



TEAM STONE DOCTRINE

Comprehensive Field Manual

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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 where used: 110.9 Hz CTCSS / code 15. Marine default: Ch 69; Ch 16/9 monitored/calling. CB defaults: Ch 30 FM 27.305 / Ch 32 AM 27.325. QSO One: Office ESSID 05 / Shack ESSID 04; fixed-site software client. CQutie: C4FM Half Deviation on 433.775 MHz; profile switching first, live editing last. APRS/GPS reporting remains on.

Operating rule: memory first, geography first, reachable RF first, internet bridge last.
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 K6RCS Amateur Radio License

Document Control and Use Notice

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Stone Tone

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, older low-power GMRS handhelds are staged in each vehicle glovebox where legal for quick family/friend shuttles, transient caravans, and short local coordination. These are practical fallback radios, not amateur radios and not a substitute for the direct voice stack. Current U.S. posture: the glovebox GMRS radios are back in the vehicles after Mexico travel. Before Mexico/Baja travel, GMRS radios, including glovebox handhelds, are left at home and are not brought across the border.

Configuration: 3x AA battery capable, Team Stone tone default 110.9 Hz CTCSS / code 15 when PL/CTCSS is used, no bell/alert tone. Primary family default remains GMRS Ch 6 DCS 073 where supported. Current U.S. posture: glovebox GMRS radios are deployed. Mexico/Baja exception: GMRS radios and glovebox handhelds are left at home before the border.

Family / memory	Frequency / block	Setting	Doctrine use
6 Stone DCS (Mem 2)	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	Current U.S. posture: small low-power GMRS handhelds are back in each vehicle glovebox where legal, for quick shuttles, transient caravans, and short friend/family coordination. Before Mexico/Baja travel, GMRS radios, including glovebox handhelds, are left at home and are not brought across the border.
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.

Platform	Identity	Job	Operational note
QSO One - Office Windows	K6RCS / DMR 317314705	Fixed-site software network-radio console	Office client. DMR ESSID 05. Normal software access to AllStarLink, EchoLink, IAX Direct, BrandMeister/TGIF DMR, YSF reflectors, and M17 without the FT-5DR or hotspot.
QSO One - Shack Windows	K6RCS / DMR 317314704	Fixed-site software network-radio console	Shack client. DMR ESSID 04 (house mnemonic). Mirrors the Office favorites library; only ESSID and local audio/PTT devices differ.
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	K6RCS-10	Always-on APRS / packet presence	Home-side continuity layer and station awareness anchor.
aprs.fi presence	K6RCS-3	Internet/APRS presence	External view and quick family/status reference.
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.
Honda 2000-class generator	Field deployment power standard	Communications-first field power and charging	Acquired during PG&E PSPS/blackout conditions; sized with reserve for radio, device, battery, and EUC charging.
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 fixed-site 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 access to AllStarLink, EchoLink, IAX Direct, DMR, YSF, and M17. Not Team Stone direct voice and not an RF path.

- openSPOT4 Pro CQutie: K6RCS-5, powered when appropriate.
- QSO One Windows clients: Office ESSID 05 and Shack ESSID 04. Use as the normal fixed-site network-radio console when internet service is available; no hotspot or radio is required for supported services.
- 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 the normal fixed-site software client. openSPOT4 Pro remains the physical-radio and remote appliance. Both are bridges, not direct RF.
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 and compact SO-50 Doppler memories	Specialized training and contingency layer. Requires pass prediction and antenna discipline; not a primary emergency plan.

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: disconnect QSO One nodes, talkgroups, reflectors, and conferences; disconnect CQutie/openSPOT destinations; restore default local monitor posture; secure APRS behavior; then stow antennas/cables in reverse order.
- 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 retained as operational doctrine. These are practice, social, and emergency-readiness anchors. Verify times and link paths before travel or formal use.

Net / event	Schedule	Frequency / access	Doctrine use
GEARS Club Net	Tuesday 7:30 PM	GEARS East 146.850 MHz PL 110.9; GEARS Bloomer 147.945 MHz PL 110.9 / AMS	Primary QTH club net and home-region operating habit. GEARS Bloomer is retained as an established home-region coverage layer.
OARS / W6AF 2-meter Net	Sunday 8:00 PM	146.085 MHz and Zoom per user correction; W6AF site may list temporary WD6AXM while W6AF is offline	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 7:00 PM	147.105 MHz PL 110.9; secondary 146.850 MHz PL 110.9	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	Tuesday 7:00 PM	145.290 MHz PL 110.9	Paradise / Magalia / ridge layer; relevant to W6SCR/Friends of High Lakes context.
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	Verify current section schedule	3.880 MHz HF reference	Wider section awareness and HF listening/practice layer.
GEARS Slow Speed CW Net	Thursday 5:00 PM local / 0000Z	7.054 MHz +/- QRM/QSB	GEARS CW practice and HF listening layer.
WIN System Net	Sunday 10:00 AM	440.650 MHz plus offset PL 110.9 / WIN System access	Linked-system awareness and travel practice.
WIN System Insomniac Trivia Net	Nightly 10:00 PM Pacific	WIN System; IRLP 9100; AllStar 2560; EchoLink KA6WIN-L	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	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.
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	Verify current NHRC/K6IS schedule	Sacramento/simplex practice layer	Optional simplex and technical practice model.

Net / event	Schedule	Frequency / access	Doctrine use
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.
CNARN Meet & Greet	Thursday 6:30 PM PT	BM TG 51522 CNARN; RF-backed repeaters and hotspot	Northern California DMR community and local/regional operating practice.
SNARS Digital Weekly Net	Tuesday 8:00 PM PT	BM TG 31328 SNARS; RF-backed repeaters and hotspot	Reno/Tahoe/Northern Nevada DMR destination and pass-travel layer.
Nevada RACES DMR Net	Monday 7:30 PM PT	BM TG 3132 Nevada	Nevada statewide emergency-readiness and corridor awareness.
LVRA / HXO DMR Net	Wednesday 6:35 PM PT	BM TG 31325 HXO	Las Vegas / Southern Nevada DMR destination awareness.
Pacific NW Regional DMR Net	Wednesday 7:00 PM PT	BM TG 31771 PNWR	Oregon, Washington, Kitsap, and Puget Sound corridor awareness.
Oregon Statewide DMR Net	Wednesday 8:00 PM PT	BM TG 3141 Oregon	Oregon I-5 / Willamette / northbound travel monitoring layer.
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.

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	Farmers Skillet, Cohasset Road, Chico	2nd Saturday, 9:00 AM	Local QTH club relationships and informal operating awareness.
OARS Breakfast	Cornucopia of Oroville	4th Saturday, 8:30 AM	Oroville-area club relationships and regional awareness.
GEARS Meeting	Chico Public Library, 1108 Sherman Ave, Chico	Doors 6:00 PM; meeting 7:00 PM; verify meeting date	Home-club coordination and local operating culture.
OARS Meeting	St. Paul's Episcopal Church Hall, Oroville; also 146.085 MHz and Zoom	2nd Friday, 6:00 PM	Oroville-area club contact and local/regional awareness.
GARS Meeting	Lutheran Church Hall, Artois	2nd Friday, 7:00 PM	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 Still House Tasting Room, 2420 Park Avenue, Chico	Wednesday 6:00 PM	CW practice, club culture, and low-pressure skill building.

