6EK 51018, WIN hub 2560, Bay-Net 55915; western favorites in Section 4.4.2.                                                                                                                                 | Normal fixed-site AllStar client is QSO One. GEARS UHF 56934 can reach WIN 2560 on request; clear links after use. Default UDP 4569 remains normal for outbound clients.                                                                                                                |
| DMR / BrandMeister                   | DMR ID 3173147. Saved shortcuts: Section 4.4.2. Geographic use: Section 4.6. Utilities: group 4000 disconnect; private 9990 parrot where supported.                                                                                                                             | QSO One is the normal fixed-site BrandMeister/TGIF client; CQutie/openSPOT remains the FT-5DR cross-mode/field path. Geography and network identity remain explicit. HoseLine is the preferred browser receive/diagnostic view of live BrandMeister traffic.                            |
| BrandMeister HoseLine                | <a href="https://hose.brandmeister.network/">https://hose.brandmeister.network/</a> - browser-based live BrandMeister talkgroup audio and activity monitor. Works in modern desktop and mobile browsers, including Safari/iOS; supports single or multiple talkgroup listening. | High-value receive-only DMR awareness and troubleshooting tool. Use it to find active talkgroups, monitor a net without tying up a radio, and confirm that BrandMeister traffic is reaching the network. Internet-dependent; it is not an RF path and does not provide transmit access. |
| DAPNET / POCSAG (planned)            | DMR ID-associated DAPNET subscriber/RIC noted; confirm exact numeric RIC before programming. Await DAPNET personal username/password and separate transmitter login/AuthKey for OS4P passthrough. Locate old Motorola POCSAG pager or acquire/program compatible pager.         | Lightweight direct-message, H&W, and regional ARES/network-practice layer. Internet-backed through OS4P unless a local RF DAPNET transmitter is actually received; not a primary emergency or direct RF layer.                                                                          |
| D-STAR                               | CQutie/openSPOT D-STAR profile only unless a verified RF repeater/reflector is added later.                                                                                                                                                                                     | Tertiary mode competence. Keep reflector/module choices current before relying on them.                                                                                                                                                                                                 |
| P25                                  | CQutie/openSPOT P25 profile only; no primary Team Stone RF P25 operating anchor in the current FT-5DR memory set.                                                                                                                                                               | Tertiary mode competence and receive/interop awareness, not a routine field operating path.                                                                                                                                                                                             |
| NXDN                                 | CQutie/openSPOT NXDN profile only; no primary Team Stone RF NXDN operating anchor in the current FT-5DR memory set.                                                                                                                                                             | Tertiary mode competence and bridge experimentation only.                                                                                                                                                                                                                               |
| C4FM / WIRES-X / YSF                 | See the WIRES-X / YSF / C4FM reference table. W6EK and NorCal Repeater GRP remain the primary RF-backed records.                                                                                                                                                                | FT-5DR/CQutie remains the physical C4FM/WIRES-X-oriented path. QSO One provides YSF reflector access in software; it is not full Yaesu WIRES-X.                                                                                                                                         |
| DMR / BrandMeister - Kitsap identity | DMR ID 3173147. Saved shortcuts: Section 4.4.2. Geographic use: Section 4.6. Utilities: group 4000 disconnect; private 9990 parrot where supported.                                                                                                                             | KCARC 311429 is retained as a repeater identity. Do not promote it to a hotspot talkgroup without operator confirmation of the route.                                                                                                                                                   |
| M17                                  | QSO One reflectors/modules: M17-NCA A; M17-PNW A; M17-PNW C as active-monitoring alternative.                                                                                                                                                                                   | Software-access open digital voice layer. Callsign K6RCS is the identity; a selected network endpoint may be linked to amateur RF infrastructure.                                                                                                                                       |

#### 4.4.1 QSO One Software Client and Operation

QSO One is the shack/office digital-radio client beside APRSIS32. DMR ID 3173147 is separate from APRS identities. Office ESSID 05; Shack ESSID 04. Windows is the current Team Stone desktop platform; iOS remains planned. The Office instance is not counted as operational under the present security settings. QSO One is not itself an RF path, but properly configured linked-system connections may terminate on amateur RF nodes and repeaters.

| Capability                  | QSO One desktop role                                            | openSPOT4 Pro role                                            | Phone / iOS role                                                             | Doctrine boundary                                                                             |
|-----------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| AllStarLink                 | Node Mode and WT Mode; software audio, DTMF, search, favorites. | -                                                             | QSO One iOS when released.                                                   | QSO One is software access; a selected node may be RF-linked.                                 |
| EchoLink                    | Direct connection with automatic proxy fallback.                | -                                                             | Native EchoLink iOS app now; QSO One iOS when released.                      | Field phone access exists now without waiting for QSO One iOS.                                |
| DMR                         | BrandMeister and TGIF without hotspot or radio.                 | FT-5DR cross-mode and compact field appliance.                | QSO One iOS when released.                                                   | Keep network and ESSID identity explicit.                                                     |
| System Fusion               | YSF reflectors in software.                                     | FT-5DR/C4FM radio-side profiles and physical-radio operation. | QSO One iOS when released.                                                   | YSF software access is not full Yaesu WIRES-X; linked endpoints may reach RF systems.         |
| M17                         | Reflectors and modules; K6RCS callsign identity.                | -                                                             | MSeven - M17 (M7) iOS app now; QSO One iOS when released.                    | Software access may reach network-linked amateur RF infrastructure.                           |
| IAX Direct                  | Operator-issued host, port, username and secret.                | Not the normal direct-IAX tool.                               | QSO One iOS when released.                                                   | Leave blank without issued credentials.                                                       |
| D-STAR / P25 / NXDN / pager | Outside QSO One current advertised client set.                  | Retained where supported.                                     | No QSO One iOS path assumed.                                                 | Use openSPOT4 Pro for these jobs.                                                             |
| Mobile software role        | Windows desktop. Office ESSID 05; Shack ESSID 04.               | Current compact field/travel appliance.                       | EchoLink and M17 have native iOS paths now; QSO One iOS remains forthcoming. | Use the available client for the intended network; do not treat software access itself as RF. |

#### Identity and configuration baseline

| Setting         | Office Windows                     | Shack Windows                     | Identity note                                                                       |
|-----------------|------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|
| Callsign        | K6RCS                              | K6RCS                             | Licensed callsign identity.                                                         |
| DMR ID          | 3173147                            | 3173147                           | DMR Radio ID.                                                                       |
| DMR ESSID       | 05                                 | 04                                | DMR ESSIDs                                                                          |
| APRS identity   | K6RCS-5 (OS4P location identity)   | K6RCS-10 (APRSIS32)               | APRS SSIDs; separate namespace from DMR ESSIDs.                                     |
| AllStar IAX     | UDP 4569                           | UDP 4569                          | Shared NAT with openSPOT4 Pro does not require another port for an outbound client. |
| AllStar modes   | Node Mode + WT                     | Node Mode + WT                    | Node password differs from website password; WT uses website credentials.           |
| TGIF credential | 16-character user security key     | 16-character user security key    | Not the TGIF website-login password.                                                |
| Audio/PTT       | Office devices / Shokz as selected | Shack devices / Shokz as selected | Local audio device selection.                                                       |

#### Rapid deployment procedure

1. Confirm power and usable internet. Test the intended phone-hotspot path before travel rather than assuming cellular NAT will be charitable.

2. Launch QSO One with the intended identity: Office ESSID 05 or Shack ESSID 04.
3. Confirm microphone, speaker/headset, Windows communications routing, and PTT method.
4. Select the service and a tested favorite. Geography and mission come before novelty.
5. Listen before transmitting; identify as K6RCS and state the network/client context when useful.
6. Release unneeded network links and PTT after use. Leave the shack QSO One and APRSIS32 clients running in their intended monitoring state.
7. After two authentication, audio, or connection failures, move to the alternate service or RF path.
8. Use openSPOT4 Pro when the FT-5DR must be the interface, cross-mode/additional modes are required, or a compact remote appliance is the correct tool.

#### 4.4.2 QSO One Favorite Nodes

AllStar is an established shack system operated through QSO One. EchoLink is consistently monitored. Select the regional node for the current operating area.

#### AllStarLink - Priority A doctrine favorites

★ Team Stone AllStar regional rendezvous: W6EK 51018 through QSO One.

| Region / corridor   | Node   | Callsign / system | Location / system    | Doctrine role                                                                                                               |
|---------------------|--------|-------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Home / GEARS VHF    | 57364  | W6RHC             | Chico / Forest Ranch | 146.850 - / PL 110.9. Primary local GEARS AllStar path; EchoLink W6RHC-R 7818.                                              |
| Home / GEARS UHF    | 56934  | W6RHC             | Chico / Forest Ranch | 440.650 + / PL 110.9. Local AllStar path; WIN 2560 available on request.                                                    |
| WIN System          | 2560   | K6JSI             | WIN System hub       | Direct QSO One favorite or on-request link from GEARS UHF 56934. WIN also publishes IRLP 9100 and EchoLink KA6WIN-L 126012. |
| Sacramento / I-80   | 51018  | W6EK              | Auburn               | Primary Sierra foothills and W6EK net/system anchor.                                                                        |
| Bay Area / Bay-Net  | 55915  | Bay-Net hub       | Bay Area             | Cross-mode Bay-Net hub; DMR TG 31075 is usually bridged here.                                                               |
| Sacramento          | 68377  | K6SAC             | Sacramento           | Capital-region alternative.                                                                                                 |
| Carson Valley       | 54810  | KJ6IX             | Gardnerville         | East side of Tahoe / Carson Valley.                                                                                         |
| Mendocino Coast     | 523620 | AF6MQ             | Point Arena          | Coastal Mendocino destination.                                                                                              |
| Southern Oregon     | 48394  | WB7UZZ            | Grants Pass          | Rogue Valley / I-5.                                                                                                         |
| Oregon Coast        | 2626   | K7GND             | Florence             | Primary Oregon Coast favorite.                                                                                              |
| Seattle             | 2462   | WW7PSR            | Seattle              | Primary Seattle regional repeater node.                                                                                     |
| Olympic Peninsula   | 2411   | AF7DX             | Sequim               | Olympic Peninsula destination.                                                                                              |
| Southern California | 2530   | WD6AWP            | SoCal Hub            | Southern California regional path.                                                                                          |
| Northern Arizona    | 557580 | N6RDS             | Flagstaff / Coconino | Northern Arizona / Grand Canyon corridor.                                                                                   |

#### AllStarLink - Priority B test candidates

| Region / corridor | Node   | Callsign | Location       | Test purpose                                   |
|-------------------|--------|----------|----------------|------------------------------------------------|
| Home / Ridge      | 54736  | W6AJV    | Magalia        | Verify access and system role.                 |
| Home / Valley     | 66250  | KG6TSM   | Chico          | Verify RF backing and stable acceptance.       |
| I-80              | 68395  | KA6SUB   | Gold Run       | I-80 mountain corridor candidate.              |
| Tahoe / I-80      | 42038  | W6YOP    | Truckee        | Truckee destination candidate.                 |
| Nevada            | 66527  | N3BRO    | Reno           | Compare with established Tahoe/SNARS paths.    |
| North Coast       | 519980 | AE6XO    | Gualala        | Coastal Mendocino/Sonoma candidate.            |
| South Bay         | 43157  | NO1PC    | Los Gatos      | South Bay candidate.                           |
| Central Coast     | 58633  | KJ6OGC   | Big Sur        | Big Sur / Highway 1 candidate.                 |
| Kitsap            | 54414  | KJ7JMH   | Port Orchard   | High-value geography; verify before promotion. |
| SoCal             | 2501   | WD6AWP   | Santiago Peak  | Southern California RF-site candidate.         |
| Utah              | 41963  | AF7CV    | Salt Lake City | Wasatch Front candidate.                       |
| Central Utah      | 43335  | K7WWA    | Sterling area  | Central Utah corridor candidate.               |

## EchoLink doctrine favorites

| Favorite | Node   | Geography                   | Doctrine handling                                                                  |
|----------|--------|-----------------------------|------------------------------------------------------------------------------------|
| W6RHC-R  | 7818   | Chico / GEARS               | Primary home-area GEARS EchoLink path; RF anchor 146.850, companion AllStar 57364. |
| W6PAR-R  | 234739 | Paradise / Magalia          | Home-area ridge and family continuity.                                             |
| W6EK-R   | 4128   | Auburn / Sierra Foothills   | Primary W6EK / Sacramento-I-80 digital anchor.                                     |
| K6BER-R  | 750550 | Woodland / Berryessa region | Sacramento Valley and North Bay corridor.                                          |
| K7CAM-R  | 530602 | Winston / Roseburg          | Southern Oregon I-5 haunt.                                                         |
| W6BXN-R  | 424068 | Turlock / Central Valley    | Central Valley southbound corridor.                                                |
| W6CDW-R  | 348987 | Elsinore Peak               | Southern California inland/coastal transition.                                     |
| K6BB-R   | 335272 | Big Bear                    | Big Bear mountain destination; K6BB-R EchoLink 335272.                             |

## YSF / System Fusion favorites

| Favorite              | ID        | Use                            | Doctrine note                                                                                                     |
|-----------------------|-----------|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| WARREA                | YSF 68901 | Primary North State path       | Operator lists South Fork 440.050 +5 and Hatchet 440.075 +5 MHz. Weekly net suspended; keep regional destination. |
| NorCal Repeater Group | YSF 06040 | Sierra / Sacramento / Tahoe    | WIRES-X 43847; W6EK 70cm plus Elk Grove, Galt, Georgetown and Mt. Rose links. Not W6EK 2m room 62545.             |
| SNARS                 | YSF 29961 | Reno / Tahoe / northern Nevada | Also WIRES-X 84619 and BM TG 31328. Schedule: see Section 2.3.                                                    |
| Bay Area              | 00043     | US-BayArea-YSF                 | Established YSF reflector — Bay Area.                                                                             |
| Gold Run / I-80       | 00068     | US-GOLDRUN-CA                  | Established YSF reflector — Gold Run / I-80.                                                                      |
| Sacramento Valley     | 00916     | US-SacValley                   | Established YSF reflector — Sacramento Valley.                                                                    |
| Northern California   | 91800     | US-NorCal                      | Established YSF reflector; distinct from 06040.                                                                   |

QSO One System Fusion means YSF reflector access in software. WIRES-X rooms use a separate network; a documented bridge is required for YSF access to a room. Preserve leading zeroes. Local C4FM RF memories are frequency records and are not automatically YSF reflector endpoints.

Pending favorites: reported YSF 21081 (NorCal Digital), 52951 (PNW Digital) and 02253 (PAPA) were not confirmed in the current directory. Retain as test candidates only. Add FCS001 room 20 as a candidate; do not assume a bridge to YSF 21081. A shared number does not establish a P25, WIRES-X, YSF or DMR link. Confirm with the system operator before transmitting through a bridge.

## M17 favorites

★ Team Stone M17: M17-NCA module A; alternate M17-PNW A. Use QSO One or the M17 Project iOS app.

| Reflector | Module | Role                                      | Doctrine handling                                                 |
|-----------|--------|-------------------------------------------|-------------------------------------------------------------------|
| M17-PNW   | A      | General/default Pacific Northwest calling | Primary PNW favorite.                                             |
| M17-PNW   | C      | Active-monitoring alternative             | Retain as a second favorite; verify current activity/module plan. |
| M17-NCA   | A      | Northern California general/default       | Primary Northern California M17 favorite.                         |

MDARC M17: the operator currently reports service awaiting a repeater software upgrade. Monitor the operator page for restoration; do not list it as dependable RF access. <https://www.mdarc.org/repeater-systems/digital-voice/m17>

## DMR favorites and saved field shortcuts

| Column 1       | Column 2            | Column 3                 | Column 4            |
|----------------|---------------------|--------------------------|---------------------|
| 31068 NorCal   | 31075 Bay-Net       | 31064 Santa Clara County | 31707 Sonoma County |
| 31328 SNARS    | 31062 Mountain West | 31066 SoCal              | 31077 PAPA Chat     |
| 31412 W Oregon | 31531 Olympic       | 31771 PNWR               | 3027 BC-1           |

Home QTH shortcuts, confirmed by the supplied screenshot: read left to right, then down. All twelve are group calls. Auto group call 4000 before shortcut call is enabled. TG 31772 remains a watch/test candidate outside this grid.