Schedule control	How to maintain it
Printed doctrine	Keep net names, systems, and doctrine purpose in the body. Use “verify current schedule” where times are unstable.
Field card / phone note	Carry the actual time/frequency pairs in a small current sked card updated before travel.
Travel changeover	When region changes, check local net/calendar relevance the same way the memory bank changes.
Deletion rule	Do not delete the Net Calendar because times changed. Update times or mark verify-current.

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.

Reference	Schedule / channel	Access / frequency	Doctrine use
GEARS Slow Speed CW Net	Thursday 5:00 PM local / 0000Z	7.054 MHz +/- QRM/QSB	GEARS CW practice and HF listening layer.
ARRL Sacramento Valley Section HF Net	Announced section net; often after the VHF section net	3.880 MHz LSB +/- 3 kHz; 5.3305 MHz USB as propagation permits	Regional HF awareness and section traffic/practice layer.
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.
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.

Destination	Net / meeting	Schedule	Access / location	Doctrine use
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 Commere	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.
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 East 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 WinSystem layer
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
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
21	Grass Valley	146.6250	W6YDD
24	Red Bluff	145.4500	KF6KDD
25	Redding	146.6400	W6STA
26	KE6CHO EL	145.1100	KE6CHO - verify current EchoLink ID before programming
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	Local NOAA	FT-5DR Weather Alert enabled and set to local NOAA frequency; verify active NOAA frequency when traveling.

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.

4. Digital Destinations and Mode Competency

Maintain practical competence across the modes Team Stone actually touches, but keep the priority ladder honest: C4FM / WIRES-X / YSF first, then DMR and D-STAR where they serve, EchoLink above IRLP, then lower-probability interoperability modes.

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	Above IRLP in priority; easiest bridge at base locations and useful regional RF-backed nodes.
IRLP / AllStar / P25 / NXDN	Maintain working familiarity where useful, but do not let them displace stronger day-to-day infrastructure.

Digital priority ladder
1) Reachable RF infrastructure -> 2) QSO One fixed-site 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 / W6EK-R	EchoLink / AllStar / WIRES-X / YSF	EL 4128; AllStar 51018; WIRES-X room 62545; YSF 06040; NorCal Repeater GRP 43847	Auburn / Sierra Foothills ARC	Primary NorCal/Sierra digital reference family. W6EK nets use the same 2m system access stack.
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.

4.2 EchoLink Favorites and Companion Systems

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.
W6EK-R	EchoLink repeater	4128	Auburn / Sierra Foothills	Primary W6EK / SFARC doctrine anchor.
KE6CHO-R	EchoLink repeater	Verify before programming	North State / KE6CHO family	Retain only if tied to programmed memories; confirm current node ID before programming.
W6AF-R	EchoLink repeater	Verify before programming	Oroville / OARS family	OARS/W6AF context; verify current EchoLink status before programming.

System / callsign	Companion system	Node / Room ID	Location / family	Doctrine handling
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

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.

Callsign / room / memory	Node / room IDs / frequency	Location / notes
GEARS Bloomer - Memory 4	147.945 MHz receive / 147.345 MHz transmit; PL 110.9; AMS On	W6RHC GEARS Bloomer. Established Memory 4 home-region C4FM/AMS-capable layer.
Paradise-L YSF - Memory 15	146.670 MHz AMS; W6PAR family	Home/ridge Fusion-aware local layer.
KE6CHO YSF - Memory 27	440.050 MHz DN	North State / KE6CHO digital candidate.
Lincoln YSF - Memory 32	147.300 MHz DN; K6PAC	Lincoln / Sacramento Valley YSF layer.
Woodside YSF - Memories 60/61	145.370 MHz DN; 440.450 MHz DN; N6ZX	Bay Area / Peninsula digital layer.
Willits YSF - Memory 167	145.130 MHz DN; W6MMM	Mendocino / US-101 digital layer.
SeaTac YSF - Memory 258	146.660 MHz DN; NC7G	Seattle / airport digital layer.
Belfair YSF - Memory 263	145.170 MHz DN; NM7E	Bremerton/Kitsap connector.
Seattle YSF - Memory 272	442.900 MHz DN; WA7LZO	Seattle metro digital haunt.
Rattlesnake YSF - Memory 275	441.650 MHz DN; N7NFY	Eastside / I-90 / Seattle-area digital layer.
Bend YSF EL - Memory 499	443.750 MHz; W7JVO	Central Oregon digital/linked reference.
Ophir Peak-YSF - Memory 569	146.610 MHz DN; W7TA	Tahoe/Reno / Nevada digital destination layer from latest FT-5DR export.
LV YSF / Henderson YSF - Memories 673-675	445.875 MHz W7JCA; 145.280 / 445.680 MHz WA7SCA	Southern Nevada / Las Vegas digital layer.
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 state fallbacks	FCS00206 California; FCS00237 Oregon; FCS00247 Washington; FCS00228 Nevada	State/regional fallback when a better RF-backed room is not obvious.
W7DEM family	11676 / 30375 / 30656 / 33209 / 51273 / 54774 / 73327 / 99140-99146 / 99169 / 99501-99502	Nevada statewide movement and linked digital family; use only when it serves the corridor.

4.4 Companion Digital Mode Records

Mode / family	Records to retain	Doctrine handling
EchoLink	Primary records live in the proximity/corridor-sorted EchoLink Favorites table. KE6QK-L is 976012. Excluded from favorites: KN6TED-R, W6LND-R, W6RHC-R, W6SUV-R, WW6BAY-R.	Use for easy base-location bridging and corridor haunts. Do not use as a substitute for direct local voice.
IRLP	AG6AU IRLP 7195; WIN System / Insomniac access uses IRLP reflector 9100.	AG6AU remains 7195 only.
AllStar	QSO One Node Mode and WT Mode; W6SCR 421140; W6EK 51018; WIN System 2560; full western favorites in Section 4.4.2.	QSO One is the normal fixed-site AllStar client. Retain default UDP 4569 unless operating multiple actual AllStar node servers behind the same NAT.
DMR / BrandMeister	DMR ID 3173147. See Section 4.6 for CQutie/BrandMeister RF-backed regional profiles, talkgroups, and repeater IDs. Core utility and sked TGs: 4000 disconnect, 9990 parrot, 3106 California, 31068 NorCal/Marin ARC, 51522 CNARN, 3132 Nevada, 31328 SNARS, 31325 HXO, 3141 Oregon, 3153 Washington, 31538 WA ARES, 31771 PNWR, 311429 KCARC/Kitsap.	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.

Mode / family	Records to retain	Doctrine handling
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 KC7Z	DMR ID 3173147. See Section 4.6 for CQutie/BrandMeister RF-backed regional profiles, talkgroups, and repeater IDs. Core utility and sked TGs: 4000 disconnect, 9990 parrot, 3106 California, 31068 NorCal/Marin ARC, 51522 CNARN, 3132 Nevada, 31328 SNARS, 31325 HXO, 3141 Oregon, 3153 Washington, 31538 WA ARES, 31771 PNWR, 311429 KCARC/Kitsap.	CQutie/openSPOT regional overlay layer. FT-5DR is not DMR. DMR belongs in the companion/hotspot stack as a geography-aware RF-backed interoperability layer, not as a primary direct voice path.
M17	QSO One reflectors/modules: M17-NCA A; M17-PNW A; M17-PNW C as active-monitoring alternative.	Software-only open digital voice layer. Callsign K6RCS is the identity. Verify reflector/module use before travel or doctrine promotion.

4.4.1 QSO One Software Client and Operation

QSO One is the Team Stone fixed-location software network-radio platform. It consolidates AllStarLink, EchoLink, IAX Direct, DMR through BrandMeister and TGIF, System Fusion through YSF reflectors, and M17 in one Windows client. The Office and Shack installations are fully configured. QSO One does not require the FT-5DR or openSPOT4 Pro for its supported software connections.

Capability	QSO One role	openSPOT4 Pro role	Doctrine boundary
AllStarLink	Node Mode and WT Mode; software audio, DTMF, search, and favorites.	Not the normal Team Stone AllStar client.	Default fixed-site path is QSO One.
EchoLink	Direct connection with automatic proxy fallback.	Not the normal Team Stone EchoLink client.	Prefer RF-backed and corridor-useful favorites.
DMR	BrandMeister and TGIF without hotspot or radio.	FT-5DR cross-mode and compact field appliance.	Keep network and ESSID identity explicit.
System Fusion	YSF reflectors in software.	FT-5DR/C4FM radio-side profiles and physical-radio operation.	YSF software access is not full Yaesu WIRESS-X.
M17	Reflectors and modules; K6RCS callsign identity.	Use only where an OS4P profile or cross-mode path adds value.	Save reflector plus module.
IAX Direct	Private endpoint using operator-issued host, port, username, and secret.	Not the normal direct-IAx tool.	Leave blank without issued credentials.
D-STAR / P25 / NXDN / pager-related paths	Outside QSO One current advertised client set.	Retained where supported.	Use openSPOT4 Pro for these jobs.
Remote/mobile appliance role	Windows is the established fixed-site platform; iOS is a forthcoming planned field client and is included in deployment preparation now.	Current compact field/travel appliance.	Deploy on iOS upon release, then validate credentials, mirrored favorites, audio/PTT, and cellular/CGNAT before field reliance.

Identity and configuration baseline

Setting	Office Windows	Shack Windows	Doctrine rule
Callsign	K6RCS	K6RCS	Licensed callsign identity.
DMR ID	3173147	3173147	Enter the bare seven-digit ID when ESSID is separate.
DMR ESSID	05	04	05 = Office; 04 = house/shack. Apply to TGIF and BrandMeister where requested.
Reserved suffix	10 reserved	10 reserved	Keep 10 for APRS/digipeater/infrastructure identity.
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 device IDs must be retested after migration.

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 and verify the correct Office or Shack DMR ESSID.
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. Use the network-specific disconnect procedure. Do not leave nodes, talkgroups, reflectors, or conferences linked after the purpose ends.
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.

Configuration backup and transfer

Until QSO One provides a supported export/import workflow, preserve the complete QSO One application-data directory while the application is fully closed. Search under %APPDATA% and %LOCALAPPDATA%; copy the entire parent folder rather than guessing that one JSON, database, or preference file contains the complete configuration.

- Store the backup in encrypted storage because credentials or tokens may be present.
- Install and sign in on the destination PC once; close QSO One; back up the new local folder; then replace it with the tested source copy.
- After copying Office to Shack, change ESSID 05 to 04 in every service-specific location that uses it.
- Reselect microphone, output, Bluetooth/PTT, and local Windows audio levels.
- Expect machine-bound protected credentials to require re-entry even when favorites and preferences transfer.

4.4.2 Favorite Nodes for Doctrine

QSO One favorites are the operational front end for internet-linked amateur systems. Built-in directories remain the discovery source; Team Stone favorites are a curated deployment library. Favorites may be broader than FT-5DR memories, but they remain geography-first, corridor-relevant, and tested. Directory presence alone is not proof that a node is online, accepts WT connections, or remains tied to the same RF system.

Favorites classification

Class	Meaning	Handling
Doctrine Core	Local, regional, corridor, family-haunt, or broad contingency path with a clear Team Stone purpose.	Retain on both Windows PCs and list here.
Deployment Prep	Useful travel-region or emerging endpoint that does not warrant FT-5DR memory or permanent doctrine status.	Keep in QSO One; test before travel. British Columbia remains here.
Test Candidate	Geographically promising but not yet confirmed for stable access, RF backing, WT acceptance, or regular usefulness.	Mark TEST until verified.
Directory Only	One-time, personal, dead, obscure, or non-mission destination.	Search when needed; do not clutter favorites.

AllStarLink - Priority A doctrine favorites

Region / corridor	Node	Callsign	Location / system	Doctrine role
Home / NorCal	421140	W6SCR	Chico	Primary home-region AllStar anchor.
Sacramento / I-80	51018	W6EK	Auburn	Primary Sierra foothills and W6EK net/system anchor.
Sacramento Valley	43502	K6BER	Berryessa Peak	Sacramento Valley / North Bay corridor.
Sacramento	68377	K6SAC	Sacramento	Capital-region alternative.
I-5 North	2587	W6REB	Redding	Northbound I-5 anchor.
Shasta	48044	NR6J	Mount Shasta	Far-northern California / Siskiyou layer.
Tahoe	453940	KJ6NKR	South Lake Tahoe	Tahoe Basin destination.
Carson Valley	54810	KJ6IX	Gardnerville	East side of Tahoe / Carson Valley.
Mendocino Inland	68406	KK6PZA	Ukiah	US-101 inland North Coast anchor.
Mendocino Coast	523620	AF6MQ	Point Arena	Coastal Mendocino destination.
Bay Area	43156	NO1PC	San Francisco	San Francisco / Bay Area reference.
Monterey / Salinas	43505	W6HPB	Salinas	Salinas / Monterey corridor.
Southern Oregon	418251	KE7BNZ	Medford	First major Oregon I-5 anchor.
Southern Oregon	48394	WB7UZZ	Grants Pass	Rogue Valley / I-5.
Southern Oregon	68364	K7CAM	Roseburg / Winston	Established Team Stone Oregon haunt.
Willamette	522293	AI7BQ	Eugene	Central Willamette Valley hub.
Oregon Coast	2626	K7GND	Florence	Primary Oregon Coast favorite.
Portland / PNW	42950	N7GLV	Troutdale / PNWX	Portland-area and PNW regional path.
Oregon Coast Range	54879	W7PXL	Prairie Peak	Mid-Oregon / Coast Range alternative.
Seattle	2462	WW7PSR	Seattle	Primary Seattle regional repeater node.
West Sound	557585	KJ7DWA	Gig Harbor	Kitsap / West Sound access.
North Puget	2251	W7RWN	Marysville	Northern Puget Sound hub.
I-5 Washington	520100	WA7PAG	Chehalis	Portland-to-Puget I-5 bridge.
Olympic Peninsula	2411	AF7DX	Sequim	Olympic Peninsula destination.
North Washington	2541	KF7DRV	Bellingham	Northern Washington / border corridor.
Western Contingency	2560	K6JSI	WIN System	Broad western fallback; follow WIN connection rules.
Southern California	2530	WD6AWP	SoCal Hub	Southern California regional path.
Southern California	2036	KE6PCV	SoCal Calnet	Independent SoCal alternative.
Southern Nevada	2030	W7AOR	Las Vegas / Narri	Las Vegas and Southern Nevada.