## IAX Direct

Leave IAX Direct empty unless a specific server operator issues a hostname or IP address, port, username, and secret. Label each saved endpoint with the operator/system and purpose. Credentials remain in the password manager, not the printed doctrine.

## 4.5 CQutie / openSPOT4 Pro Profiles

★ Team Stone defaults by profile: FCS 2 → FCS002 room 06; DMR 7 → BrandMeister TG 3173147 Group Call; experimental NXDN 8 → 30639 / K6HP, Randall only. Randall and Krista retain their own source identities.

| Profile          | Purpose                         | Typical trigger                            | Operating rule                                                         |
|------------------|---------------------------------|--------------------------------------------|------------------------------------------------------------------------|
| 1 — YSF          | Default Fusion bridge           | Known RF-backed YSF destination            | Home DMR shortcuts may remain as fallback.                             |
| 2 — FCS          | FCS reflector network           | Selected FCS room                          | Use its own room/server selection.                                     |
| 3 — DMR          | Home BrandMeister reference     | Home QTH interest shortcuts                | Use the twelve-button Home screen above.                               |
| 4 — DSTAR        | Reflector and module access     | Selected REF/XRF/DCS/XLX destination       | DN on HT. DMR shortcuts are fallback only.                             |
| 5 — Travel       | RF-backed corridor destinations | Select before departure or corridor change | Keep BayNet and Team Stone group 3173147.                              |
| 6 — Tactical     | Agreed coordination and liaison | Short-duration mission                     | Use tested primary/alternate destinations; public TGs are not private. |
| 7 — Team Stone   | Team contact and continuity     | Agreed team destination                    | Public Team Stone contact: BM TG 3173147, Group Call; test reception.  |
| 8 — Experimental | P25 primarily; NXDN tests       | P25 / NXDN tests                           | Select one connector at a time; verify after switching.                |
| 9 — vita         | Existing user profile           | Retain current configured purpose          | Reserved profile; do not repurpose casually.                           |
| 10 — SharkSrvr   | SharkRF server workflow         | Configured server endpoint                 | Keep endpoint-specific settings.                                       |

Profile numbers above are authoritative. DAPNET/POCSAG remains a planned background function, not an additional numbered profile. FreeDMR, AmComm and TGIF remain separate network configurations; identical TG numbers on different networks do not establish equivalent destinations.

### 4.5.1 DAPNET / POCSAG Pager Layer (Planned)

Status: planned, not yet an active Team Stone operating layer. DAPNET/POCSAG is a low-bandwidth radio-native attention path: it tells the operator to check or switch to the radio stack. It is not private messaging, a conversation layer, or a replacement for direct RF, APRS, Winlink, GMRS family fallback, or plain-language voice.

Account state: DAPNET has associated the Team Stone DMR ID with the subscriber/RIC record, but the exact programmed RIC must be confirmed before pager programming. DAPNET personal username/password and the separate transmitter login/AuthKey are still pending; the openSPOT4 Pro DAPNET connector needs transmitter credentials/AuthKey, not merely the personal user account.

Hardware state: locate the old Motorola POCSAG pager or acquire a compatible pager; verify frequency, baud rate, polarity, and RIC programming before relying on reception. Treat any old commercial pager as untrusted until it is confirmed on the correct amateur paging frequency and address.

Doctrine use: radio summons, net/skeds reminders, check-in prompts, short public H&W alerts, and regional ARES/network familiarity. The likely Team Stone path is internet-backed OS4P passthrough, so its field weight is limited

unless the pager receives a local RF DAPNET transmitter outside the incident area. Keep messages brief, amateur-purpose, public, and non-sensitive.

### 4.5.2 CQutie / openSPOT4 Pro Field Profile Switching

Use saved Quick Call buttons for DMR destinations within a network profile. Change profiles for a different network or mode; edit connectors during setup or troubleshooting. Section 4.4.2 holds the saved twelve-button order.

| Field action                 | Normal method                                                                                                                         | Doctrine handling                                                                                                                                     |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Switch profile               | Use the OS4P web profile selector, device controls, or C4FM DTMF profile commands where configured.                                   | Preferred field action. Profiles should already be named by network, region, and destination.                                                         |
| C4FM profile command pattern | *A to query; *A1 through *A10 to change profile, matching the OS4P profile number where SharkRF default control codes are configured. | Use short, practiced commands only. OS4P reboots on profile change; wait for the device/voice/status confirmation before transmitting into a network. |
| Change DMR destination       | Saved Quick Call for talkgroup changes inside the same BM profile; DTMF route control when validated.                                 | Keep Auto group call 4000 before shortcut call enabled. Change profiles when the network/mode changes, not simply for every regional TG.              |
| Live connector edit          | OS4P web UI connector/profile editor.                                                                                                 | Last resort. Used at base, hotel, or bench, not while driving or in degraded field conditions.                                                        |
| Backup profile               | Same network family only.                                                                                                             | Do not mix BrandMeister primary with FreeDMR, AmComm, TGIF, or unrelated MMDVM backups.                                                               |

### OS4P / CQutie DTMF Quick Reference

These commands assume SharkRF default control codes: special/private command prefix \* and group-call prefix #. If those defaults are changed in the openSPOT4 settings, the local OS4P configuration controls. Use DTMF as a field shortcut for selecting or verifying saved profiles, not as a substitute for building clean profiles before leaving the bench.

| Field action          | FT-5DR / C4FM DTMF | Other OS4P control path                                                                                                      | Doctrine handling                                                                                                                            |
|-----------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Query current profile | *A                 | DMR/NXDN/P25 call ID 9000; D-STAR DTMF A or URCALL .....P                                                                    | Use when unsure which profile is active. Listen for voice announcement before transmitting into a network.                                   |
| Change to profile n   | *A1 through *A10   | DMR/NXDN/P25 9000+n; D-STAR DTMF A followed by the profile number. Use the documented URCALL form for single-digit profiles. | Primary field shortcut for OS4P profile switching. The OS4P reboots on profile change, so wait for the device and voice/status confirmation. |
| Connector status      | *D                 | DMR/NXDN/P25 call ID 9998; D-STAR DTMF D or 0                                                                                | Confirms current connector/link state. Use before assuming DMR/D-STAR/P25/YSF behavior.                                                      |
| IP address query      | *B                 | DMR/NXDN/P25 call ID 9997; D-STAR DTMF B                                                                                     | Hotel/QTH troubleshooting and web UI recovery.                                                                                               |
| Battery status query  | *C                 | DMR/NXDN/P25 call ID 9996; D-STAR DTMF C                                                                                     | Field power sanity check.                                                                                                                    |
| Time query            | *CD                | DMR/NXDN/P25 call ID 9995; D-STAR DTMF CD                                                                                    | Clock/status sanity check; secondary utility, not an operating dependency.                                                                   |

### C4FM Cross-Mode Destination Shortcuts

Use these only inside a cross-mode profile where the OS4P is intentionally routing calls from the FT-5DR into ID-based systems such as DMR. They change the active route/destination; they do not replace the profile itself.

| Field action                 | FT-5DR / C4FM DTMF | Example         | Doctrine handling                                                                                                                                                      |
|------------------------------|--------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Group call / TG route        | # followed by ID   | #31068 or #3100 | Sets the cross-mode route to the requested group/TG when the profile supports it. With Unlink TG/ref. on cross mode DTMF call enabled, OS4P clears the old link first. |
| Private call / private route | * followed by ID   | *9990           | Use for parrot/echo or specific private-ID tests. BM 9990 remains the common parrot test.                                                                              |
| Clear old dynamic DMR link   | * alone            | *               | In Homebrew/MMDVM cross-mode behavior this starts a quick group call to 4000. Use as a cleanup tool before changing DMR destinations.                                  |

| Field action            | FT-5DR / C4FM DTMF | Example | Doctrine handling                                                                                                            |
|-------------------------|--------------------|---------|------------------------------------------------------------------------------------------------------------------------------|
| Answer last incoming TG | # alone            | #       | Sets route to the destination ID of the last incoming network call. Useful only when intentionally answering recent traffic. |

### 4.5.3 Cross-Mode DMR / D-STAR / P25 Rules

| Destination family                                     | FT-5DR mode                                           | openSPOT / CQutie rule                                                                                                                                     |
|--------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| YSF / FCS / native C4FM                                | DN unless destination specifically requires otherwise | C4FM Half Deviation validated on the radio side.                                                                                                           |
| BrandMeister DMR                                       | DN                                                    | Connector protocol Homebrew. Use BM Hotspot Security password, not SharkRF password or BM login password.                                                  |
| FreeDMR / AmComm / TGIF / HamUnited / HBLINK-style DMR | DN                                                    | Use MMDVM or network-specific preset. Keep each network family in its own profile family.                                                                  |
| D-STAR REF/XRF/DCS/XLX                                 | DN                                                    | D-STAR uses reflector/module logic, not DMR talkgroup logic. REF/XRF reflector profiles use local module D; gateway profiles use blank/space local module. |
| P25                                                    | WIDE deviation                                        | ★ Team Stone P25: PAPA Bridge 31078, profile 8. Profile/network setup is already saved; field action is the FT-5DR deviation switch below.                 |

P25 field switch - keep hotspot memory 1 at 433.775 MHz. Hold F MENU -> TX/RX -> 1 MODE -> 2 FM DEVIATION -> WIDE; press PTT to save and exit. After P25 operation, return to the normal half-deviation profile and restore NARROW using the same menu path.

| DMR/cross-mode setting                 | Normal value                                                                       | Why                                                                                                  |
|----------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Route cross mode calls to ID           | Intended TG or private ID, normally 31068 group call for NorCal-style DMR profiles | This is the operative C4FM-to-DMR destination. TG9 routes to TG9; it does not magically mean NorCal. |
| Auto connect to ID                     | 0 while troubleshooting and for most field profiles                                | Avoids sticky/ambiguous dynamic behavior, especially with BrandMeister.                              |
| Unlink TG/ref. on cross mode DTMF call | Enabled                                                                            | Clears old dynamic TG/ref links before switching destinations.                                       |
| Reroute DMR TG9 calls to ID            | 0 unless intentionally using TG9 reflector behavior                                | Prevents accidental TG9 reflector behavior from overriding the intended destination.                 |
| Parrot/echo test                       | BM 9990 private call and local OS4P echo where appropriate                         | Verify RF decode, network auth, and audio path separately.                                           |

### Profile naming standard

| Profile name pattern           | Examples                                                          | Use                                                          |
|--------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------|
| Network - Region - Destination | BM San Jose 31068; FreeDMR SF 31068; AmComm LA 31068; TGIF NorCal | DMR-side networks and regional talkgroups.                   |
| Mode - Reflector/module        | DSTAR REF030C; DSTAR REF014C; DSTAR W6CX C                        | D-STAR reflector/gateway clarity.                            |
| Mode - reflector number/name   | P25 10200 NA; P25 91 WW                                           | P25 profile naming only; field deviation procedure is below. |
| Test / bench                   | Echo Test; Experimental; SharkDVSrvr                              | Do not use as operational default.                           |

## 4.6 DMR / BrandMeister RF Overlay Architecture

Use QSO One for shack digital access and FT-5DR/CQutie for the field. Section 4.4.2 holds the saved shortcuts; the corridor table below groups them by geography. Repeater IDs are separate records and do not establish hotspot talkgroup routes.

DMR ID: 3173147. On BrandMeister, enable Auto group call 4000 before shortcut call. It clears dynamic/auto-static links; manually configured static subscriptions require separate removal. Use private 9990 for parrot where supported.

| CQutie DMR profile        | Primary TGs / systems                                                                           | Operational purpose                                                                                                                                                 |
|---------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Home / NorCal             | 31068 NorCal; 31075 Bay-Net; 31064 Santa Clara County; 31707 Sonoma County; 31062 Mountain West | Home, Bay Area and North Bay conversation; SFRC/MARS/NorCal nets and regional county destinations.                                                                  |
| Tahoe / Reno / Nevada     | 31328 SNARS                                                                                     | Northern Nevada selected by actual trip.                                                                                                                            |
| Oregon / PNW / Olympic    | 31412 Western Oregon; 31771 PNWR; 31531 Olympic Peninsula                                       | Northbound corridor, Kitsap/Puget and ferry geography. Recurring skeds: see Section 2.3.                                                                            |
| Southern California       | 31066 SoCal; 31077 PAPA Chat                                                                    | Southern California regional communities. DMR 31078-to-analog retired July 24, 2026. P25 31078 is a separate route still listed by PAPA; test before relying on it. |
| British Columbia          | 3027 BC-1                                                                                       | Travel destination; main BC mapping updated March 2026.                                                                                                             |
| Interest trial            | 31772 Outdoor Adventure                                                                         | Retain as a watch/test destination at the operator's request. Activity unverified; do not describe as definitively defunct or rely on an old net schedule.          |
| Native DMR reference only | 3106 California; 3132 Nevada; 3141 Oregon; 3153 Washington                                      | BM USA statewide policy excludes cross-mode/non-DMR devices. Not current FT-5DR cross-mode shortcuts.                                                               |
| Utilities                 | 4000 group disconnect; 9990 private parrot                                                      | Network-specific commands; static subscriptions require separate management.                                                                                        |

## DMR operating rule

Select a useful regional group, listen, and confirm the transmit destination. Change profiles when the network or mode changes. Preserve direct voice, APRS/packet and family fallback for their own purposes.

## Digital visibility and discretion

Public contact: BM TG 3173147, Group Call; monitoring is intermittent. Advertising the destination increases discoverability and may attract unwanted calls. It does not grant hotspot access. Use each operator's own source ID; disconnect or change the contact arrangement if nuisance traffic develops.

Treat amateur RF, reflectors, talkgroups and APRS as observable. Callsigns/IDs, destinations, timestamps and any enabled location reports may appear in directories, dashboards or logs. FCS and rare M17 rooms are not private; receive-only listeners and recordings may be invisible. Keep required identification and omit sensitive personal details.

Review location settings separately in the HT, hotspot profile, client and server. For confidentiality, use a suitable private communications service. A password-protected IAX Direct server alone does not establish encrypted transport, and an RF bridge remains publicly receivable.

For deeper background on digital visibility, learning material and equipment comparisons, see <https://randallstone.net/k6rcs/privacy/> and <https://randallstone.net/k6rcs/station/>. The field decisions here remain intentionally compact.

## 4.7 D-STAR / openSPOT Reachable Reflector Records

★ Team Stone D-STAR: REF014 B; alternate REF030 C. Match reflector and module.

CQutie/openSPOT4 Pro can reach D-STAR reflector families through REF/XRF and DCS/XLX connectors. These are hotspot/digital bridge targets, not substitutes for direct RF, APRS, Winlink, or family GMRS layers. Verify the current server list and module before use.

| Server / reflector | Module / family | Region / interest                          | Why it belongs                                                       | Doctrine handling                                                                   |
|--------------------|-----------------|--------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| REF001C            | DPlus / REF     | Worldwide / The Cloud                      | General worldwide D-STAR listening and test target.                  | Baseline D-STAR target; some REF/XRF systems may require valid D-STAR registration. |
| REF030C            | DPlus / REF     | North America / wide-area linked repeaters | High-activity North America reference; common D-STAR hotspot target. | Use as general D-STAR reach test and casual-monitoring target.                      |

| Server / reflector | Module / family        | Region / interest                            | Why it belongs                                                   | Doctrine handling                                                                                                                                                |
|--------------------|------------------------|----------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| XRF757A            | DExtra / XRF           | QuadNet / North America bridge               | Widely used bridge-style D-STAR/DMR reflector family.            | Verify current XRF757 module and bridge routes. QuadNet reports its BrandMeister link was disconnected; do not assume the former BM TG 31012 bridge still works. |
| XLX470             | XLX / DCS-XLX          | Northern California NET TALK / multiprotocol | Regional NorCal multiprotocol D-STAR/YSF/DMR candidate.          | Good regional hotspot target if present in openSPOT list; verify module before adding to profile.                                                                |
| XLX159             | XLX / DCS-XLX          | Olympia / South Sound, WA                    | Destination-side Puget/South Sound multiprotocol reference.      | Useful for Bremerton/Kitsap/PNW doctrine after current-status verification.                                                                                      |
| XLX094             | XLX / DCS-XLX          | UtahDRN / Intermountain West                 | NV/UT/desert-corridor digital haunt candidate.                   | Keep as corridor tertiary target; verify current module and bridge behavior.                                                                                     |
| XLXSAT             | XLX / special interest | AMSAT / satellite operations                 | Special-interest digital target tied to satellite/radio culture. | Monitor/learn target only; verify server/module status before use.                                                                                               |

D-STAR net switching: select profile 4, then the REF/XRF connector. Choose REF014 with module C for Ham Nation or REF029 with module A for Western Digital. Save, confirm the connected server/module, use DN on the FT-5DR, listen, then identify. Use the built-in directory rather than inventing a custom IP address. Restore the normal meeting destination afterward. Schedule source: <https://www.mdarc.org/repeater-systems/digital-voice/d-star>

Kitsap KC7Z: KCARC lists Gold Mountain West 146.620 MHz (–, analog 103.5 Hz) and 442.650 MHz (+, analog 103.5 Hz / DMR CC1); Cheryl Street 444.075 MHz (+, analog 103.5 Hz / DMR CC1). Verify time slot and authorized talkgroups with the operator. A repeater ID is not a hotspot talkgroup. <https://kcarc.org/>

## 5. APRS Messaging and Services

APRS is an everyday Team Stone layer, not an emergency-only novelty. The doctrine is simple: beacon in normal life, message enough to stay competent, watch objects/messages when geography gets complicated, and keep the family map useful without pretending APRS is private.