Region / corridor	Node	Callsign	Location / system	Doctrine role
Arizona	20090	W6IZK	Phoenix	Phoenix / central Arizona fallback.
Northern Arizona	557580	N6RDS	Flagstaff / Coconino	Northern Arizona / Grand Canyon corridor.
Southwestern Utah	2442	K6IB	St. George	Zion / southwestern Utah; verify current node description.

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
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	Verify current	Big Bear	Southern California mountain destination.

YSF / System Fusion favorites

Favorite	ID	Use	Doctrine note
WARREA	YSF 68901	Primary regional YSF path	Save the reflector in QSO One. South Fork Mountain and Hatchet Mountain remain separate RF access questions.
W6EK Northern California	YSF 06040	Sierra foothills / Northern California	Companion to W6EK AllStar 51018, EchoLink 4128, and WIRES-X room 62545.

QSO One System Fusion means YSF reflector access in software, not full Yaesu WIRES-X. Preserve leading zeroes in YSF IDs.

M17 favorites

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.

DMR favorites

Favorite / TG	Network / use	Team Stone role
4000	Disconnect where applicable	Cleanly release a talkgroup/session.

Favorite / TG	Network / use	Team Stone role
9990	Parrot/audio test where applicable	Pre-deployment microphone and level test.
31068	BrandMeister NorCal / Marin	NorCal, SFRC, MARS, and regional nets.
51522	BrandMeister CNARN	Northern California community / meet-and-greet.
31328	BrandMeister SNARS	Reno/Tahoe/Northern Nevada.
3106	California	Statewide/regional fallback.
3132	Nevada	Nevada statewide / RACES.
3141	Oregon	Oregon statewide and I-5 travel.
3153	Washington	Washington statewide.
31771	Pacific Northwest Regional	Oregon/Washington/Kitsap regional layer.
311429	KCARC / KC7Z Kitsap	Bremerton/Kitsap destination anchor.

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

Profile	Purpose	Typical trigger	When not to use
YSF	Default Fusion bridge	Known System Fusion path unavailable directly	Not for first-line local analog work.
FCS	State/regional YSF fallback	Need broad state room rather than city-specific node	Skip when a better RF-backed room/node is known.
DMR	BrandMeister companion profile tied to Section 4.6 RF-backed DMR corridor and destination systems.	Need North State, Bay/Valley, Tahoe/Reno/Nevada, Oregon, Kitsap/Puget, SoCal, Imperial/Yuma, or specific TG practice.	Do not use when direct RF analog, C4FM, APRS/packet, GMRS family fallback, or local plain-language voice is the right tool.
DAPNET / POCSAG (planned)	Personal DAPNET/POCSAG transmitter/background connector through openSPOT4 Pro.	After DAPNET user credentials and separate transmitter AuthKey are issued; pager RIC/frequency/baud verified.	Do not treat as direct RF coverage unless the pager is receiving a local/Team Stone RF DAPNET transmitter. Internet OS4P path is a convenience and notification layer.
D-STAR	D-STAR reflector/client bridge	Need REF/DCS access unavailable by nearby RF	Tertiary. Verify reflector/module first.
P25	P25 bridge/test profile	Specific P25 destination or experiment	Tertiary. Not a routine Team Stone field path.
NXDN	NXDN bridge/test profile	Specific NXDN destination or experiment	Tertiary. Not a routine Team Stone field path.
Travel	Broad travel profile	On-the-fly corridor extension or lodging deployment	Avoid if mission is clearly local tactical.
Tactical	Short-duration bridge	Local event, short tactical post, temporary interop	Do not leave as unattended default.
TeamStone	Family/local convenience profile	Shared local bridge support and team continuity	Not for random experimentation.
Experimental	Test bench profile	Trying new mode/destination briefly	Never as the operational default.

Profile	Purpose	Typical trigger	When not to use
Shark DV Server	SharkRF server workflow	When SharkRF server mode is the cleanest path	Do not replace direct RF by habit.
BM San Jose / Dallas	BrandMeister Homebrew C4FM-to-DMR, route TG 31068 group call	NorCal DMR net, Marin ARC, CNARN, North State digital bridge	Do not use the SharkRF password or BM login password; use BM Hotspot Security password only.
FreeDMR / AmComm / TGIF	MMDVM network-family profiles, not BrandMeister backups	Alternate DMR-side networks, regional testing, non-BM destinations	Do not mix FreeDMR, AmComm, TGIF, and BrandMeister in one primary/backup pair.
D-STAR REF/XRF/DCS/XLX	Reflector or gateway profile selected by destination and module	REF030C, REF014C, XRF757A, XLX/URF tests	Do not treat D-STAR as a DMR talkgroup. Module/local-module rules apply.

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

CQutie is a convenience bridge, not a primary voice path. Field operation uses prebuilt profiles before connector editing. The field rule is simple: switch profiles first, edit settings last.

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	Use prebuilt profile, Quick Call, or DTMF group/private call pattern where validated.	Do not leave stale dynamic talkgroups linked. Use unlink/clear behavior before changing destinations when appropriate.
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 URCALLP	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 call IDs 9001-9010; D-STAR DTMF A1-A10 or URCALL1 through9/10	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.
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	VW	P25 is the exception. If server connects but no audio passes, check FT-5DR VW mode first.
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.

Destination family	FT-5DR mode	openSPOT / CQutie rule
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 10294 SkyHubLink	P25 requires VW mode; label it clearly.
Test / bench	Echo Test; Experimental; SharkDVSrvr	Do not use as operational default.

4.5.4 MMDVM / APRS Location Identity

The FT-5DR live GPS report is valuable and should remain enabled. The doctrine identity is K6RCS-7. Do not use DMR Talker Alias to control APRS identity: Talker Alias labels a DMR voice call, while the APRS SSID is controlled by the APRS path that creates the position packet.

Setting / path	Team Stone value	What it controls	Doctrine effect
APRS special connector	Enable in background: On; Allow uploading device location: Off	Receives live location from the C4FM/FT-5DR transmission	Uses the radio location rather than a fixed openSPOT4 device location.
Forced APRS identity	Force SSID/symbol/comment: On; SSID 7; comment: FT-5DR via openSPOT4 Pro	The APRS callsign suffix, symbol, and comment created by the openSPOT4 APRS connector	Publishes the FT-5DR as K6RCS-7.
Send no in-band data to network	On in the MMDVM profile when the APRS special connector is the intended position path	Stops talker alias and in-band GPS from being passed from the modem into the DMR/MMDVM server	Prevents a second server-generated report such as K6RCS-Y while preserving K6RCS-7 through the APRS connector.
Force talker alias to DMR network	Blank, or K6RCS only if a fixed voice-display label is desired	DMR voice-call display text only	Does not change the APRS SSID.
Send no in-band data to modem	On	Removes incoming network in-band data before it reaches the modem/radio	Protects voice decoding; does not affect the FT-5DR outgoing GPS report.
Default cross-mode source DMR ID	3173147	Fallback DMR source identity for cross-mode calls	Keeps the DMR identity correct when callsign-to-ID resolution is unavailable.
Homebrew/MMDVM route	Route cross-mode calls to ID 9	Connector-specific DMR destination route	This connector setting takes precedence over the global cross-mode destination DMR ID.

Validation: obtain a GPS fix, keep FT-5DR Location Service on, transmit in DN for at least 2-3 seconds, and confirm a new K6RCS-7 packet. An older K6RCS-Y point may remain visible until it ages out; the test is whether any new K6RCS-Y packet is generated.

4.6 DMR / BrandMeister RF Overlay Architecture

Team Stone treats DMR as a corridor-aware, RF-backed BrandMeister overlay reached primarily through CQutie/openSPOT. It is not the first-line direct voice layer, not a family fallback, and not a generic worldwide-chat parking place. It earns space in the doctrine only where real RF infrastructure maps to Team Stone geography.

DMR ID: 3173147. Normal BrandMeister posture is dynamic and geographic: choose the regional profile, key the useful talkgroup, use TG 4000 to clear dynamic talkgroups, and use TG 9990 for parrot/echo testing. Keep static talkgroups sparse.

CQutie DMR profile	Primary TGs / systems	Operational purpose
Home / NorCal	31068 NorCal/Marin ARC; 51522 CNARN; 3106 California; 31821; 312679; 4000; 9990	Chico, Orland, Redding, Snow Mountain, CARLA/North State continuity, local testing, and NorCal/MARS/CNARN sked support.
Bay / Valley / Monterey	31068; 3106; 31666; 31064; 31065; 31066; 31075; 310604; 3106059; 95150; 31707	East Bay, South Bay, Monterey Bay, North Bay, and K6LRG Livermore/Patterson Pass as the Bay-to-Valley DMR seam.
Tahoe / Reno / Nevada	3132; 31322; 31328; 31325; 31301; 31323; 31327; 31372; 314900; 31089; 312; 4000; 9990	Tahoe basin, Reno/SNARS, Carson Valley, Elko/I-80, Las Vegas/HXO, Nevada ARES, and desert-state continuity.
Oregon Corridor	3141; 31412; 31675; 313876; 313848; 315338; 70; 91; 4000; 9990	Klamath, Medford, Eugene, Corvallis, Portland, I-5/Willamette corridor continuity, and Oregon Statewide sked support.
Washington / Puget / Olympic	9911; 3153; 31531; 31538; 31771; 311429; 313153; 313787; 311964; 311194; 312134; 311757	Kitsap/Bremerton, Puget Sound, Seattle, North Sound, Olympic Peninsula, ferry/maritime geography, WA ARES, and PNWR sked support.
South Corridor / Desert / Borderlands	3106; 31068; 31066; 31076; 31077; 310675; 314455; 311168; 311057; 310566; 312451; 310014; 311163; 3342031	Kern, Inland Empire, Palomar/San Diego, Imperial Valley, Yuma, and Mexico-adjacent monitoring. GMRS remains excluded from Mexico operation; no GMRS radios, including glovebox handhelds, are brought into Mexico.
Travel / Utility	91; 93; 310; 311; 312; 4000; 9990	Worldwide/North America check-ins only when useful, tactical skeds, disconnect, and parrot testing.

RF-backed DMR systems retained by corridor

Region	RF-backed systems / BrandMeister IDs	Doctrine handling
North State / Home	W6GRC Orland 310889 - 147.4875 MHz, CC2; W6GRC Redding 310709 - 147.500 MHz, CC1; W6GRC Snow Mountain 310650 - CC1	Primary North State DMR backbone: valley floor, I-5/Glenn/Chico/Orland, Redding basin, Shasta/Lassen approaches, and wide mountain reach.
CARLA / Bay seam	K6LNK/CARLA Walnut Creek 310605; K6LRG Livermore 310603	CARLA and Patterson Pass / Livermore give East Bay, Tri-Valley, Altamont, and Bay-to-Central-Valley DMR continuity.
South Bay / Monterey / North Bay	WA6YCZ Baycom Mt Umunhum 310660; K6HLE Los Gatos 310619; N6IJ Marina 314947; AA6RH Geyserville 312224	South Bay, Peninsula, Monterey Bay, Santa Cruz/Salinas, Sonoma/Lake County overlays and destination local fill.
Tahoe / Reno / Northern Nevada	WA6EWV Tahoe 310728; KB7DWO Minden 312570; W7NV Gene's Peak 312192; N6FIR Elko 311374	Tahoe basin, Carson Valley, Reno/Fernley/SNARS, I-80/eastern Nevada, Elko and desert corridor continuity.
Southern Nevada / Las Vegas	NX7R-2 North Las Vegas 313216; KG7SS NW Las Vegas 313235; KB6XN High Potosi 313237	Las Vegas metro, Mojave, southern Nevada, High Potosi mountain reach, and Nevada ARES/destination monitoring.
Oregon I-5 / Willamette	W7VW Hogback/Klamath 313876; N7UH Medford 311499; K7WVD Creswell 312072; W7OEC Eugene 311427; KC7RJK-5 Eugene 314117; W7OSU Corvallis 313848; K7KSN Portland 315338	Southern Oregon, Klamath basin, Rogue Valley, Eugene/Willamette, Corvallis/OSU, Portland and northbound I-5 bridge.
Puget / Kitsap / Olympic	WA7JH Gold Mountain 315337; KC7Z Fox UHF 313787; KC7Z Cheryl/KCARC 311429; WA7JH-964 311964; W7JCR Port Townsend 311439; N7QT Redmond 311757; KF7CFR Sedro-Woolley 311194; W7ECG Ferndale 312134	Kitsap destination layer, Gold Mountain regional RF, Bremerton/KCARC identity, Seattle/eastside, North Sound, Whatcom/border, Olympic/DEM and ferry geography.

Region	RF-backed systems / BrandMeister IDs	Doctrine handling
Kern / Inland Empire / SoCal	K6KGE Taft 311053; KB6CRE Onyx Peak 310454; W6THC PAPA Edom Hill 312691; WB6YES PAPA Palomar 312693; N6LKA Calimesa 311161; AD5MT Redlands 310566; KE6UPI Murrieta - verify current BM ID; N6OGM Pleasants Peak 313587; KJ6EUC Quartz Hill 313537	Kern, high desert, I-10, Inland Empire, Palomar/San Diego, LA/OC utility, Antelope Valley and PAPA-linked regional coverage.
Imperial / Yuma / Borderlands	K6CLX Imperial County 314552; KC6QLS Yuma 312451	Imperial Valley, Calexico/Yuma, San Diego/Yuma interties and Mexico-adjacent awareness. Amateur/DMR legal context remains separate from GMRS Mexico prohibition. No GMRS radios, including glovebox handhelds, are brought into Mexico.

DMR operating rule

Use geography first. Choose the CQutie profile by region and mission, then key the appropriate talkgroup dynamically. Do not collect static talkgroups as clutter, do not park on noisy worldwide traffic by habit, and do not let DMR displace the direct RF, analog repeater, APRS, packet, GMRS family, or plain-English emergency layers.