GPS/location posture: cell phones, radios, and watches normally remain GPS-on/reporting when carried, with manual compasses typically carried on-person as the battery-free orientation layer.

| Callsign-SSID | Role                                   | Normal state          | Doctrine handling                                                                                                                    |
|---------------|----------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| K6RCS-10      | APRSIS32 QTH digipeater                | Always on             | Home-side continuity layer, packet utility, and station awareness anchor.                                                            |
| K6RCS-5       | openSPOT4 Pro / CQutie field appliance | On only when deployed | Hotspot/cross-mode and remote digital appliance. It may remain powered off during routine fixed-site QSO One operation.              |
| K6RCS-7       | FT-5DR HT APRS                         | Always on / carried   | On-body FT-5DR station. When using the openSPOT4 APRS special connector, force APRS SSID 7 so the live radio GPS reports as K6RCS-7. |
| K6RCS         | TM-D700 mobile APRS                    | Whenever driving      | Primary moving station. Corridor doctrine becomes real when the vehicle beacons.                                                     |
| K6RCS-3       | iOS APRS                               | APRS-IS/iOS available | K6RCS-3 identifies iOS APRS; aprs.fi displays reports from multiple station identities.                                              |

| Operating pattern          | How Team Stone uses it                                                                                         | Do / do not                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Routine beaconing          | Keep mobile and HT APRS familiar during normal movement so emergency use is not a first-time event.            | Do beacon with sane rates and useful status. Do not spam or treat APRS as private.                               |
| Family movement            | Use APRS as an orientation layer for where the station is, where it was, and whether the path is still alive.  | Do use aprs.fi/APRSIS32 for awareness. Do not rely on it as the only family coordination method.                 |
| Corridor travel            | Use APRS track, digipeater reach, objects, and messages as an overlay to repeater handoffs and road geography. | Do check whether the path changes across passes/deserts/coast. Do not confuse APRS coverage with voice coverage. |
| Event / trailhead / harbor | Use APRS to keep loose situational awareness without building a fake command structure.                        | Do keep messages short. Do not turn public APRS into a private logistics feed.                                   |

| Operating pattern          | How Team Stone uses it                                                                                        | Do / do not                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| GPS / compass posture      | Use phone, radio, and watch GPS/reporting as a live location layer while keeping manual compass carry normal. | Do keep location reporting useful and intentional. Do not confuse electronic breadcrumbs with navigation skill. |
| Emergency / degraded comms | Use APRS messaging, objects, and position/status as one layer after direct voice and local RF.                | Do keep messages factual and minimal. Do not transmit sensitive details.                                        |

| Service              | Message pattern / use                                                                                                                                              | Team Stone handling                                                                                                                                   |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| CQSRVR               | CQ <GROUP> <MESSAGE>                                                                                                                                               | Use for group callouts when casual APRS reach makes sense. Keep messages brief and non-sensitive.                                                     |
| ANSRVR               | J <GROUP> / U <GROUP> / CQ <GROUP> <MESSAGE>                                                                                                                       | Join only groups that match the operating moment. Leave stale groups instead of accumulating clutter.                                                 |
| WXBOT                | Weather quick pulls                                                                                                                                                | Useful for quick conditions, but verify against NOAA/OTA/weather apps when decisions matter.                                                          |
| EMAIL / EMAIL-2      | Short APRS-to-email and controlled email-to-APRS gateway                                                                                                           | Use EMAIL-2 / javAPRSSrvr EmailGate as the current baseline. Short utility messages only; use shortcuts for trusted targets; no confidential content. |
| SMSGTE               | Legacy SMS gateway; not a dependable path                                                                                                                          | Do not rely on this historical entry without current operator documentation and a successful end-to-end test.                                         |
| WTSAPP               | @+number <msg>; #SET alias +number; #RM alias; @alias <msg>                                                                                                        | Experimental; confirm current operator documentation and end-to-end delivery before use.                                                              |
| APRSLink / WLNK-1    | APRS-to-Winlink gateway workflows                                                                                                                                  | Use for Winlink email over APRS, especially TM-D700/TM-D710-style front-panel workflows. Confirm IGate/message path before relying on it.             |
| Directed queries     | ? one-shot; ?APRS? menu where supported                                                                                                                            | Use for quick station/path/service discovery; avoid noisy repeated queries.                                                                           |
| 9M2PJU-4 bot queries | whereami, whereis CALLSIGN-SSID, distance, bearing, today, tomorrow, wind, riseset, satpass iss, fuel, hospital, pharmacy, police, hotel, aerodrome, train_station | Retain as optional bot query list. Use sparingly. APRS is public.                                                                                     |

| ANSRVR / CQSRVR group family            | Why it belongs                                               | Use note                                                     |
|-----------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|
| NorCal                                  | Home-region APRS awareness and casual operating practice.    | Good default local/regional APRS group.                      |
| PNW / Oregon / Washington               | Northbound travel and Bremerton/Seattle destination context. | Join for the trip, then leave if it becomes stale.           |
| SkyWarn / Weather                       | Weather awareness layer when conditions matter.              | Use with NOAA/OTA/RDS, not instead of them.                  |
| CASAR / CalFire / ARES / RACES / EMCOMM | Emergency-readiness culture and public-service monitoring.   | Listen and learn. Do not self-deploy or imply authority.     |
| POTA / SOTA / Kayak / EUC               | Activity-based operating that keeps radio practice alive.    | Use because everyday operating creates emergency competence. |
| C4FM / PACKET / SATOPS                  | Mode-specific experimentation and skills maintenance.        | Good practice lane for digital/radio skills.                 |
| Nevada / Utah                           | NV/UT/Las Vegas corridor and destination layer.              | Use when the route/region makes it relevant.                 |

| ANSVR / CQSVR group family | Why it belongs                                            | Use note                                                                          |
|----------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|
| TeamStone                  | Family/team experimental group name retained in doctrine. | Family group label only. APRS traffic is public; group naming creates no privacy. |

| APRS field habit | Checklist                                                                                                         |
|------------------|-------------------------------------------------------------------------------------------------------------------|
| Before leaving   | Confirm correct SSID/station, beaoning, GPS lock, path, symbol, and whether the map shows a believable track.     |
| While moving     | Watch whether beacons are actually heard and gated. Note dead zones, digipeater gaps, and terrain-caused changes. |
| When messaging   | Use short tactical language. No client data, no private family-sensitive details, no over-sharing exact plans.    |
| After arrival    | Confirm last packet/track, update status if useful, and restore the intended default beaoning behavior.           |

## 5.1 APRS / NWS Weather Object Watch List

Field rule: Monitor the NWS Weather Forecast Office prefixes that match Team Stone haunts. Treat these as situational-awareness objects. If retransmitting or repeating bulletins over RF, preserve the source office, product type, issue time, and wording; do not rewrite weather warnings as local authority.

How to read the APRS/NWS weather filters: use the NWS Weather Forecast Office code as the prefix. Example: Sacramento is STO, so Severe Thunderstorm Warning products are watched as STOSVR\*. These are receive-side software filters for APRS/NWS text products. They are not radio commands, transmit instructions, or privacy tones.

### High-priority APRS/NWS product families to watch or alarm:

| Plain-English weather family  | Code | Sacramento/STO example | Field use                                                                               |
|-------------------------------|------|------------------------|-----------------------------------------------------------------------------------------|
| Severe Thunderstorm Warning   | SVR  | STOSVR*                | Highlight/alarm when storms are active near route or destination.                       |
| Tornado Warning               | TOR  | STOTOR*                | High-priority alarm; verify immediately with NOAA/NWS/app sources.                      |
| Flash Flood Warning           | FFW  | STOFFW*                | High-priority route/travel alarm for drainages, canyons, burn scars, and desert travel. |
| Flood Warning                 | FLW  | STOFLW*                | Route and river/creek awareness; usually slower-moving than flash flood products.       |
| Flash Flood Watch             | FFA  | STOFFA*                | Pre-trip and situational-awareness watch when terrain/weather makes it relevant.        |
| Special Weather Statement     | SPS  | STOSPS*                | Useful context product; read before treating it as urgent.                              |
| Winter Storm / Winter Weather | WSW  | STOWSW*                | Pass, ski, and mountain-travel watch/alarm family.                                      |

| Haunt / route                                           | NWS WFO | Base office filter     | Doctrine use                                    |
|---------------------------------------------------------|---------|------------------------|-------------------------------------------------|
| Home / Sacramento Valley / Chico / Auburn / Placerville | STO     | STO* base office watch | Local always-on watch; Sacramento WFO.          |
| San Jose / Bay Area / Monterey / Santa Cruz             | MTR     | MTR* base office watch | Bay Area, Monterey Bay, Santa Cruz haunt layer. |
| Fort Bragg / Mendocino Coast / Eureka corridor          | EKA     | EKA* base office watch | North Coast and Mendocino travel layer.         |
| Mount Shasta / Siskiyou / Southern Oregon edge          | MFR     | MFR* base office watch | Far NorCal and Medford-border weather layer.    |
| Newport / Salem / Portland / north Oregon Coast         | PQR     | PQR* base office watch | Oregon coast and Willamette Valley I-5 layer.   |
| Bend / Eastern Oregon side-corridor / W7JVO-R           | PDT     | PDT* base office watch | Central/eastern Oregon side-corridor watch.     |

## 5.2 Winlink / Packet Access Set

| Access family          | Memories | Frequencies                                     | Team Stone use                                                                                          |
|------------------------|----------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| ★ Local default        | 354      | 145.630 MHz simplex                             | KF6OBI machines, Willows. KF6OBI-10 local Winlink gateway; select the supported packet/VARA FM session. |
| Primary VHF packet set | 348-352  | 145.070 / 145.050 / 145.090 / 145.030 / 145.010 | Common 1200-baud client-side access set.                                                                |
| Other VHF channels     | 353-355  | 145.560 / 145.630 / 145.690                     | Additional channels by destination; 145.630 is also the local KF6OBI default above.                     |
| UHF packet alternates  | 356-359  | 440.975 / 441.000 / 445.925 / 442.000           | Urban/UHF fallback where available.                                                                     |
| Legacy / fallback      | 347      | 144.910                                         | Legacy packet/Winlink fallback.                                                                         |

## 5.3 APRS Email and Pager Bridge Reference

APRS email is a small utility bridge, not private mail and not a replacement for Winlink, voice, satellite SOS, or family messaging. Use these two documented service paths after an end-to-end test: EMAIL-2 / javAPRSSrvr EmailGate for short APRS-email gateway messages, and APRSLink / WLNK-1 for Winlink email through APRS. DAPNET/POCSAG may use this layer as an upstream trigger or alert source, but the pager payload remains short, public, and radio-operational.

| Bridge / service            | Direction                                | Field syntax / setup                                                                                                                                                                   | Team Stone handling                                                                                                                                   |
|-----------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMAIL-2 one-line email      | APRS -> Internet email                   | Send numbered APRS message to EMAIL-2: address@example.com short text. One line only; use ack-capable messaging.                                                                       | Best quick outside-email bridge from an APRS radio/client. Keep it short and non-sensitive. Do not use blind automation.                              |
| EMAIL-2 shortcut            | APRS -> saved email target               | Send to EMAIL-2: shortcut address@example.com. Use shortcut text later as the first word of the APRS message.                                                                          | Good for approved family/radio-service targets where typing a full email address from the radio is impractical.                                       |
| EMAIL-2 email-to-APRS       | Internet email -> APRS message           | First create a shortcut from APRS. Sender must match the stored email address. Email subject starts CALLSIGN-SSID:message. Body contains userid:shortcut: with no spaces in the token. | Most current controlled email-to-APRS path. Use for trusted senders/automation only; public, non-sensitive, and short.                                |
| EMAIL-2 cached messages     | Internet email -> delayed APRS retrieval | If not acked, EMAIL-2 may cache. Retrieve by sending get to EMAIL-2 or using ?APRSM.                                                                                                   | Useful when station is intermittently reachable. Treat as convenience, not guaranteed delivery.                                                       |
| APRSLink / WLNK-1           | APRS <-> Winlink email                   | Send APRS messages to WLNK-1. SMS address/call message sends one short message. SP address subject starts a composed message; finish with /EX.                                         | Best Winlink/APRS bridge, especially for TM-D700/TM-D710-style front-panel operation. Requires Winlink account/login behavior and an APRS path/IGate. |
| Winlink pending-mail notice | Winlink -> APRS alert                    | Add WINLINK in APRS position comment/status where appropriate; APRSLink can notify of pending Winlink mail.                                                                            | Useful as a low-noise radio-mail alert. Do not turn every inbox event into APRS noise.                                                                |
| DAPNET / POCSAG bridge use  | APRS/email/Winlink -> pager alert        | Use a controlled sender or automation to create a short radio-purpose alert, then send pager-safe text through the DAPNET path.                                                        | Bridge concept: email/APRS/Winlink can trigger the pager, but POCSAG remains an attention layer, not a conversation layer.                            |

| Rule                  | Doctrine handling                                                                                                                                                   |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No privacy assumption | APRS, EMAIL-2, APRSLink, and DAPNET are public/observable amateur-radio style layers. No client, tax, medical, intimate family, financial, or confidential content. |
| No blind bot spam     | EMAIL/EMAIL-2 is interactive and ack/status dependent. Automated stations sending emails blindly risk being blocked and clutter the RF path.                        |
| Short templates win   | Approved payloads should look like: GEARS net T-10. Monitor 146.850. / Check APRS path. / Winlink check. / Switch 147.510 simplex. Short, useful, and durable.      |

| Rule                 | Doctrine handling                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Best Team Stone path | For email-to-APRS: EMAIL-2 shortcut + whitelisted sender + exact subject/body format. For radio email: APRSLink/WLNK-1. For pager: translate only the alert into DAPNET/POCSAG. |
| Test before travel   | Create one K6RCS test shortcut, send an APRS-to-email message, send an email-to-APRS message, confirm acks/status, then decide whether it earns binder-card status.             |

## 6. Marine Operations

Marine operation is retained as a travel and harbor-awareness layer. Channel use must follow legal context, vessel station/handheld limitations, and local harbor or VTS instructions. Team Stone's default marine working channel is Ch. 69 for small-craft and kayak coordination where lawful and locally appropriate. Use Ch. 16 for distress, safety, and calling, and Ch. 9 for brief recreational calling/connects where appropriate; move working traffic off calling channels.