4.7 D-STAR / openSPOT Reachable Reflector Records

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.
XRF757A	DExtra / XRF	QuadNet / North America bridge	Widely used bridge-style D-STAR/DMR reflector family.	Special-interest bridge target; verify current module and etiquette before using.
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.

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	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.

Callsign-SSID	Role	Normal state	Doctrine handling
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	aprs.fi presence	APRS-IS/iOS available	Internet-visible status layer when RF is unavailable.

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.
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	Region-dependent SMS gateway	Treat as availability-dependent. Test before relying on it.
WTSAPP	@+number <msg>; #SET alias +number; #RM alias; @alias <msg>	Retain as primary internet-room/WhatsApp bridge directory where it actually works.
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.

Operating pattern	How Team Stone uses it	Do / do not
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.
TeamStone	Family/team experimental group name retained in doctrine.	Keep as a private planning label, not as a sensitive-information channel.
APRS field habit	Checklist	
Before leaving	Confirm correct SSID/station, beaconing, 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 beaconing 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

Plain-English weather family	Code	Sacramento/STO example	Field 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
Primary VHF packet set	348-352	145.070 / 145.050 / 145.090 / 145.030 / 145.010	Common 1200-baud client-side access set.
Travel VHF alternates	353-355	145.560 / 145.630 / 145.690	Travel-region alternates when the primary set is poor.
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. Current doctrine keeps two live paths: 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	

Bridge / service	Direction	Field syntax / setup	Team Stone 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.	
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	U.S. Coast Guard public correspondence	Use after initial safety contact when directed or appropriate.
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.

Area / haunt	Working-channel posture	Weather / public-info reference	Use note
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.
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 Canada Vancouver 162.550 MHz; Victoria 162.400 MHz; Ucluelet/Port Alberni 162.525 MHz.	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.
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 and BTECH require separate transmit/receive tone thinking; Kenwood TM-D700 does not filter DCS on receive, limiting DCS utility on that radio.
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.

Compliance control	Doctrine handling
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.
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 app sequence is preserved without numeric order numbers. This is a field utility stack, not a ranked leaderboard. QSO One is included now as the planned iOS network-radio client because the Windows deployment is already an established Team Stone operating platform.

iOS Field Kit App	Role
QSO One (iOS - forthcoming)	Planned mobile counterpart to the established Windows client. Include it in the iOS field kit now; upon release, mirror the Office/Shack favorites and credentials, then validate audio/PTT and cellular/CGNAT operation.
APRS.fi	APRS map/status awareness.
SSTV	SSTV image receive/decode and image-mode field utility.
RadioMail	Winlink email workflow.
RepeaterBook	Repeater directory/reference.
myGMRS	GMRS directory/reference.
WiresApps	WIRES-X room/node support.
Morse Pad	CW decoder / scratch-pad utility.
WSPR Watch	Propagation awareness.
iDX	DX/log/reference layer.
PSK31 Pad	PSK31 field-mode utility.
Packet	Packet workflow.
Koch Trainer	CW copy training.
Morse Key	CW sending practice.
Maidenhead	Grid locator utility.

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.

Q-Code	Question	Answer / meaning
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.
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	Channelized FM; treat as narrowband in practice. GMRS interstitials are the strictest case.
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 uploaded 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

Ch	Name	RX MHz	Mode	Tone / code
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
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

Ch	Name	RX MHz	Mode	Tone / code
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 v30.04 Publisher's Edition - Print Lock 2026-08-04.
K6RCS FCC amateur license	Required attendant binder page.
WRQF503 GMRS license	Required attendant binder page.
ARRL US Amateur Radio Bands chart	Required attendant binder page.
Icom America US Band Plan	Required attendant binder page.
NS6T azimuthal/radial maps	Required: 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 reference layer; paper/offline repeater reference supplement in the Honda.
Honda 2000-class generator	Field deployment power standard for communications, emergency operations, family device recovery, and EUC charging.
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.
Favorite Nodes for Doctrine	Maintain mirrored Office and Shack favorites; quarterly status review and pre-travel corridor review.

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.

Honda Generator Field Power Standard

Operating condition	Electrical load / capacity	Normal handling	Emergency reserve handling
Honda 2000-class nameplate rule	Plan from the exact generator nameplate. EU2000i-class baseline: 1,600 W rated continuous / 2,000 W surge, about 13.3 A continuous at 120 V.	Use rated/RMS continuous capacity for planning, not surge capacity. Surge is for startup only.	Leave reserve headroom for chargers, RF transmit peaks, heat, altitude, and fuel/runtime degradation.

Operating condition	Electrical load / capacity	Normal handling	Emergency reserve handling
Normal radio/device field use	200-400 W typical load	Radios, HT chargers, phones, watches, tablets, lighting, and battery recovery. Use clean cable management and battery buffering.	Not the limiting case. Keep the generator loafing when possible.
Heavy family/device recovery	400-600 W typical load	Multiple phones/tablets/watches, battery packs, radio receive, and HT recovery.	Preserve at least several hundred watts of headroom for transmit bursts and charging inefficiency.
EUC recovery charging	Budget roughly 350-400 W AC draw for the 100.8 V / 3 A EUC charger.	Charge separately when practical. EUC chargers can add switching noise near receivers.	Accept noise only when mobility recovery matters more than receive quiet.
Full communications stack	FT-897D high power, TM-D700, HT charging, laptop/phone, battery recovery: plan roughly 500-900 W depending on duty cycle.	Use lower RF power and battery buffering when possible. Continuous FM/high-duty modes create more load and heat than casual SSB receive/transmit.	If the stack is being run hard, actively manage duty cycle, ventilation, fuel, and remaining capacity.
Worst-case emergency stack	Roughly 1,100-1,400 W peak with both main radios, EUC charger, and device recovery; do not plan normal use at this level.	Avoid this in ordinary field operations.	Reserved for serious conditions where Team Stone must recover people, communications, and mobility together while staying below continuous rating.

Default Operating Postures

Situation	Primary layer	Secondary / fallback	Rule
Home / Chico normal	GEARS East / 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.
Doctrine maintenance	The FT-5DR memory file is the operational source of truth. The doctrine explains how to use it. If they disagree, fix or flag the doctrine.	No silent invention, deletion, or normalization of memories.
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
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

Segment	Memory	Name	Frequency	Tone / mode	Use
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	2	6 Stone DCS	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
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
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; 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 - legal authority required; no GMRS radios carried into Mexico

Appendix O - Southbound GMRS Handoff Corridor

Segment	Memory	Name	Frequency	Tone / code	Use
Family default	2	6 Stone DCS	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 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-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.