| Channel / family                              | Primary role                                           | Team Stone handling                                                                                                                                                                          |
|-----------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16                                            | Distress, safety, and calling                          | Monitor/call when legally appropriate. Do not use for routine working traffic.                                                                                                               |
| 13                                            | Bridge-to-bridge / navigation safety                   | Ship stations auto-reduce to 1 W where applicable. Handheld use only when legally and technically appropriate.                                                                               |
| 12 / 14                                       | Harbor, inland waterways, and VTS contexts             | Use only when local harbor/VTS practice supports it. Verify area rules before transmitting.                                                                                                  |
| 9                                             | Common recreational calling in many areas              | Useful small-craft awareness channel; still secondary to local harbor instructions and Ch 16.                                                                                                |
| 69                                            | Team Stone marine working default                      | Default working channel for small craft and kayak coordination where lawful and locally appropriate. Monitor Ch 16 and Ch 9 for distress/calling/brief connects; move working traffic to 69. |
| 22A / 1022                                    | Coast Guard liaison and safety broadcasts              | 157.100 MHz simplex. Use for Coast Guard-directed liaison; broadcasts are announced on Ch 16.                                                                                                |
| 67                                            | Regional charter/fleet or bridge working in some areas | Region-dependent. Treat as local practice, not a universal Team Stone channel.                                                                                                               |
| 68 / 71 / 72 / 78A                            | Secondary small-craft and Bay/harbor working set       | Retain as working-channel awareness. Ch 69 is Team Stone's default small-craft/kayak working channel where lawful and appropriate.                                                           |
| Newport / Yaquina Bay / Port of Newport South | Local harbor movement and contact layer                | Marine Ch 12 reference; Ch 16 remains distress/calling.                                                                                                                                      |

### 6.1 Destination Marine / Weather Watch References

| Area / haunt                   | Working-channel posture                                                                                        | Weather / public-info reference                                                                                                    | Use note                                                                     |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Team Stone small craft / kayak | Marine Ch. 69 default working channel; Ch. 16 distress/calling and Ch. 9 brief connect/calling as appropriate. | NOAA/NWR, local harbor authority, weather apps, and satellite-capable cellphone emergency path when terrestrial service is absent. | Treat marine VHF as legal marine-context only, not family land-mobile radio. |
| Monterey Bay / Santa Cruz      | Verify current harbor working channel by harbor authority; Ch. 16 distress/calling.                            | NWR Monterey Marine WWF64 162.450 MHz; KEC49 162.550 MHz.                                                                          | Coastal destination weather and harbor awareness.                            |

| Area / haunt                                     | Working-channel posture                                                                                                                                                              | Weather / public-info reference                                                                                      | Use note                                                                                                                                         |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| San Francisco Bay / SFO                          | Use local VTS/harbor traffic channel by area; Ch. 16 distress/calling; Ch. 13 bridge-to-bridge where appropriate.                                                                    | Bay Area NWR and local marine forecasts; verify current transmitter before travel.                                   | SFO/Bay harbor, ferry, bridge, and coastal transit awareness layer.                                                                              |
| Puget Sound / Kitsap / Bremerton                 | Use local VTS/harbor traffic channel by area; Ch. 16 distress/calling.                                                                                                               | Puget Sound Marine WWG24 162.425 MHz; Seattle KHB60 162.550 MHz.                                                     | Kitsap/Bremerton coastal destination layer. Treat VTS/harbor traffic as working-channel awareness.                                               |
| Lake Tahoe - South Shore                         | Use lake, marina, and agency channels only where legal/posted; do not treat marine VHF as routine land mobile.                                                                       | NWS Reno/Tahoe forecasts and local weather-radio/app checks before travel.                                           | South-shore lake, marina, ski-pass, and weather-awareness layer.                                                                                 |
| Newport / Yaquina Bay, OR                        | Marine Ch. 12 harbor movement; Ch. 16 distress/calling.                                                                                                                              | NWR Newport KIH33 162.550 MHz.                                                                                       | Harbor movement and coastal weather. Port/harbormaster contact layer only.                                                                       |
| Lake Tahoe - North Shore / Truckee               | Use lake, marina, and agency channels only where legal/posted; do not treat marine VHF as routine land mobile.                                                                       | NWS Reno/Tahoe forecasts and local weather-radio/app checks before travel.                                           | North-shore, Truckee, and pass-weather destination-awareness layer.                                                                              |
| Sea of Cortez / San Felipe                       | Marine VHF only under Mexico/boating context; Ch. 16 distress/calling; local port/marina instructions govern. No GMRS radios, including glovebox handhelds, are brought into Mexico. | Official/local Mexico marine weather, Windy, NOAA/open forecasts, and marina/harbor notices before launch.           | Baja and Sea of Cortez travel layer. GMRS is not a Mexico operating path; no GMRS radios, including glovebox handhelds, are brought into Mexico. |
| British Columbia / Vancouver / Victoria / Island | Follow Canadian Coast Guard/VTS area channels; Ch. 16 distress/calling.                                                                                                              | Weatheradio/Hello Weather ended March 2026. Use WeatherCAN/weather.gc.ca and Canadian Coast Guard marine broadcasts. | BC coastal, ferry, island, and border-travel awareness layer. Canadian marine rules apply.                                                       |

## 7. Corridor and Destination Doctrine

Corridor doctrine is memory-driven and geography-first. Northbound and Southbound handoff tables are kept together as one travel-corridor section so the operating sequence can be compared, corrected, and used without hunting across the binder. Destination, packet, and mode-reference appendices follow after the corridor tables.

| Corridor / destination | Handling                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| South Corridor         | Distinct bank and waypoint order, now split for doctrine use into Southern Inland and Southern Coastal legs. Harris Ranch / Coalinga remains the Central Valley rest/overnight anchor; Pinecrest and Kings Canyon remain inland mountain/PCT-adjacent layers. CARLA is amateur-only. Add only true GMRS fill repeaters where they materially improve handoff coverage. |

| Corridor / destination             | Handling                                                                                                                                                                                                                                 |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCT                                | Separate parallel reference layer. Do not treat as South Corridor.                                                                                                                                                                       |
| Tahoe / Reno                       | Separate operating regions. Exclude memories 888-890 entirely from doctrine tables and segment lists.                                                                                                                                    |
| PNW / Oregon / Bremerton / Seattle | Retain I-5/Oregon/PNW, Bremerton/Kitsap, Seattle Metro, and Seattle Ski Pass as distinct destination layers.                                                                                                                             |
| Mexico / Baja                      | Retain legal caution, marine awareness, Starlink/travel internet support, and border/corridor operational posture. GMRS is not part of the Mexico operating plan. No GMRS radios, including glovebox handhelds, are brought into Mexico. |
| Southern Inland leg                | Mt Oso / Coalinga / Pinecrest / Kings Canyon / Breckenridge / Frazier / Keller / Palm Springs / Superstition / Imperial Valley. This is the desert, I-5/99, I-10, Imperial Valley, and border approach logic.                            |
| Southern Coastal leg               | Mt Wilson / Oat Mountain / Santiago Peak / Palomar / Otay / Soledad / Black Mountain PAPA / coastal San Diego and Baja-reference logic. U.S.-side use and legal authority remain mandatory.                                              |

## 8. Travel Compliance While Driving

Regional travel compliance is maintained in the Travel Compliance While Driving section and in the destination/corridor notes. The operating principle is simple: receive and monitor where lawful; transmit only where licensed, authorized, and appropriate; do not confuse technical capability with legal authority.

| Compliance control                   | Doctrine handling                                                                                                                                                                                                                                                  |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memory programming                   | Use monitor-only, bandwidth/mode, and TX constraints to prevent field mistakes.                                                                                                                                                                                    |
| Jurisdiction changes                 | Switch corridor bank and compliance posture at state, province, country, and service-boundary changes.                                                                                                                                                             |
| FT-5DR / BTECH / TM-D700 differences | FT-5DR, BTECH and TM-D700: verify transmit and receive tone settings independently. The TM-D700 supports DCS receive squelch and DCS code identification; the prior statement that it cannot filter DCS was incorrect. See Kenwood TM-D700 manual, chapters 10–11. |
| Canada / Mexico                      | Treat foreign operation as a separate legal posture. Do not assume U.S. amateur, GMRS, marine, scanner, or mobile-radio habits carry across borders. For Mexico/Baja travel, no GMRS radios, including glovebox handhelds, are brought across the border.          |
| California                           | CVC §§ 23123 and 23123.5. Use hands-free / safe-driving posture; keep controls mounted/managed and manipulation minimal. Amateur, GMRS, broadcast, and scan operations remain secondary to driving.                                                                |
| Oregon                               | ORS 811.507(4)(e). Licensed amateur radio operator affirmative defense while operating amateur radio; keep license copy accessible and driver-first facts clean.                                                                                                   |
| Washington                           | RCW 46.61.672(5)(b). Personal electronic device definition excludes two-way radio, citizens band radio, and amateur radio equipment.                                                                                                                               |
| Nevada                               | NRS 484B.165(2)(e). FCC-licensed amateur radio operator exemption for actual/impending emergency, disaster communications, public information, drills, tests, or exercises.                                                                                        |
| Utah                                 | Utah Code § 41-6a-1716. Wireless communication device definition excludes two-way radio devices under 47 CFR Parts 90, 95, or 97, or functional equivalent.                                                                                                        |
| Idaho                                | Idaho Code § 49-1401A. Distracted-driving/mobile-electronic-device law excludes citizens band and amateur radio service devices; maintain safe, minimal-manipulation posture.                                                                                      |
| Arizona                              | A.R.S. § 28-914(C)(2), (I)(1)(b). FCC-licensed operator radio-frequency device exception; portable wireless device definition excludes amateur/ham radio device.                                                                                                   |
| Canada / British Columbia            | B.C. Motor Vehicle Act, R.S.B.C. 1996 c.318, Part 3.1; B.C. Reg. 308/2009 ss. 3 and 9. Hand microphone use allowed only when within easy reach and securely fixed/worn; no Class 7/7L exception.                                                                   |
| Mexico / Baja / Sonora               | No GMRS operation and no GMRS radios across the border. Treat amateur, marine, scanner/broadcast, and internet use as separate legal questions; carry verified Mexican authorization/operating documents rather than a U.S. code citation.                         |

| Compliance control               | Doctrine handling                                                                                                                                                                        |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| California / in-state mobile use | CVC §§ 23123 and 23123.5. Operate under normal amateur/GMRS/marine/public-safety receive rules and avoid distracted-driving behavior. Use mounted/managed controls; driver drives first. |
| Oregon mobile-radio law          | ORS 811.507(4)(e). Licensed amateur radio affirmative defense while operating amateur radio; avoid extending the citation beyond the actual exemption and safe-driving facts.            |
| Washington mobile-radio law      | RCW 46.61.672(5)(b). Two-way radio, CB, and amateur radio equipment are excluded from the personal electronic device definition; keep operation plainly radio-related.                   |
| British Columbia / Canada        | B.C. Motor Vehicle Act Part 3.1; B.C. Reg. 308/2009 ss. 3 and 9. Canadian amateur, GMRS/FRS, marine, scanner, and mobile-use rules differ from U.S. defaults; verify before travel.      |
| Marine jurisdiction changes      | Use marine radio only within the proper service context. Ch. 16 is distress/calling; harbor/VTS channels are working channels, not family chat.                                          |
| Scanner / receive-only posture   | Public-safety and aviation/marine receive entries are awareness layers only. Do not transmit outside authorized services and bands.                                                      |

## Appendix C - iOS Field Kit and Radio Utility Stack

The iPhone is part of the field station. Keep discovery, logging, propagation, network access, written traffic, location, and decoding tools available, and distinguish offline-capable tools from Internet-dependent ones. QSO One iOS remains forthcoming; native EchoLink and MSeven are available now.

| iOS Field Kit App              | Field role                                                                                                                      | Dependency                                |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| QSO One (iOS - forthcoming)    | Planned iOS client for AllStarLink, EchoLink, DMR, System Fusion/YSF, M17, and IAX Direct. Not yet counted as operational.      | Internet                                  |
| HamLog                         | Field logger and toolbox: band plans, grid/bearing, wavelength, WWV propagation, DX, DTMF, UTC, and portable references.        | Mixed; many tools local                   |
| RepeaterBook                   | Amateur repeater directory with downloadable local database and nearby/GPS search; useful offline after update.                 | Offline-capable                           |
| myGMRS                         | GMRS repeater and callsign directory for route/destination discovery; verify owner terms and current status.                    | Internet                                  |
| WiresApps                      | Refresh the Yaesu node database with Update Database, locate a WIRES-X node, then make the RF connection with the FT-5DR.       | Internet to refresh; local list afterward |
| MSeven - M17 (M7)              | Native iOS M17 reflector client; station activity, mapping, notes, audio/CarPlay, and optional supported 9600-baud KISS/TNC RF. | Internet; optional RF interface           |
| EchoLink                       | Native iOS EchoLink access to licensed amateur stations and repeaters.                                                          | Internet                                  |
| BrandMeister HoseLine (Safari) | Receive-only BrandMeister DMR audio/activity for discovery, monitoring, and network-side troubleshooting.                       | Internet / receive only                   |

| iOS Field Kit App | Field role                                                                          | Dependency                             |
|-------------------|-------------------------------------------------------------------------------------|----------------------------------------|
| APRS.fi           | APRS map, station history, and status awareness; use with location privacy in mind. | Internet                               |
| RadioMail         | Winlink email workflow from iOS where configured and supported.                     | Internet / radio path depends on setup |
| WSPR Watch        | WSPR and propagation activity; evidence for what the bands are actually doing.      | Internet                               |
| iDX               | DX spotting, logging, and reference.                                                | Internet                               |
| SSTV              | SSTV receive/decode and image-mode utility.                                         | Local / audio                          |
| PSK31 Pad         | PSK31 field-mode utility.                                                           | Local / audio                          |
| Packet            | Packet workflow utility.                                                            | Local / interface dependent            |
| Morse Pad         | CW decoder and scratch-pad utility.                                                 | Local                                  |
| Koch Trainer      | CW copy training.                                                                   | Local                                  |
| Morse Key         | CW sending practice.                                                                | Local                                  |
| Maidenhead        | Grid locator utility.                                                               | Local / GPS                            |

## Appendix D - Full Q-Code Table (QRA-QUZ)

| Q-Code | Question                                    | Answer / meaning                         |
|--------|---------------------------------------------|------------------------------------------|
| QRA    | What is the name/call sign of your station? | The name/call sign of my station is ...  |
| QRB    | How far are you from my station?            | The distance between our stations is ... |
| QRG    | Will you tell me my exact frequency?        | Your exact frequency is ...              |
| QRH    | Does my frequency vary?                     | Your frequency varies.                   |
| QRI    | How is the tone of my transmission?         | Tone quality report.                     |
| QRK    | What is readability?                        | Readability 1 to 5.                      |
| QRL    | Are you busy?                               | I am busy; do not interfere.             |
| QRM    | Do you have interference?                   | I have interference.                     |
| QRN    | Are you troubled by static?                 | I am troubled by static.                 |
| QRO    | Increase power?                             | Please increase transmit power.          |
| QRP    | Decrease power?                             | Please decrease transmit power.          |
| QRQ    | Send faster?                                | Please send faster.                      |
| QRS    | Send slower?                                | Please send more slowly.                 |
| QRT    | Cease operation?                            | I am suspending operation.               |
| QRU    | Have you anything for me?                   | I have nothing for you.                  |
| QRV    | Are you ready?                              | I am ready.                              |
| QRX    | When will you call again?                   | I will call again at ...                 |
| QRZ    | Who is calling me?                          | You are being called by ...              |
| QSA    | Signal strength?                            | Signal strength is ...                   |
| QSB    | Are my signals fading?                      | Your signals are fading.                 |
| QSL    | Can you acknowledge receipt?                | I acknowledge receipt.                   |
| QSO    | Can you communicate with ...?               | I can communicate with ...               |
| QSP    | Will you relay?                             | I will relay.                            |

| Q-Code | Question                      | Answer / meaning                         |
|--------|-------------------------------|------------------------------------------|
| QSY    | Change frequency?             | Change to ... frequency.                 |
| QTH    | What is your position?        | My position is ...                       |
| QTR    | Correct time?                 | The correct time is ...                  |
| QTU    | What hours are you operating? | I am operating from ... to ...           |
| QTX    | Keep station open?            | I will keep station open.                |
| QUA    | News of ...?                  | Here is news of ...                      |
| QUD    | Urgent signal received?       | I have received urgent signal from ...   |
| QUF    | Distress signal received?     | I have received distress signal from ... |
| QUZ    | Resume normal working?        | Resume normal working.                   |

## Appendix E - Bandwidth and Wide/Narrow Rules

| Service / band | Rule                                                                                                                                                                    |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GMRS / FRS     | Use certified channel presets. GMRS authorized bandwidth: 20 kHz on main and 462 MHz interstitial channels; 12.5 kHz on 467 MHz interstitials (Ch 8-14). FRS: 12.5 kHz. |
| MURS           | Channel-specific occupied bandwidth. 151 MHz MURS channels are narrow; 154.570/154.600 are wide-capable.                                                                |
| Airband        | AM receive-only in Team Stone doctrine.                                                                                                                                 |
| Marine VHF     | Marine channel plan and legal operating rules control. Use the official channel set; do not invent A-side assumptions.                                                  |

## Appendix F - Public Safety / Fire, National Parks / Forest, and Broadcast Scan Layer

| Memory / family                                                       | What it covers                                                                                                                                                                  | Doctrine handling                                                                                                                                                            |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 847-873 public safety / fire scan block                               | CIC Fire, CalFire, Enloe, Butte EMS, CIC Medics, Paradise Fire, SAR, CHP, and air/road awareness references                                                                     | Receive/awareness layer only. Fire country, medical aviation, SAR, CHP road context, and local emergency awareness. Current detail is retained below from the FT-5DR export. |
| CHP Mobile / CIC                                                      | CHP mobile and Chico-area CHP references                                                                                                                                        | Receive/road awareness where lawful.                                                                                                                                         |
| NOAA / aviation weather                                               | NOAA and airport weather references                                                                                                                                             | Weather and travel planning layer.                                                                                                                                           |
| SiriusXM                                                              | Team Stone vehicles subscription layer                                                                                                                                          | Additional broadcast/audio information layer, especially travel and road conditions.                                                                                         |
| FT-5DR WX Alert                                                       | Weather Alert enabled in settings on local NOAA frequency                                                                                                                       | Passive local weather-alert layer; active NOAA/weather scanning still required when traveling outside local NOAA coverage.                                                   |
| Honda 2026 ARRL Repeater Directory                                    | Paper/offline repeater reference in the Honda                                                                                                                                   | Backup reference and field-verification supplement. Memory file and current verified sources remain authoritative.                                                           |
| 616-664 plus shared 854/855/860/861/863 National Parks / Forest block | Lassen, Whiskeytown, Shasta, Plumas, Mendocino, Sierra, El Dorado, Tahoe, Olympic, Rainier, North Cascades, Arches, Canyonlands, Natural Bridges, CalFire/SAR shared references | Receive/awareness and destination support. Keep legal/service separation clear; this is not an amateur or family transmit layer.                                             |

## Public Safety / Fire - Current Memory Detail

Current receive/awareness records from the FT-5DR memory export. These are not amateur channels and are not a transmit plan.

| Ch  | Name                                                  | RX MHz    | Mode | Tone / code |
|-----|-------------------------------------------------------|-----------|------|-------------|
| 847 | CIC Fire Dept                                         | 453.75000 | FM   | PL 131.8    |
| 848 | CIC Fire Dept II                                      | 154.90500 | FM   | PL 131.8    |
| 849 | CIC Fire Yellow                                       | 453.55000 | FM   | PL 173.8    |
| 850 | CIC Fire Blue                                         | 458.75000 | FM   | PL 131.8    |
| 851 | CIC Fire White                                        | 154.28000 | FM   | PL 131.8    |
| 852 | CIC Fire Extendr                                      | 153.83000 | FM   | PL 100.0    |
| 853 | CalFire County                                        | 154.19000 | FM   | PL 100.0    |
| 854 | CalFire                                               | 151.40000 | FM   | PL 110.9    |
| 855 | CalFire ICS                                           | 154.41500 | FM   | PL 123.0    |
| 856 | Enloe                                                 | 463.02500 | FM   | PL 141.3    |
| 857 | Butte EMS                                             | 453.82500 | FM   | PL 162.2    |
| 858 | CIC Medics                                            | 155.34000 | FM   | PL 100.0    |
| 859 | Paradise Fire                                         | 153.95000 | FM   | PL 100.0    |
| 860 | SAR                                                   | 155.94000 | FM   | PL 100.0    |
| 861 | Natl SAR                                              | 155.16000 | FM   | PL 127.3    |
| 863 | Flight Follow                                         | 168.65000 | FM   | PL 110.9    |
| 864 | CHP A-G 2                                             | 45.86000  | AM   | PL 100.0    |
| 865 | CHP A-A A-G                                           | 122.87500 | AM   | None        |
| 866 | CHP Low Air                                           | 122.75000 | AM   | None        |
| 867 | CHP Ivory A-G                                         | 45.02000  | AM   | PL 100.0    |
| 868 | CHP Air Blue                                          | 42.34000  | AM   | PL 100.0    |
| 869 | CHP Truckee                                           | 45.60000  | FM   | PL 173.8    |
| 870 | CHP Ukiah                                             | 42.56000  | FM   | PL 107.2    |
| 871 | CHP Sac                                               | 44.66000  | FM   | PL 167.9    |
| 872 | CHP Mobile                                            | 45.36000  | FM   | PL 167.9    |
| 873 | CHP CIC                                               | 44.70000  | FM   | PL 136.5    |
| A-G | AirGuard (National Air Guard; receive/reference only) | 168.62500 | FM   | PL 110.9    |

## National Parks / Forest - Current Memory Detail

Current parks, forest, SAR, and shared fire-awareness records from the FT-5DR export. Treat as a receive/destination-awareness layer unless separately authorized.

| Ch  | Name             | RX MHz    | Mode | Tone / code |
|-----|------------------|-----------|------|-------------|
| 616 | LVNP             | 168.61250 | FM   | PL 110.9    |
| 617 | LVNP 2           | 163.71250 | FM   | PL 110.9    |
| 618 | LVNP Peak        | 170.07500 | FM   | PL 103.5    |
| 619 | LVNP Table Mtn   | 172.46250 | FM   | PL 110.9    |
| 620 | LVNP W Prospect  | 172.43750 | FM   | PL 110.9    |
| 621 | LVNP Mt Harkness | 169.78750 | FM   | PL 110.9    |
| 622 | LVNP Turner Mtn  | 169.81250 | FM   | PL 110.9    |
| 623 | LVNP Tac         | 168.35000 | FM   | PL 110.9    |
| 624 | LVNP Tac 2       | 163.10000 | FM   | PL 110.9    |
| 625 | Lassen Nat'l Fst | 172.22500 | FM   | PL 100.0    |
| 626 | Lassen Forest Ne | 173.18750 | FM   | PL 100.0    |
| 627 | Lassen Admin     | 171.47500 | FM   | PL 131.8    |
| 628 | Lassen Service   | 164.10000 | FM   | PL 114.8    |
| 629 | Whiskeytown      | 172.47500 | FM   | PL 131.8    |
| 630 | Whiskeytown Ops  | 165.31250 | FM   | PL 131.8    |

| Ch  | Name                                                  | RX MHz    | Mode | Tone / code |
|-----|-------------------------------------------------------|-----------|------|-------------|
| 631 | Whiskeytown Tac                                       | 168.35000 | FM   | PL 131.8    |
| 632 | Shasta Forest                                         | 171.57500 | FM   | PL 100.0    |
| 633 | Shasta Service                                        | 171.50000 | FM   | PL 136.5    |
| 634 | Shasta Lake                                           | 167.72500 | FM   | PL 167.9    |
| 635 | Shasta McCloud                                        | 166.98750 | FM   | PL 167.9    |
| 636 | Plumas Nat'l Fst                                      | 170.55000 | FM   | PL 100.0    |
| 637 | Plumas Admin                                          | 171.42500 | FM   | PL 100.0    |
| 638 | Plumas Service                                        | 171.50000 | FM   | PL 100.0    |
| 639 | Mendocino Nat'l                                       | 169.97500 | FM   | PL 110.9    |
| 640 | Mendo Fire Net                                        | 171.55000 | FM   | PL 100.0    |
| 641 | Mendo Service                                         | 172.40000 | FM   | PL 110.9    |
| 642 | Sierra Fire Net                                       | 172.22500 | FM   | PL 110.9    |
| 643 | Sierra Admin                                          | 171.47500 | FM   | PL 110.9    |
| 644 | Sierra Service                                        | 173.76250 | FM   | PL 110.9    |
| 645 | El Dorado Forest                                      | 171.52500 | FM   | PL 156.7    |
| 646 | El Dorado Admin                                       | 172.32500 | FM   | PL 156.7    |
| 647 | El Dorado Forest                                      | 173.76250 | FM   | PL 156.7    |
| 648 | Tahoe Forest                                          | 169.90000 | FM   | PL 110.9    |
| 649 | Tahoe Fire Net                                        | 170.60000 | FM   | PL 110.9    |
| 650 | Tahoe Service                                         | 172.40000 | FM   | PL 110.9    |
| 651 | Tahoe Forest Net                                      | 408.98750 | FM   | PL 173.8    |
| 652 | Tahoe CalFire                                         | 154.13000 | FM   | PL 141.3    |
| 653 | Olympic NP                                            | 168.52500 | FM   | PL 100.0    |
| 654 | Olympic NP Blu M                                      | 168.52500 | FM   | PL 123.0    |
| 655 | Olympic Mtn Resc                                      | 155.20500 | FM   | PL 100.0    |
| 656 | Mt Rainier                                            | 169.72500 | FM   | PL 100.0    |
| 657 | Mt Rainier Com 1                                      | 168.61250 | FM   | PL 97.4     |
| 658 | Mt Rainier Com 2                                      | 163.71250 | FM   | PL 97.4     |
| 659 | North Cascades                                        | 166.75000 | FM   | PL 100.0    |
| 660 | Arches NP                                             | 171.70000 | FM   | PL 141.3    |
| 661 | Arches NP                                             | 171.81250 | FM   | PL 203.5    |
| 662 | Canyonlands NP                                        | 170.36250 | FM   | PL 123.0    |
| 663 | Canyonlands NP                                        | 173.82500 | FM   | PL 250.3    |
| 664 | Natural Bridges                                       | 170.05000 | FM   | PL 103.5    |
| 854 | CalFire                                               | 151.40000 | FM   | PL 110.9    |
| 855 | CalFire ICS                                           | 154.41500 | FM   | PL 123.0    |
| 860 | SAR                                                   | 155.94000 | FM   | PL 100.0    |
| 861 | Natl SAR                                              | 155.16000 | FM   | PL 127.3    |
| 863 | Flight Follow                                         | 168.65000 | FM   | PL 110.9    |
| A-G | AirGuard (National Air Guard; receive/reference only) | 168.62500 | FM   | PL 110.9    |

## Appendix G - Binder Order and Attendant Documents

| Binder item               | Status / handling                                       |
|---------------------------|---------------------------------------------------------|
| Doctrine body             | This v30.32 Publisher's Edition - Completed 2026-09-25. |
| K6RCS FCC amateur license | Included reference page.                                |
| WRQF503 GMRS license      | Included reference page.                                |

| Binder item                        | Status / handling                                                                                                          |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| ARRL US Amateur Radio Bands chart  | Included reference page.                                                                                                   |
| Icom America US Band Plan          | Included reference page.                                                                                                   |
| NS6T azimuthal/radial maps         | Included: global/no-radius, 312 km radius, and 1000 km radius centered at 39 deg 43 min 45 sec N, 121 deg 52 min 30 sec W. |
| Honda 2026 ARRL Repeater Directory | Vehicle paper/offline repeater reference carried in the Honda.                                                             |
| Field generator                    | Communications and device charging; capacity and load planning follow the current unit nameplate (Appendix J).             |
| FT-5DR Weather Alert setting       | Weather Alert enabled on local NOAA frequency; verify local NOAA frequency during travel.                                  |
| QSO One rapid-deployment card      | Print or extract Sections 4.4.1-4.4.2 for Office/Shack setup, identity, backup, and destination reference.                 |
| QSO One favorite nodes             | Keep Office and Shack favorites aligned; review before travel and after known network changes.                             |

## Appendix J - Field Deployment Power and Operating Conventions

This appendix gathers systemwide operating habits that should survive stress, travel, weak infrastructure, and family movement. It is not an equipment worship section. It is how Team Stone keeps the people, radios, and information layers useful when the easy layers fail.

### Generator Field Power Standard

| Operating condition    | Electrical load / capacity                                      | Normal handling                                                    | Emergency reserve handling                                          |
|------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------|
| Generator capacity     | Use the current unit nameplate and manual.                      | Plan to its continuous rating; reserve surge capacity for startup. | Allow headroom for operating conditions and simultaneous loads.     |
| Radio and device loads | Measure combined AC input at the intended operating duty cycle. | Prioritize radios, essential devices and battery recovery.         | Shed optional chargers before exceeding continuous capacity.        |
| EUC charging           | Use charger AC input rating or a measured load.                 | Schedule separately if needed; check receiver noise.               | Do not infer AC draw from battery voltage and charger output alone. |

### Default Operating Postures

| Situation                      | Primary layer                                                                       | Secondary / fallback                             | Rule                                                                                                              |
|--------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Home / Chico normal            | GEARS (Platte Mountain) / local QTH stack                                           | GMRS Ch 6 DCS 073                                | Keep the local monitor and family fallback mentally separate.                                                     |
| Convoy / close family movement | GMRS Ch 6 DCS 073                                                                   | 147.510 or 146.570 / 439.775 crossband           | Family coordination first; amateur layer second. 439.775 may be paired with either Team Stone 2m simplex channel. |
| Weak cell / backcountry        | 146.520 VHF Call                                                                    | Wilderness Protocol / LiTZ                       | Plain English immediately after any attention signal.                                                             |
| Corridor travel                | Route bank / handoff repeaters                                                      | APRS / GMRS / NOAA / broadcast                   | Do not scan everything. Scan the current operating moment.                                                        |
| Coastal / harbor               | Marine Ch 69 working default; Ch 16 distress/calling and Ch 9 brief connect/calling | NOAA / broadcast / GMRS family layer where legal | Do not blur marine, GMRS, and amateur purposes. Ch 69 is the Team Stone small-craft/kayak working default.        |
| Hotel / overnight              | Local repeater plus GMRS family fallback                                            | NOAA / broadcast / APRS                          | Decide what is monitored tonight before the radios go on the nightstand.                                          |

## LiTZ and Wilderness Protocol

| Convention            | Frequencies / timing                                                                                                                                                                                                                                     | Team Stone handling                                                                                                                                                                                                                     |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LiTZ / Long Tone Zero | Long DTMF 0 tone, typically about 3 seconds or longer                                                                                                                                                                                                    | Attention/courtesy signal only. After the tone, use plain English: callsign, location, problem/priority, and help needed. Not a substitute for 911, repeater procedures, marine Ch. 16, APRS messaging, or other formal distress paths. |
| Wilderness Protocol   | Primary 146.520 MHz. Secondary where equipment supports: 52.525, 223.500, 446.000, and 1294.500 MHz. Conventional windows: first five minutes at 7 AM, 10 AM, 1 PM, 4 PM, 7 PM, and 10 PM local; top-of-hour or continuous monitoring when power allows. | Tie to VHF/UHF Call memories. Monitor/call 146.520 first, then other calling memories where available. For urgent traffic, use LiTZ only as an attention signal and immediately use plain English.                                      |

## Scan Discipline, Plain-English Priority Traffic, and Memory Confidence

| Practice                  | Doctrine rule                                                                                                                                                 | Why it matters                                                                 |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| Scan discipline           | Do not scan everything. Use small scan sets matched to Home QTH, convoy, corridor, destination, weather/fire/public info, or coastal/marine operations.       | A huge scan list misses traffic and creates noise.                             |
| Monitoring vs calling     | Separate monitoring channels, calling channels, family working channels, and priority/distress channels.                                                      | A memory may be useful to scan without being the right place to casually talk. |
| Priority traffic format   | Callsign/identifier, location, situation, need.                                                                                                               | Short, calm, useful radio traffic beats codes or drama.                        |
| Digital bridges           | Hotspots, EchoLink, AllStar, WIRES-X, YSF, and IRLP extend options; they do not replace direct local voice, family fallback, APRS, or plain-language calling. | Bridges are conveniences and reach tools, not the base layer.                  |
| Memory confidence         | Programmed/verified; programmed/familiar; candidate; Verify before programming; receive-only.                                                                 | Prevents stale or unresolved memories from being treated as operational truth. |
| Radio quiet / family calm | During stress, traffic gets shorter, calmer, and more useful.                                                                                                 | Say where you are, what you need, and what happens next.                       |