Band	FT8 common dial / frequency	FT4 / alternate FTx note or mode	Doctrine use
160m	1.840 MHz	Check WSJT-X list	Night / low-band propagation check
80m	3.573 MHz	Check WSJT-X list	Night regional/DX check
40m	7.074 MHz	7.071 MHz alternate reference	Strong all-around digital watch
30m	10.136 MHz	10.133 MHz alternate reference	Low-power digital band
20m	14.074 MHz	14.071 MHz alternate reference	Primary daytime/worldwide digital watch
17m	18.100 MHz	Check WSJT-X list	Daytime DX opening check

Band	FT8 common dial / frequency	FT4 / alternate FTx note or mode	Doctrine use
15m	21.074 MHz	Check WSJT-X list	Solar-cycle daytime DX
12m	24.915 MHz	Check WSJT-X list	Higher-band opening check
10m	28.074 MHz	Check WSJT-X list	10m opening / local-to-DX
6m	50.313 MHz	50.310 MHz alternate reference	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	
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 defaults are retained as a channelized non-amateur road/convoy fallback when CB is appropriate. The FT-5DR memory export preserves the 40 standard CB channels plus related 11-meter receive/awareness references.

Default	FT-5DR ch	CB ch/name	Frequency	Mode	Doctrine use
CB Default 1	430	CB 30 Tm Stone 1	27.305 MHz	FM	Primary Team Stone CB default when CB is the chosen road/convoy layer.
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. Tone reduces co-channel interference during openings; it does not create privacy.

Call area	Tone 1	Tone 2
W1	131.8 Hz	91.5 Hz
W2	136.5 Hz	94.8 Hz
W3	141.3 Hz	97.4 Hz
W4	146.2 Hz	100.0 Hz
W5	151.4 Hz	103.5 Hz
W6	156.7 Hz	107.2 Hz
W7	162.2 Hz	110.9 Hz
W8	167.9 Hz	114.8 Hz
W9	173.8 Hz	118.8 Hz
W0	179.9 Hz	123.0 Hz
VE	127.3 Hz	88.5 Hz
KP4	183.5 Hz	85.4 Hz
KV4	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 - Digital Source-of-Truth Checklist

Record type	Primary source	Doctrine handling
FT-5DR memories	Current FT-5DR control set: K6RCSlimits.FT5D, Memories.csv, Memories.tab, K6RCS.FT5D, limits.csv, limits.tab, settings.rsfs, and BACKUP.dat.	Memory export remains operational authority; doctrine tables summarize current programming and are revised only when the programmed export changes.
WSJT-X / HF digital	Official WSJT-X project downloads and User Guide; current Icom IC-756 Pro III station profile	Use the current official GA release. IC-756 Pro III is the normal PC-connected shack platform; FT-897D is not a standing PC station and remains manual/iOS-assisted unless temporarily configured.
WIRES-X rooms	Yaesu active room list / system owner notes / latest FT-5DR memory-number placement	Use 5-digit room IDs with leading zeroes intact. Memory numbers may shift when banks are cleaned up; the latest programmed export controls.

Record type	Primary source	Doctrine handling
YSF reflectors	Pi-Star / hotspot reflector list / SharkRF profile	Do not assume every WIRES-X room is reachable by YSF unless bridged.
EchoLink nodes	EchoLink node lookup/current login plus system owner pages	Favorites should be RF-backed or corridor-useful.
Winlink gateways	Winlink Gateway Locations map and Winlink Express Channel Selection	Printed doctrine records planning anchors only. Check live gateway status, mode, service code, and channel list before field use.
DMR talkgroups	BrandMeister, system-owner pages, Puget Sound DMR Coalition, and RepeaterBook where useful	Prioritize destination haunts and systems already in the Team Stone orbit, including KCARC/KC7Z 311429 for Kitsap.
Local nets	Club/system owner pages and current club calendar	Keep actual times where stable; mark verify current schedule when not confirmed.
Marine channel use	NAVCEN/NOAA/harbor authority/local marina source	Ch. 16 remains distress/calling. Harbor ops channels are working references only.
openSPOT4 Pro control, MMDVM, and APRS	SharkRF openSPOT4 Settings, Homebrew/MMDVM connector, C4FM/Fusion APRS, Profiles, and Control Calls documentation plus the current local profile set.	Device configuration overrides printed defaults. For FT-5DR live GPS through an MMDVM profile, use the background APRS special connector with forced SSID 7 and suppress the duplicate server-side in-band GPS path when required.
APRS email / APRSLink	APRS-IS Email Services / javAPRSSrvr EmailGate and Winlink APRSLink documentation	EMAIL-2 and WLNK-1 are current live-service workflows. Verify syntax and gateway behavior before binder-card reliance; keep all content public, brief, and non-sensitive.
QSO One software/client	Official QSO One Features, Download, Updates, Guides, Support pages, and current installed client	Current app behavior overrides stale printed steps. Windows is the established Team Stone platform; iOS is included as a forthcoming deployment and should be loaded, mirrored, and tested promptly upon release.
QSO One identity/configuration	Current Office and Shack settings plus protected credential record	DMR ID 3173147; Office ESSID 05; Shack ESSID 04; suffix 10 reserved for infrastructure. Passwords and keys are never printed.
QSO One favorites	QSO One directories, official network directories, system-owner pages, and local validation	Curate by geography, corridor, RF/system usefulness, and successful connection. Directory presence alone is not validation.
AllStarLink nodes	Official AllStarLink node list and operator/system pages	Verify online state, description, WT acceptance, RF backing, and connection policy before promotion to Doctrine Core.
M17 reflectors/modules	Reflector dashboards and operator module plans	Store reflector plus module. Verify current module use quarterly and before travel.
QSO One backup	Complete local application-data folder while QSO One is closed	Until official export/import exists, preserve the entire folder in encrypted storage. Retest machine-bound credentials and audio devices after migration.

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.
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
A	Alfa	. -	N	November	- .
B	Bravo	- . . .	O	Oscar	- - -
C	Charlie	- . - .	P	Papa	. - - .
D	Delta	- . .	Q	Quebec	- - . -
E	Echo	.	R	Romeo	. - .
F	Foxtrot	. . - .	S	Sierra	. . .
G	Golf	- - .	T	Tango	-

Ltr	Voice	CW	Ltr	Voice	CW
H	Hotel	• • • •	U	Uniform	• • -
I	India	• •	V	Victor	• • • -
J	Juliett	• - - -	W	Whiskey	• - -
K	Kilo	- • -	X	X-ray	- • • -
L	Lima	• - • •	Y	Yankee	- • - -
M	Mike	- -	Z	Zulu	- - • •

Digits, Prosigns, and Common CW Forms

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

Appendix V - Current FT-5DR Memory File and Bank Counts

The FT-5DR memory export remains the operational source of truth. Current control set: K6RCSlimits.FT5D / Memories.csv / Memories.tab. The current export contains 829 programmed rows across memories 1-900; doctrine tables summarize current programming and are revised only when the programmed export changes.

Control item	Current status
Programmed memory rows	829
Memory range	1-900

Control item	Current status
Open / omitted slots	71 slots: 81-100, 142, 155, 172, 181, 190, 211, 219, 238, 256, 285, 300, 400, 442, 448, 450, 489, 500, 507, 517, 520, 524, 548, 556, 570, 583, 608, 615, 665, 681, 690, 699, 708, 726, 733, 750, 758, 774, 779, 783, 788, 792, 805, 812, 819, 825, 839, 855, 863, 874, 886, 891
Large intentional shelf	81-100 remains the main clean expansion shelf after early service rows.
Excluded quick shelf	888-890 remain excluded from doctrine corridor tables and segment lists even when programmed as temporary/special-purpose memories.
QMB	1 memory. Scratch-pad only, not doctrine inventory.