## Appendix L - Northbound Amateur Handoff Corridor

Compact handoff table in the same style as the South Corridor tables. Entries are placed in operating sequence; Newport coast repeaters are inserted immediately after Corvallis as a coast-turn spur.

| Segment                | Memory | Name             | Frequency | Tone / mode | Use                       |
|------------------------|--------|------------------|-----------|-------------|---------------------------|
| Home QTH / departure   | 3      | GEARS            | 146.85    | PL 110.9    | Local QTH anchor          |
| Ridge / Paradise layer | 6      | W6SCR            | 145.29    | PL 110.9    | Ridge / FHL-linked layer  |
| North Valley / Willows | 9      | CARLA Willows    | 146.115   | PL 173.8    | Linked northbound handoff |
| Red Bluff              | 24     | Red Bluff        | 145.45    | PL 88.5     | North Valley transition   |
| Redding                | 25     | Redding          | 146.64    | PL 88.5     | Redding area              |
| Redding / CARLA        | 28     | CARLA Redding EL | 444.325   | PL 173.8    | Linked option             |
| Shasta Lake            | 182    | CARLA Shasta Lk  | 442.075   | PL 167.9    | Shasta / I-5 climb        |
| Dunsmuir               | 183    | Dunsmuir-L       | 146.82    | PL 100.0    | I-5 canyon                |
| Dunsmuir link          | 184    | Dunsmuir EL      | 146.67    | PL 136.5    | Linked option             |
| Mt. Shasta             | 185    | Mt. Shasta 2     | 146.88    | PL 100.0    | Mt. Shasta area           |
| Mt. Shasta UHF         | 187    | Mt. Shasta-X     | 441.275   | PL 118.8    | UHF companion             |
| Yreka                  | 188    | Yreka-L          | 146.79    | PL 100.0    | Far NorCal                |
| Siskiyou / Ashland     | 189    | Mt. Ashland      | 147.26    | PL 123.0    | Oregon entry              |
| Medford                | 220    | Medford EL       | 146.7     | PL 136.5    | Rogue Valley              |
| Grants Pass            | 221    | Grants Pass      | 440.55    | DCS 125     | Grants Pass               |
| Canyonville            | 222    | Canyonville EL   | 145.11    | PL 136.5    | South Douglas County      |

| Segment                | Memory | Name           | Frequency | Tone / mode | Use                                           |
|------------------------|--------|----------------|-----------|-------------|-----------------------------------------------|
| Roseburg               | 223    | Roseburg-X     | 147.12    | PL 136.5    | Roseburg                                      |
| Eugene                 | 227    | Eugene EL      | 145.11    | DCS 023     | Eugene                                        |
| Corvallis / coast turn | 229    | Corvallis-L    | 145.13    | DCS 125     | Valley / coast decision                       |
| Newport coast spur     | 518    | Newport-L EL   | 145.39    | DCS 023     | Newport / Otter Crest linked EchoLink spur    |
| Newport coast local    | 519    | Newport, OR    | 147       | PL 136.5    | Newport / Yaquina Bay local Oregon coast spur |
| Salem                  | 230    | Salem EL       | 145.49    | PL 136.5    | North Willamette                              |
| Longview / SW WA       | 233    | Goat Mtn EL    | 146.96    | PL 127.3    | Columbia / SW WA                              |
| Centralia              | 235    | Centralia K7PP | 441.3     | PL 123.0    | Central WA I-5                                |
| Olympia                | 236    | Olympia EL     | 145.47    | PL 100.0    | South Sound                                   |
| Shelton / Kitsap       | 237    | Shelton-X      | 147.2     | PL 97.4     | Kitsap connector                              |
| Seattle / Eastside     | 257    | East Tiger Mtn | 146.82    | PL 103.5    | Seattle wide-area                             |
| SeaTac / digital       | 258    | SeaTac YSF     | 146.66    | PL 103.5    | Seattle / airport layer                       |
| Puget Sound            | 260    | Puget Sound EL | 146.96    | PL 103.5    | Puget Sound linked layer                      |
| Seattle WIN            | 261    | Seattle WinSys | 441.625   | PL 100.0    | WIN System                                    |
| Bainbridge             | 262    | Bainbridge     | 444.475   | PL 103.5    | Bainbridge                                    |
| Bremerton              | 264    | Bremerton      | 146.62    | PL 103.5    | Bremerton                                     |
| Silverdale             | 268    | Silverdale-L   | 145.425   | PL 88.5     | Silverdale / Kitsap                           |
| Poulsbo                | 269    | Poulsbo-L      | 442.2     | PL 103.5    | North Kitsap                                  |

## Appendix M - Northbound GMRS Handoff Corridor

| Segment          | Memory | Name             | Frequency         | Tone / code | Use                              |
|------------------|--------|------------------|-------------------|-------------|----------------------------------|
| Family default   | -      | GMRS Ch 6        | 462.6875          | DCS 073     | Team Stone family / convoy       |
| Yreka            | 239    | FRS 23 Yreka     | 462.550 / 467.550 | PL 100.0    | Far NorCal GMRS                  |
| Yreka            | 240    | FRS 16 Yreka     | 462.575 / 467.575 | DCS 606     | Yreka fill                       |
| Shasta Valley    | 241    | FRS 18 Shasta VI | 462.625 / 467.625 | PL 100.0    | Shasta Valley                    |
| Medford          | 242    | FRS 21 Medford   | 462.700 / 467.700 | DCS 743     | Rogue Valley                     |
| Rogue River      | 243    | FRS 18 Rogue Rvr | 462.625 / 467.625 | DCS 503     | Rogue River                      |
| Grants Pass      | 244    | FRS 16 Grants Ps | 462.575 / 467.575 | PL 179.9    | Grants Pass                      |
| Jackson County   | 245    | FRS 20 Jackson   | 462.675 / 467.675 | PL 141.3    | Jackson County                   |
| Josephine County | 246    | FRS 22 Josephine | 462.725 / 467.725 | PL 141.3    | Josephine County                 |
| Roseburg         | 247    | FRS 16 Roseburg  | 462.575 / 467.575 | DCS 606     | Roseburg                         |
| Corvallis        | 248    | FRS 22 Corvallis | 462.725 / 467.725 | PL 127.3    | Corvallis / coast turn           |
| Salem            | 249    | FRS 20 Salem     | 462.675 / 467.675 | PL 141.3    | Salem                            |
| Goat Mountain    | 250    | FRS 21 Goat Mtn  | 462.700 / 467.700 | PL 107.2    | SW WA / Goat Mountain            |
| Lake Oswego      | 251    | FRS 17 Lk Oswego | 462.600 / 467.600 | PL 123.0    | Portland south                   |
| Camas            | 252    | FRS 22 Camas     | 462.725 / 467.725 | PL 127.3    | Portland / Vancouver east        |
| Gresham          | 253    | FRS 21 Gresham   | 462.700 / 467.700 | PL 210.7    | Portland east                    |
| Vancouver        | 254    | FRS 20 Vancouver | 462.675 / 467.675 | PL 127.3    | Vancouver                        |
| Longview         | 255    | FRS 19 Longview  | 462.650 / 467.650 | PL 210.7    | Longview                         |
| Seattle          | 286    | FRS 19 Seattle   | 462.650 / 467.650 | PL 141.3    | Seattle                          |
| Kent             | 287    | FRS 19 Kent      | 462.650 / 467.650 | PL 118.8    | Kent                             |
| Covington        | 288    | FRS 15 Covington | 462.550 / 467.550 | PL 192.8    | Covington                        |
| East Tiger       | 290    | FRS 18 E. Tiger  | 462.625 / 467.625 | PL 141.3    | Eastside / East Tiger            |
| Gig Harbor       | 291    | FRS 20 Gig Harbr | 462.675 / 467.675 | PL 173.8    | Tacoma Narrows / Kitsap approach |
| Bremerton        | 292    | FRS 17 Bremerton | 462.600 / 467.600 | DCS 074     | Bremerton                        |
| Olympia          | 293    | FRS 20 Oly-Comm  | 462.675 / 467.675 | PL 100.0    | Olympia                          |
| Capitol Hill     | 294    | FRS 17 Capitol H | 462.600 / 467.600 | PL 141.3    | Seattle central                  |
| North Seattle    | 295    | FRS 20 N Seattle | 462.675 / 467.675 | PL 141.3    | North Seattle                    |

| Segment       | Memory | Name             | Frequency         | Tone / code | Use              |
|---------------|--------|------------------|-------------------|-------------|------------------|
| Skagit Valley | 296    | FRS 16 SkagitVly | 462.575 / 467.575 | PL 210.7    | Skagit Valley    |
| Bellingham    | 297    | FRS 22 Bellingha | 462.725 / 467.725 | PL 151.4    | Bellingham       |
| San Juan      | 298    | FRS 17 San Juan  | 462.600 / 467.600 | PL 141.3    | San Juan Islands |
| Orcas Island  | 299    | FRS 16 Orcas Ind | 462.575 / 467.575 | PL 141.3    | Orcas Island     |

## Appendix N - Southbound Amateur Handoff Corridor

Compact southbound handoff table restored alongside the northbound corridor. This is the operational sequence table for the South Corridor; it does not replace the full memory-bank appendix.

| Segment                   | Memory | Name             | Frequency | Tone / mode | Use                                                                                    |
|---------------------------|--------|------------------|-----------|-------------|----------------------------------------------------------------------------------------|
| Southern Inland           | 45     | East BayNet      | 443.975   | PL 100.0    | Central Valley linked layer                                                            |
| Southern Inland           | 46     | Mt Oso EL        | 145.39    | PL 136.5    | Central Valley Fusion/UHF companion                                                    |
| Southern Inland           | 47     | Mt Oso 440       | 440.225   | PL 136.5    | WIN System layer                                                                       |
| Central Coast / SLO       | 521    | North Coast SLO  | 146.62    | PL 127.3    | San Simeon / North Coast SLO spur                                                      |
| Central Coast / SLO       | 522    | Tassajara Peak   | 146.67    | PL 127.3    | SLO / Tassajara Peak anchor                                                            |
| Central Coast / Morro Bay | 523    | Morro Bay Rock   | 444.975   | PL 127.3    | Morro Bay / Los Osos destination-local anchor                                          |
| Southern Inland           | 531    | Coalinga         | 147.06    | PL 141.3    | Harris Ranch / Coalinga overnight                                                      |
| Southern Inland           | 532    | Pinecrest        | 147.975   | PL 100.0    | Foothill / Pinecrest option; also PCT-adjacent                                         |
| Southern Inland           | 533    | Kings Canyon EL  | 146.88    | PL 103.5    | Southbound linked handoff; PCT-adjacent                                                |
| Southern Inland           | 534    | Kings Canyon     | 440.3     | PL 94.8     | Kings Canyon UHF companion; PCT-adjacent                                               |
| Southern Inland           | 535    | Breckenridge EL  | 145.15    | PL 100.0    | High-ground / Tehachapi layer; PCT-adjacent                                            |
| Southern Inland           | 536    | Frazier Mtn      | 447.1     | PL 203.5    | Frazier Mountain / high desert layer; PCT-adjacent                                     |
| Southern Coastal          | 537    | Oat Mtn          | 146.82    | PL 88.5     | Oat Mountain / Ventura-LA layer                                                        |
| Southern Coastal          | 538    | Mt Wilson        | 147.24    | PL 100.0    | Los Angeles / Mt Wilson coastal approach                                               |
| Southern Coastal          | 539    | Mt Lukens        | 145.48    | PL 100.0    | Mt Lukens / LA basin companion                                                         |
| Southern Coastal          | 540    | Catalina Island  | 147.09    | None        | Catalina / SoCal coastal-basin high-site layer                                         |
| Southern Coastal          | 541    | Santiago Pk      | 146.895   | PL 110.9    | Orange County / SoCal high-site layer                                                  |
| Southern Coastal          | 542    | Elsinore Pk EL   | 144.895   | PL 156.7    | Elsinore Peak EchoLink / inland-coastal layer                                          |
| Southern Coastal          | 543    | Mt Palomar       | 146.73    | PL 107.2    | San Diego / inland-coastal approach                                                    |
| Southern Coastal          | 544    | Mt Soledad       | 447.28    | PL 91.5     | San Diego coastal layer                                                                |
| Southern Coastal          | 545    | Otay Mtn         | 146.91    | PL 100.0    | San Diego border/coastal layer                                                         |
| Southern Inland           | 546    | Mt San Antonio   | 147.33    | PL 186.2    | Mexico-side / high-site reference - legal authority required                           |
| Southern Coastal          | 547    | Ensenada         | 147.18    | PL 167.9    | Baja coastal amateur reference - legal authority required; no GMRS carried into Mexico |
| Southern Inland           | 549    | Keller Pk EL     | 146.385   | PL 100.0    | San Bernardino / mountain layer                                                        |
| Southern Inland           | 550    | Palm Springs Trm | 145.2     | PL 131.8    | Palm Springs Tram / Coachella layer                                                    |
| Southern Inland           | 551    | Palm Springs-X   | 146.94    | PL 107.2    | Coachella Valley layer                                                                 |

| Segment          | Memory | Name             | Frequency | Tone / mode | Use                                                                                                   |
|------------------|--------|------------------|-----------|-------------|-------------------------------------------------------------------------------------------------------|
| Southern Inland  | 552    | Superstition Mtn | 146.67    | PL 103.5    | Imperial Valley high site                                                                             |
| Southern Coastal | 553    | Black Mtn PAPA   | 446.58    | PL 103.5    | PAPA linked border high site;<br>U.S.-side use only                                                   |
| Southern Inland  | 554    | Calexico EL      | 147       | PL 162.2    | Border-side linked layer                                                                              |
| Southern Inland  | 555    | Mexicali         | 146.85    | PL 100.0    | Mexico-side amateur reference<br>- legal authority required; no<br>GMRS radios carried into<br>Mexico |

## Appendix O - Southbound GMRS Handoff Corridor

| Segment          | Memory | Name            | Frequency         | Tone / code | Use                                          |
|------------------|--------|-----------------|-------------------|-------------|----------------------------------------------|
| Family default   | -      | GMRS Ch 6       | 462.6875          | DCS 073     | Team Stone family / convoy                   |
| Southern Inland  | 557    | Mt Oso 15       | 462.55 / 467.55   | PL 136.5    | Central Valley GMRS fill                     |
| Southern Inland  | 558    | Turlock 18      | 462.625 / 467.625 | PL 141.3    | Hwy 99 / Central Valley fill                 |
| Southern Inland  | 559    | Coalinga 16     | 462.575 / 467.575 | PL 186.2    | Harris Ranch / Coalinga layer                |
| Southern Inland  | 560    | Bakersfield 19  | 462.65 / 467.65   | DCS 116     | Bakersfield layer                            |
| Southern Coastal | 561    | Mt Wilson 15    | 462.55 / 467.55   | PL 103.5    | Mt Wilson / Los Angeles coastal<br>GMRS fill |
| Southern Coastal | 562    | Pleasants Pk 22 | 462.725 / 467.725 | PL 156.7    | Orange County / coastal fill                 |
| Southern Coastal | 563    | Palomar Mtn 22  | 462.725 / 467.725 | DCS 065     | Palomar / San Diego layer                    |
| Southern Coastal | 564    | Mt Woodson 15   | 462.55 / 467.55   | PL 162.2    | San Diego / Mt Woodson layer                 |
| Southern Coastal | 565    | Lakeside 15     | 462.55 / 467.55   | DCS 364     | Lakeside / San Diego east-<br>county fill    |
| Southern Inland  | 566    | Redlands 19     | 462.65 / 467.65   | PL 67.0     | Redlands / Inland Empire fill                |
| Southern Inland  | 567    | Palm Springs 16 | 462.575 / 467.575 | DCS 074     | Coachella Valley layer                       |
| Southern Inland  | 568    | Indio 19        | 462.65 / 467.65   | DCS 072     | Indio / desert layer                         |

## Appendix P - Destination Winlink / Packet Anchors

Destination records should have a packet/Winlink target when possible. KF6OBI-10 is the primary local QTH packet anchor. Destination rows remain planning records; current Winlink Channel Selection remains the field source before travel.

| Destination / region         | Station                             | Mode                                   | Frequency / speed                      | Location                        | Doctrine handling                                                                                                                  |
|------------------------------|-------------------------------------|----------------------------------------|----------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Home QTH / North State / I-5 | KF6OBI-10                           | Winlink RMS Packet                     | 145.630 MHz / 1200                     | Willows / Glenn County          | Primary local QTH packet anchor. Solid local system operated by Mike KF6OBI. Verify in Winlink Channel Selection before field use. |
| Redding / Shasta             | KO6JT-10 / KB6KY-10                 | Winlink RMS Packet                     | 145.030 MHz / 1200                     | Redding area                    | Northbound / Shasta-area RMS candidates. Verify before field use.                                                                  |
| Sacramento / Placer / I-80   | W7IPY-5 / K6SAT-10 / W6SAR-10       | Winlink RMS Packet                     | 144.310 / 145.630 / 1200               | Sacramento / Placer / Foothills | I-80 / Sacramento foothill packet layer. Verify before field use.                                                                  |
| Woodland / Winters / Yolo    | K6WLS-10 / AG6QO-10                 | Winlink RMS Packet                     | 144.370 MHz / 1200                     | Yolo / I-5 / I-505              | Valley / I-5 / I-505 / I-80 connector layer. Verify before field use.                                                              |
| SJC / South Bay              | W6EI-10 / K2RDX-10                  | Winlink RMS Packet                     | 145.010 / 145.630 MHz / 1200           | Palo Alto / San Jose            | SJC / Santa Clara destination packet candidates. Verify before field use.                                                          |
| Santa Cruz / Monterey Bay    | K6BJ-10 / W6TUW-10 / WA6LIE-10      | Winlink RMS Packet                     | 145.010 / 144.910 / 145.690 MHz / 1200 | Monterey Bay / coast            | Coast / Bay Area alternate packet candidates. Verify before field use.                                                             |
| Bremerton / Kitsap           | Verify in Winlink Channel Selection | RMS Packet / VARA FM / HF as available | Current channel list required          | Kitsap / Puget Sound            | Destination needs a current RMS check before travel.                                                                               |

## Appendix Q - Mode Frequency Quick Reference

Common dial/calling frequencies for fast field setup. These are operating references, not exclusive channels. Confirm band privileges, mode segment, local band plan, and whether the frequency is clear before transmitting. FT4 conventions move faster than this binder: use the current WSJT-X working-frequency preset rather than a frozen printed FT4 column.

| Band | FT8 common dial / frequency | Doctrine use                            |
|------|-----------------------------|-----------------------------------------|
| 160m | 1.840 MHz                   | Night / low-band propagation check      |
| 80m  | 3.573 MHz                   | Night regional/DX check                 |
| 40m  | 7.074 MHz                   | Strong all-around digital watch         |
| 30m  | 10.136 MHz                  | Low-power digital band                  |
| 20m  | 14.074 MHz                  | Primary daytime/worldwide digital watch |
| 17m  | 18.100 MHz                  | Daytime DX opening check                |
| 15m  | 21.074 MHz                  | Solar-cycle daytime DX                  |
| 12m  | 24.915 MHz                  | Higher-band opening check               |
| 10m  | 28.074 MHz                  | 10m opening / local-to-DX               |
| 6m   | 50.313 MHz                  | Magic-band opening watch                |

| Band | Frequency  | Mode                 | Doctrine use                             |
|------|------------|----------------------|------------------------------------------|
| 80m  | 3.730 MHz  | LSB                  | Night SSTV watch                         |
| 40m  | 7.171 MHz  | LSB                  | Regional SSTV watch                      |
| 30m  | 10.132 MHz | USB                  | Digital/SSTV curiosity; verify before TX |
| 20m  | 14.230 MHz | USB                  | Primary SSTV calling/watch               |
| 20m  | 14.233 MHz | USB                  | Secondary SSTV                           |
| 15m  | 21.340 MHz | USB                  | Higher-band SSTV                         |
| 10m  | 28.680 MHz | USB/FM listings vary | 10m SSTV opening watch                   |

| Band | Common PSK31 area        | Doctrine use           |  |
|------|--------------------------|------------------------|--|
| 160m | 1.838 MHz                | Low-band digital watch |  |
| 80m  | 3.580 MHz                | Night PSK31            |  |
| 40m  | 7.070 / 7.080 MHz region | Regional digital       |  |
| 30m  | 10.142 MHz region        | Low-power digital band |  |
| 20m  | 14.070 MHz               | Primary PSK31 watch    |  |
| 17m  | 18.100 MHz               | Daytime DX             |  |
| 15m  | 21.080 MHz               | Solar-cycle openings   |  |
| 12m  | 24.920 MHz               | Higher-band openings   |  |
| 10m  | 28.120 MHz               | 10m digital opening    |  |

| Use                    | Frequencies                                                         | Doctrine use                                            |  |
|------------------------|---------------------------------------------------------------------|---------------------------------------------------------|--|
| ARRL digital bulletins | 3.5975, 7.095, 14.095, 18.1025, 21.095, 28.095, 50.350, 147.555 MHz | RTTY/Baudot, PSK31, and MFSK16 practice receive targets |  |
| 20m QRP CW calling     | 14.060 MHz                                                          | CW practice / QRP watch                                 |  |
| 20m QRP SSB calling    | 14.285 MHz                                                          | Voice/QRP watch                                         |  |
| 2m SSB weak signal     | 144.200 MHz                                                         | VHF weak-signal reference                               |  |

| Use                      | Frequencies                             | Doctrine use                                                                                                  |  |
|--------------------------|-----------------------------------------|---------------------------------------------------------------------------------------------------------------|--|
| 70cm weak signal/calling | 432.100 MHz area                        | UHF weak-signal reference                                                                                     |  |
| OARS / W6AF 10m SSB net  | 28.450 MHz SSB after Sunday 8 PM 2m net | Local HF/10m ground-wave practice across the IC-756 Pro III shack and FT-897D bedroom/manual operating layers |  |

## CB Default Operating Frequencies

★ Team Stone CB default: channel 30, 27.305 MHz, FM first; AM remains available for interoperability. Matching CTCSS/DCS on compatible FM CB radios filters unwanted audio. It does not clear interference or make the channel private. CB 32 AM remains the alternate.

| Default                            | FT-5DR ch | CB ch/name       | Frequency           | Mode | Doctrine use                                                                                                            |
|------------------------------------|-----------|------------------|---------------------|------|-------------------------------------------------------------------------------------------------------------------------|
| CB Default 1                       | 430       | CB 30 Tm Stone 1 | 27.305 MHz          | FM   | ★ Team Stone default: CB 30, FM first; AM for interoperability. Use matching subtones when both CB radios support them. |
| CB Default 2                       | 432       | CB 32 Tm Stone 2 | 27.325 MHz          | AM   | Secondary/default-compatible CB fallback.                                                                               |
| CB Emergency / traveler assistance | 409       | CB 9             | 27.065 MHz          | AM   | Emergency/traveler assistance awareness channel; not a casual Team Stone channel.                                       |
| Road convention                    | 417 / 419 | CB 17 / CB 19    | 27.165 / 27.185 MHz | AM   | 17 is North-South traffic; 19 is East-West traffic in the current memory comments.                                      |

## Ten-Meter FM / Repeater Tone Reference

Ten-meter FM is a specialty reference layer. Use the current repeater listing first; use the call-area tone convention as a historical/field reference when matching directory entries or interpreting older 10m repeater material. Receive tone squelch suppresses unwanted audio during openings; it does not create privacy.

| Call area                                     | Tone 1   | Tone 2   |
|-----------------------------------------------|----------|----------|
| W1 — New England                              | 131.8 Hz | 91.5 Hz  |
| W2 — New York / New Jersey                    | 136.5 Hz | 94.8 Hz  |
| W3 — PA / DE / MD / DC                        | 141.3 Hz | 97.4 Hz  |
| W4 — Southeast                                | 146.2 Hz | 100.0 Hz |
| W5 — AR / LA / MS / NM / OK / TX              | 151.4 Hz | 103.5 Hz |
| W6 — California                               | 156.7 Hz | 107.2 Hz |
| W7 — AZ / ID / MT / NV / OR / UT / WA / WY    | 162.2 Hz | 110.9 Hz |
| W8 — MI / OH / WV                             | 167.9 Hz | 114.8 Hz |
| W9 — IL / IN / WI                             | 173.8 Hz | 118.8 Hz |
| W0 — CO / IA / KS / MN / MO / NE / ND / SD    | 179.9 Hz | 123.0 Hz |
| VE — Canada                                   | 127.3 Hz | 88.5 Hz  |
| KP4 — Puerto Rico                             | 183.5 Hz | 85.4 Hz  |
| KV4 — U.S. Virgin Islands (historical prefix) | 186.2 Hz | 82.5 Hz  |

Team Stone shorthand: W6 is the primary California reference (156.7 / 107.2). W7 is the common Mountain/Northwest travel reference (162.2 / 110.9). Still verify the actual repeater listing before use.

10m FM reference: 29.600 MHz national FM simplex; common Region 2 repeater pair examples include 29.520/29.620, 29.540/29.640, 29.560/29.660, and 29.580/29.680 MHz. Output/input conventions vary by listing; verify the actual pair and tone before use.

## Appendix R - Radio Propagation Field Reference

| Indicator   | What it tells us           | Field use                                                                            |
|-------------|----------------------------|--------------------------------------------------------------------------------------|
| SFI / F10.7 | Broad solar-activity proxy | Higher sustained values often support higher daytime HF bands; never treat as a path |

| Indicator            | What it tells us                               | Field use                                                          |
|----------------------|------------------------------------------------|--------------------------------------------------------------------|
|                      |                                                | guarantee.                                                         |
| Kp                   | Planetary geomagnetic disturbance over 3 hours | Rising Kp warns of disturbed HF, especially high-latitude paths.   |
| A / Ap               | Daily geomagnetic summary                      | Trend/context for whether conditions have been quiet or disturbed. |
| NOAA R scale         | Solar-flare radio blackout severity            | Immediate sunlit-side HF degradation/blackout risk.                |
| NOAA G scale         | Geomagnetic storm severity                     | HF, GNSS, auroral and high-latitude disturbance context.           |
| foF2 / MUF           | Measured/derived ionospheric support           | Useful for NVIS and band choice; remember MUF is path-specific.    |
| WSPR / FT8 / beacons | Observed on-air evidence                       | Use actual reception reports to test the forecast.                 |

## Considerate Operator Guide

The Considerate Operator Guide is included as operating culture, not regulation. It reinforces Team Stone RF discipline: listen first, do not claim ownership of a frequency, cooperate with ongoing traffic, and remember that band plans and calling frequencies are shared conventions layered on top of law.

| Practice           | Team Stone handling                                                                                   |
|--------------------|-------------------------------------------------------------------------------------------------------|
| Listen first       | Pause before transmitting. Confirm the frequency is clear and ongoing traffic is not being disrupted. |
| No ownership       | No net, group, or operator owns an amateur frequency. Use courtesy and move when needed.              |
| Shared conventions | Band plans and calling frequencies are operating customs, not private channels.                       |
| Plain language     | Use concise, calm, useful traffic. Courtesy is part of operating competence.                          |

## Amateur Allocation Differences - U.S. / Canada / Mexico

Team Stone compares only amateur-radio allocation differences here. GMRS, marine, NOAA/weather, public-safety monitoring, and scanner practices are handled separately because they are different radio services with different legal structures. For Mexico/Baja travel, the separate GMRS rule remains fixed: no GMRS radios, including glovebox handhelds, are brought across the border.

| Band          | U.S. / Canada / Mexico practical difference                                                                                                                    | Team Stone doctrine note                                                                                                                                                                           |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 60m           | Country-specific. The U.S. uses current FCC 60m channel/segment rules; Canadian RAC/ISED treatment differs; Mexican authorization must be verified before use. | Do not assume U.S. 60m habits travel. Verify the country-specific rule set before any 60m operation.                                                                                               |
| 220 / 222 MHz | U.S. practice centers on 222-225 MHz, with 219-220 limited/specialized. Canadian and Mexican allocation/planning assumptions differ.                           | Do not assume U.S. 222 MHz repeater habits or channel plans apply in Canada or Mexico.                                                                                                             |
| 70cm          | U.S. amateur allocation is 420-450 MHz. Canadian band-plan/coordination assumptions differ. Mexico is generally treated as 430-440 MHz amateur use.            | Most important Mexico caution: do not treat U.S. 420-430 or 440-450 MHz memories as Mexico-operational. Separate GMRS rule: no GMRS radios, including glovebox handhelds, are brought into Mexico. |
| 902 MHz       | U.S. 902-928 MHz amateur/ISM assumptions are not automatically portable. Canadian handling differs; Mexico must be verified locally.                           | Keep as verify-before-programming unless there is a specific operating need.                                                                                                                       |

| Band    | U.S. / Canada / Mexico practical difference                                                                          | Team Stone doctrine note                                 |
|---------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| 3.3 GHz | U.S. amateur access changed/reduced from older assumptions. Canadian and Mexican treatment must be verified locally. | Appendix-level only; not a Team Stone field voice issue. |

## Appendix S - CW / Morse and Voice Phonetics Quick Reference

Morse references are retained as visual operating aids. CW dots and dashes are deliberately set in oversized, bold Noto Sans Mono so punctuation-sized symbols remain legible at a glance in the printed binder.

| Ltr      | Voice   | CW      | Ltr      | Voice    | CW      |
|----------|---------|---------|----------|----------|---------|
| <b>A</b> | Alfa    | . -     | <b>N</b> | November | - .     |
| <b>B</b> | Bravo   | - . . . | <b>O</b> | Oscar    | - - -   |
| <b>C</b> | Charlie | - . - . | <b>P</b> | Papa     | . - - . |
| <b>D</b> | Delta   | - . .   | <b>Q</b> | Quebec   | - - . - |
| <b>E</b> | Echo    | .       | <b>R</b> | Romeo    | . - .   |
| <b>F</b> | Foxtrot | . . - . | <b>S</b> | Sierra   | . . .   |
| <b>G</b> | Golf    | - - .   | <b>T</b> | Tango    | -       |
| <b>H</b> | Hotel   | . . . . | <b>U</b> | Uniform  | . . -   |
| <b>I</b> | India   | . .     | <b>V</b> | Victor   | . . . - |
| <b>J</b> | Juliett | . - - - | <b>W</b> | Whiskey  | . - -   |
| <b>K</b> | Kilo    | - . -   | <b>X</b> | X-ray    | - . . - |
| <b>L</b> | Lima    | . - . . | <b>Y</b> | Yankee   | - . - - |
| <b>M</b> | Mike    | - -     | <b>Z</b> | Zulu     | - - . . |

## Digits, Prosigns, and Common CW Forms

| Item      | CW / form       | Meaning             | Item      | CW / form   | Meaning               |
|-----------|-----------------|---------------------|-----------|-------------|-----------------------|
| <b>0</b>  | - - - - -       | Zero                | <b>1</b>  | . - - - -   | One                   |
| <b>2</b>  | . . - - -       | Two                 | <b>3</b>  | . . . - -   | Three                 |
| <b>4</b>  | . . . . -       | Four                | <b>5</b>  | . . . . .   | Five                  |
| <b>6</b>  | - . . . .       | Six                 | <b>7</b>  | - - . . .   | Seven                 |
| <b>8</b>  | - - - . .       | Eight               | <b>9</b>  | - - - .     | Nine                  |
| <b>CQ</b> | - . . . - - . - | Calling any station | <b>DE</b> | - . . .     | From                  |
| <b>K</b>  | - . -           | Over / go ahead     | <b>KN</b> | - . - - .   | Specific station only |
| <b>AR</b> | . . . . .       | End of message      | <b>SK</b> | . . . - . - | End of contact        |

## Appendix T - Station Engineering Troubleshooting Reference

| Problem                    | First checks                                                           | Likely engineering response                                                     |
|----------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| RF in audio / controls     | Does it change with power, band, cable position?                       | Common-mode choke/bonding/cable routing; verify shield and connector integrity. |
| High receiver noise        | Kill house circuits; compare battery-powered receiver; move feed line. | Locate source; choke/filter the source cables; improve common-mode isolation.   |
| Good SWR, poor performance | Check feed-line loss, antenna current/pattern,                         | Measure at feed point; do not let coax loss                                     |

| Problem                 | First checks                                                          | Likely engineering response                                                                               |
|-------------------------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|                         | connectors, water ingress.                                            | masquerade as a match.                                                                                    |
| Two radios interfere    | Measure/estimate isolation; identify harmonic or broadband mechanism. | Increase antenna isolation; add band filters/stubs; reduce power or coordinate operation.                 |
| Static / storm exposure | Inspect bonding, entry panel, protectors, disconnect plan.            | Use code-compliant bonding/surge protection; do not rely on a single gadget.                              |
| RF exposure question    | Frequency, PEP, duty cycle, gain, distance, accessible areas.         | Run current FCC/ARRL evaluation; mitigate with distance, power, duty cycle, barriers, or antenna changes. |

## Appendix V - Business / Commercial / USHPA / ISS APRS Quick Reference

Current FT-5DR export note: Tone Mode None means no tone/subtone is active, even if the memory editor retains a default CTCSS or DCS field. This table reflects the current K6RCS limits.FT5D / Memories.csv export and summarizes the adjacent business, commercial-dot, MURS, USHPA, and ISS APRS reference block.

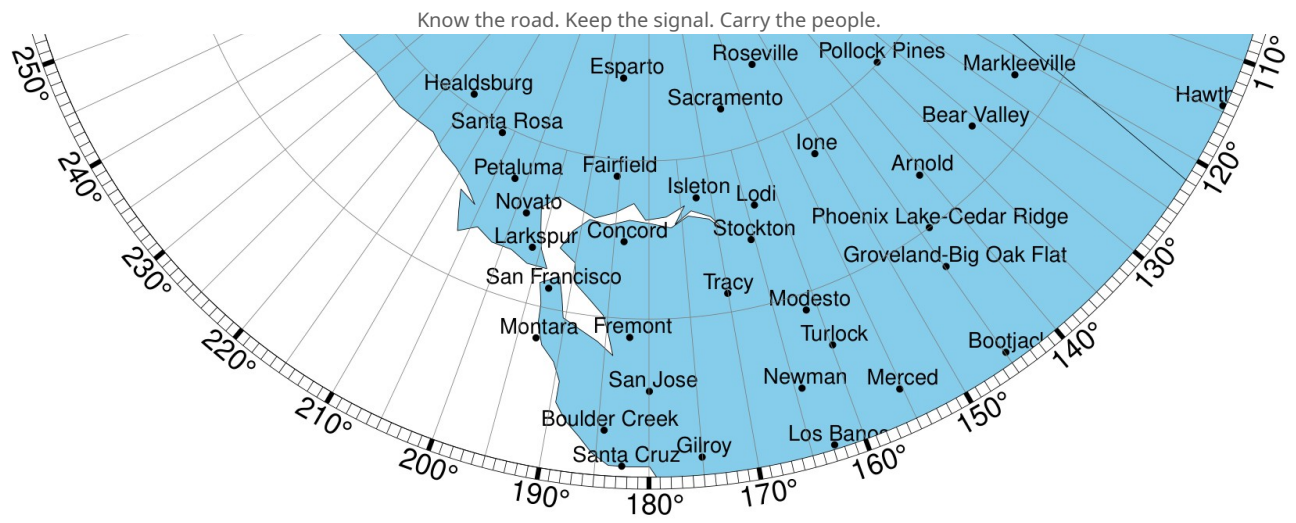
| Ch  | Name           | RX / TX MHz           | Mode | Tone / code | Bank / note                                                                                             |
|-----|----------------|-----------------------|------|-------------|---------------------------------------------------------------------------------------------------------|
| 441 | Freeband FM    | 26.80500              | FM   | None        | Citizens Band / 11m reference                                                                           |
| 443 | USHPA 1 Red Do | 151.62500             | FM   | PL 100.0    | USHPA / WPRY420                                                                                         |
| 444 | USHPA 2        | 151.50500             | FM   | None        | USHPA / WPRY420                                                                                         |
| 445 | USHPA 3 XC     | 151.92500             | FM   | None        | USHPA / WPRY420                                                                                         |
| 446 | USHPA 4 Purple | 151.95500             | FM   | None        | USHPA / WPRY420                                                                                         |
| 447 | USHPA 5 Safety | 158.40000             | FM   | None        | USHPA / WPRY420                                                                                         |
| 449 | ISS APRS       | 145.82500             | FM   | None        | ISS APRS / satellite; high-value contingency position/status/message path when live pass/status permit. |
| 451 | MURS 1         | 151.82000             | FM   | PL 67.0     | Business / CB bank                                                                                      |
| 452 | MURS 2         | 151.88000             | FM   | None        | Business                                                                                                |
| 453 | MURS 3         | 151.94000             | FM   | None        | Business                                                                                                |
| 454 | Blue Dot MRS 4 | 154.57000             | FM   | PL 110.9    | Business                                                                                                |
| 455 | Green Dot MRS  | 154.60000             | FM   | PL 67.0     | Business                                                                                                |
| 456 | White Dot FRS  | 462.57500             | FM   | None        | Business                                                                                                |
| 457 | Black Dot FRS  | 462.62500             | FM   | None        | Business                                                                                                |
| 458 | Orange Dot FRS | 462.67500             | FM   | None        | Business                                                                                                |
| 459 | Pink Dot       | 42.98000              | FM   | PL 100.0    | Business                                                                                                |
| 460 | Purple Dot     | 151.95500             | FM   | PL 67.0     | Business                                                                                                |
| 461 | J Dot          | 467.76250             | FM   | DCS 023     | Business                                                                                                |
| 462 | K Dot          | 467.81250             | FM   | DCS 025     | Business                                                                                                |
| 463 | Red Dot USHPA  | 151.62500             | FM   | PL 67.0     | Business                                                                                                |
| 464 | Sun Dot        | 151.70000             | FM   | PL 67.0     | Business                                                                                                |
| 465 | Brown Dot      | 464.50000             | FM   | PL 67.0     | Business                                                                                                |
| 466 | Yellow Dot     | 464.55000             | FM   | PL 67.0     | Business                                                                                                |
| 467 | Brown Duplex   | 469.50000 / 464.50000 | FM   | PL 67.0     | Business                                                                                                |
| 468 | Yellow Duplex  | 469.55000 / 464.55000 | FM   | PL 67.0     | Business                                                                                                |
| 469 | Star Dot       | 151.76000             | FM   | PL 67.0     | Business                                                                                                |
| 470 | Silver Star    | 467.85000             | FM   | DCS 023     | Business                                                                                                |
| 471 | Gold Star      | 467.87500             | FM   | DCS 025     | Business                                                                                                |

| Ch  | Name           | RX / TX MHz           | Mode | Tone / code | Bank / note |
|-----|----------------|-----------------------|------|-------------|-------------|
| 472 | Red Star       | 467.90000             | FM   | DCS 026     | Business    |
| 473 | Blue Star      | 467.92500             | FM   | DCS 031     | Business    |
| 474 | Itinerant      | 151.50500             | FM   | PL 151.4    | Business    |
| 475 | Itinerant Narr | 151.51250             | FM   | PL 151.4    | Business    |
| 476 | Retail         | 154.51500             | FM   | DCS 047     | Business    |
| 477 | Commercial     | 154.54000             | FM   | PL 67.0     | Business    |
| 478 | Commercial     | 451.81250 / 456.81250 | FM   | PL 151.4    | Business    |
| 479 | Biz / USHPA5   | 158.40000             | FM   | PL 100.0    | Business    |
| 480 | Business       | 467.75000             | FM   | DCS 023     | Business    |
| 481 | Engineering    | 452.12500 / 457.12500 | FM   | None        | Business    |
| 482 | Industrial     | 451.85000 / 456.85000 | FM   | None        | Business    |
| 483 | Manufacturing  | 451.80000 / 456.80000 | FM   | PL 67.0     | Business    |
| 484 | Warehouses     | 451.90000 / 456.90000 | FM   | None        | Business    |
| 485 | Commercial 49  | 467.83750             | FM   | PL 110.9    | Business    |
| 486 | Commercial 50  | 467.86250             | FM   | PL 110.9    | Business    |
| 487 | Commercial 51  | 467.88750             | FM   | PL 110.9    | Business    |
| 488 | Commercial 52  | 467.91250             | FM   | PL 110.9    | Business    |

## Attendant Binder Reference Pages

The following reference pages keep licenses, maps and compact operating charts beside the field doctrine where they are useful.

| Reference page                      | Binder use                                                                                        |
|-------------------------------------|---------------------------------------------------------------------------------------------------|
| NS6T Azimuthal Map - 312 km Radius  | Local and near-regional bearing/azimuth reference from the Chico home-area center point.          |
| NS6T Azimuthal Map - 1000 km Radius | Western U.S. travel and corridor bearing/azimuth reference.                                       |
| NS6T Azimuthal Map - Global         | Long-haul orientation and HF-style directional awareness reference.                               |
| Icom U.S. Amateur Radio Band Plan   | Compact U.S. amateur band-plan chart and operating privilege reference. ITU prefix page excluded. |
| CHP Map                             | California highway/public-safety geography reference page.                                        |
| WRQF503 GMRS License                | Current Team Stone GMRS license reference page.                                                   |

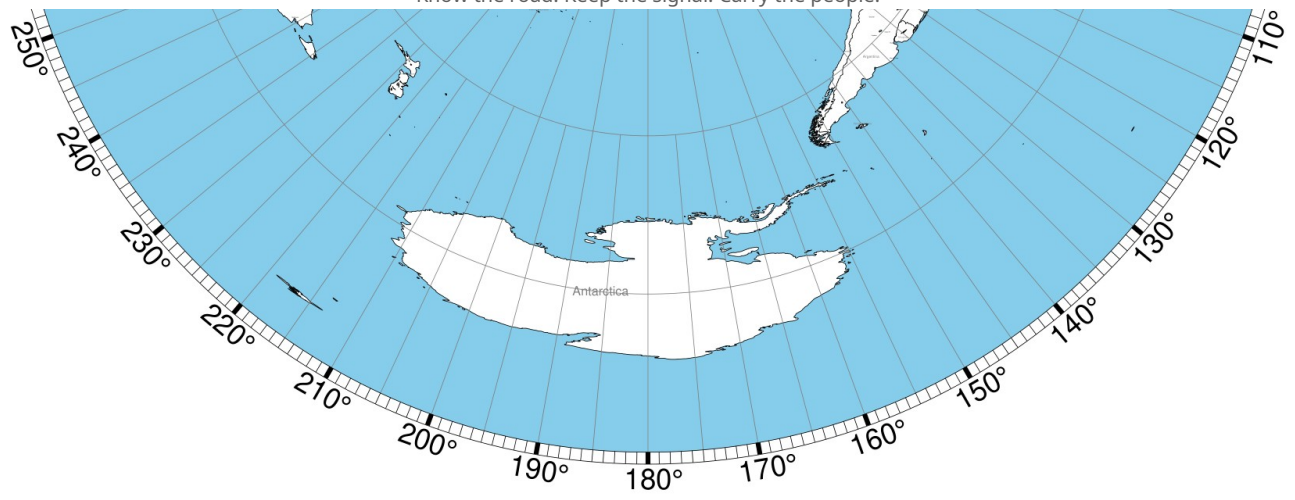


Map from <http://ns6t.net/>



Map from <http://ns6t.net/>

Know the road. Keep the signal. Carry the people.



Map from <http://ns6t.net/>

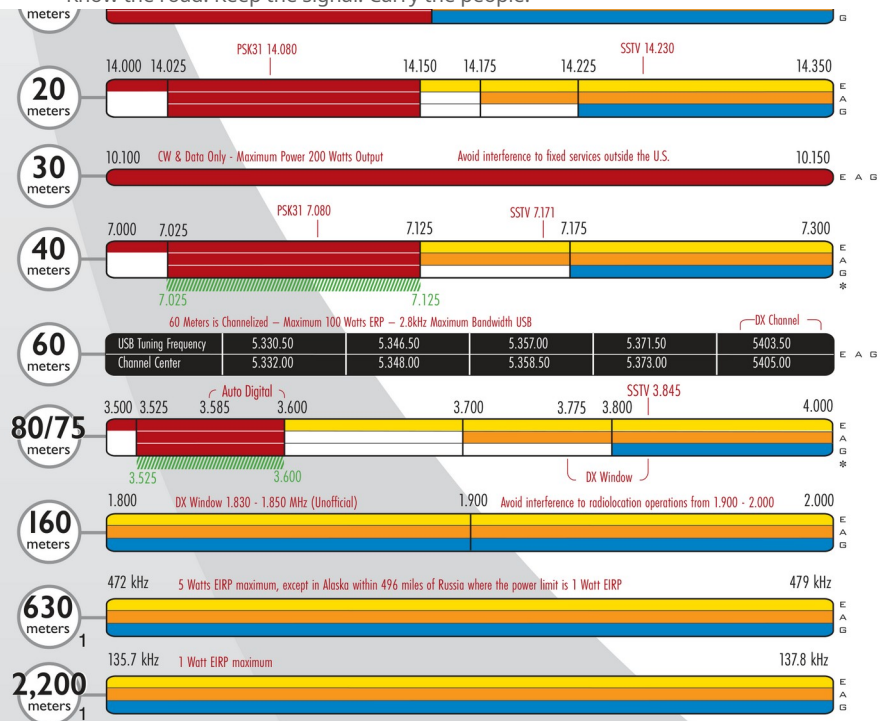
- Amateur Voice - CW - Image
- General Voice - CW - Image
- CW - RTTY - DATA
- Novice / Technician / CW
- Novice / Technician / Voice
- No Privileges

E Extra A Advanced G General  
\* Novice and Technician  
Limited to 200 Watts

Under restructuring, all Advanced  
license classes retain their operating  
privileges.

<sup>1</sup> Amateurs wishing to operate on either  
630 meters or 2,200 meters must first  
register with the Utilities Technology  
Council online at:  
[https://utc.org/plc-database-amateur-  
notification-process/](https://utc.org/plc-database-amateur-notification-process/)  
You will need to register once for each  
band.

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Know the road. Keep the signal. Carry the people.



70b7

**Conditions:**

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

|                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>THIS LICENSE IS NOT TRANSFERABLE</b></p> <hr style="width: 50%; margin: 10px auto;"/> <p>(Licensee's Signature)</p> <p style="text-align: right;"><b>FCC 660 - August 2021</b></p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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Cut Along This Line



Cut Along This Line

| Call Sign / Number                                                                                                                                  | Grant Date | Expiration Date                      | File Number                                                                                                                                                                                                              | Print Date | Effective Date |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|
| K6RCS                                                                                                                                               | 08-21-2024 | 08-21-2034                           | 0011210627                                                                                                                                                                                                               | 08-21-2024 | 08-21-2024     |
| <b>Operator Privileges</b><br>Amateur Extra<br><br>ATTN: RANDALL STONE FINANCIAL<br>STONE, RANDALL<br>383 CONNORS COURT, SUITE D<br>CHICO, CA 95926 |            | <b>Station Privileges</b><br>PRIMARY | <b>THIS LICENSE IS NOT TRANSFERABLE</b><br><br><b>Special Conditions / Endorsements:</b><br>NONE                                                                                                                         |            |                |
| <b>AMATEUR RADIO LICENSE</b><br><b>FCC Registration Number (FRN): 0011322559</b>                                                                    |            | Here<br>---<br>Fold                  | <div style="text-align: right;"> </div> <hr style="width: 50%; margin: 10px auto;"/> <p style="text-align: right;">(Licensee's Signature)</p> <p style="text-align: right;"><b>FEDERAL COMMUNICATIONS COMMISSION</b></p> |            |                |

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