Current Memory Bank Counts

Bank	Current count	Bank	Current count
Home QTH	70	GMRS	43
Sacramento	97	Tahoe/Reno	62
Bay Area/Salinas	81	Mendocino	33
Mt Shasta/NorCal	66	I-5/Oregon/PNW	100
Bremerton/Kitsap	38	Seattle Metro	47
Seattle Ski Pass	26	Marine NOAA	86
Business Commerc	38	Air Band NOAA	50
Citizens Band	46	Public Safety	37
Nat'l Parks/Frst	53	NV/UT/Las Vegas	65
SoCal Corridor	41	Winlink / Packet	15
PCT	47	QMB	1

Appendix V.1 - 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 K6RCSlimits.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
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

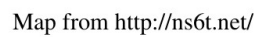
Ch	Name	RX / TX MHz	Mode	Tone / code	Bank / note
471	Gold Star	467.87500	FM	DCS 025	Business
472	Red Star	467.90000	FM	DCS 026	Business
473	Blue Star	467.92500	FM	DCS 031	Business
474	Itinerant	151.50500	FM	PL 151.4	Business
475	Itinerant Narr	151.51250	FM	PL 151.4	Business
476	Retail	154.51500	FM	DCS 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

These full-page reference sheets are appended for printed binder use alongside the operating doctrine.

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.
K6RCS Amateur Radio License	Current K6RCS Amateur Extra license reference page. Conditions page excluded.

Courtesy of Tom (NS6T)



Azimuthal Map

Center: 39°43'45"N 121°52'30"W Radius: 1000 km

Courtesy of Tom (NS6T)

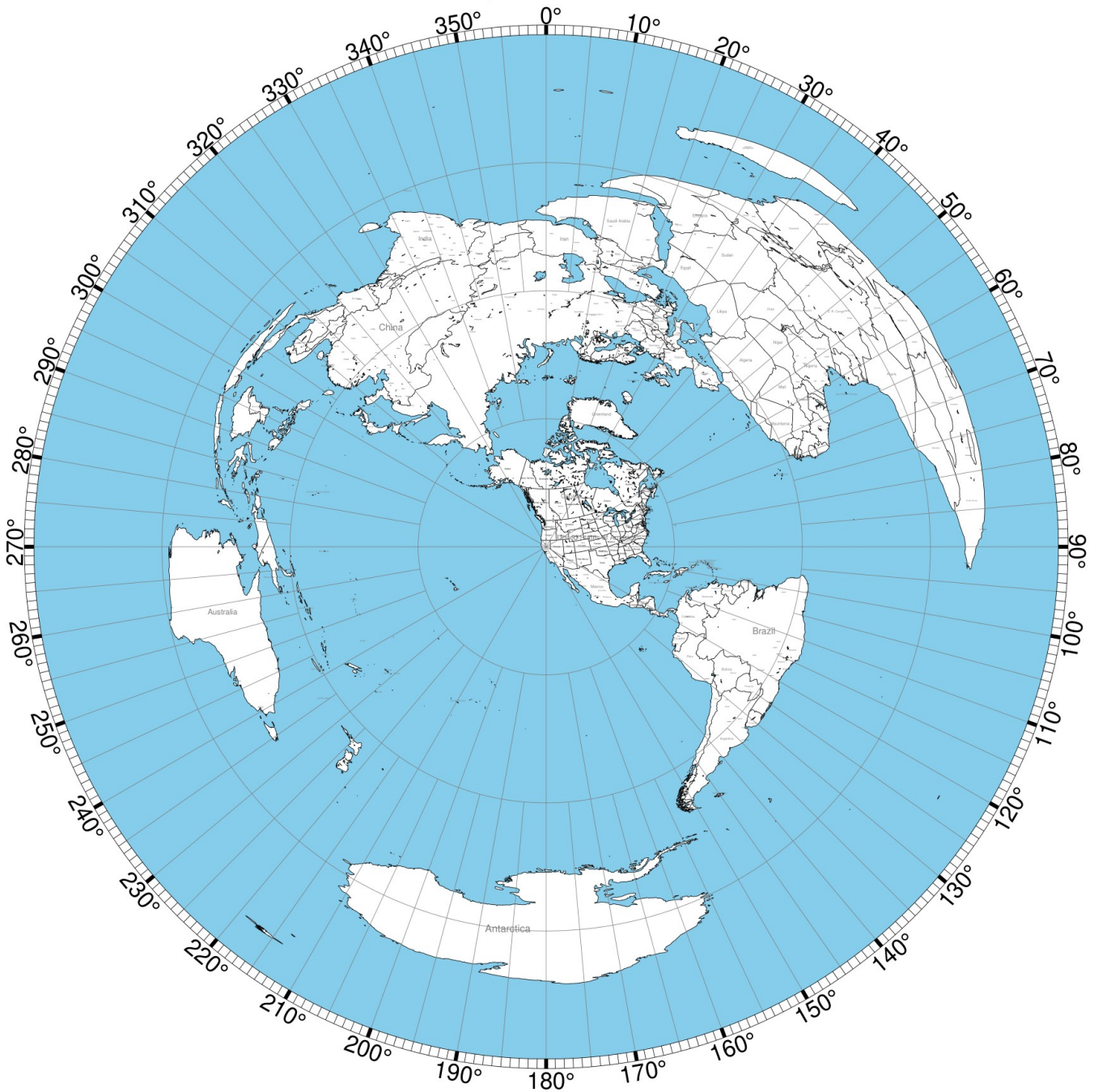


Map from <http://ns6t.net/>

Azimuthal Map

Center: 39°43'45"N 121°52'30"W

Courtesy of Tom (NS6T)



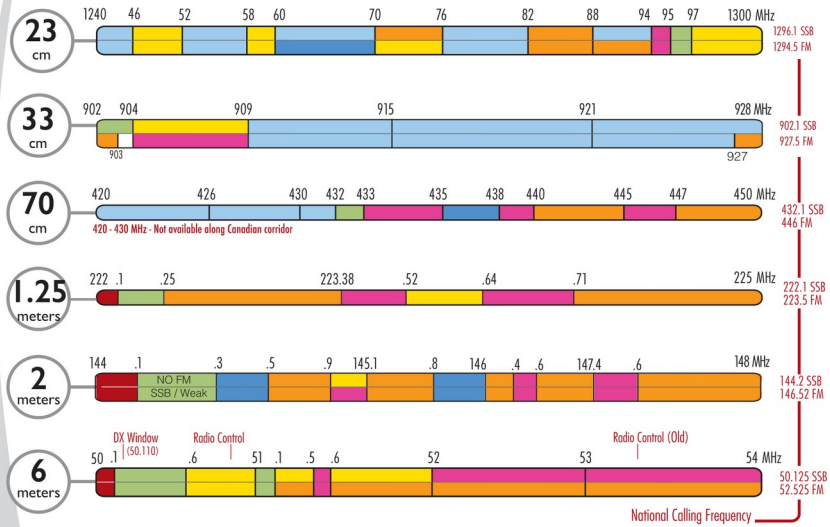
Map from <http://ns6t.net/>



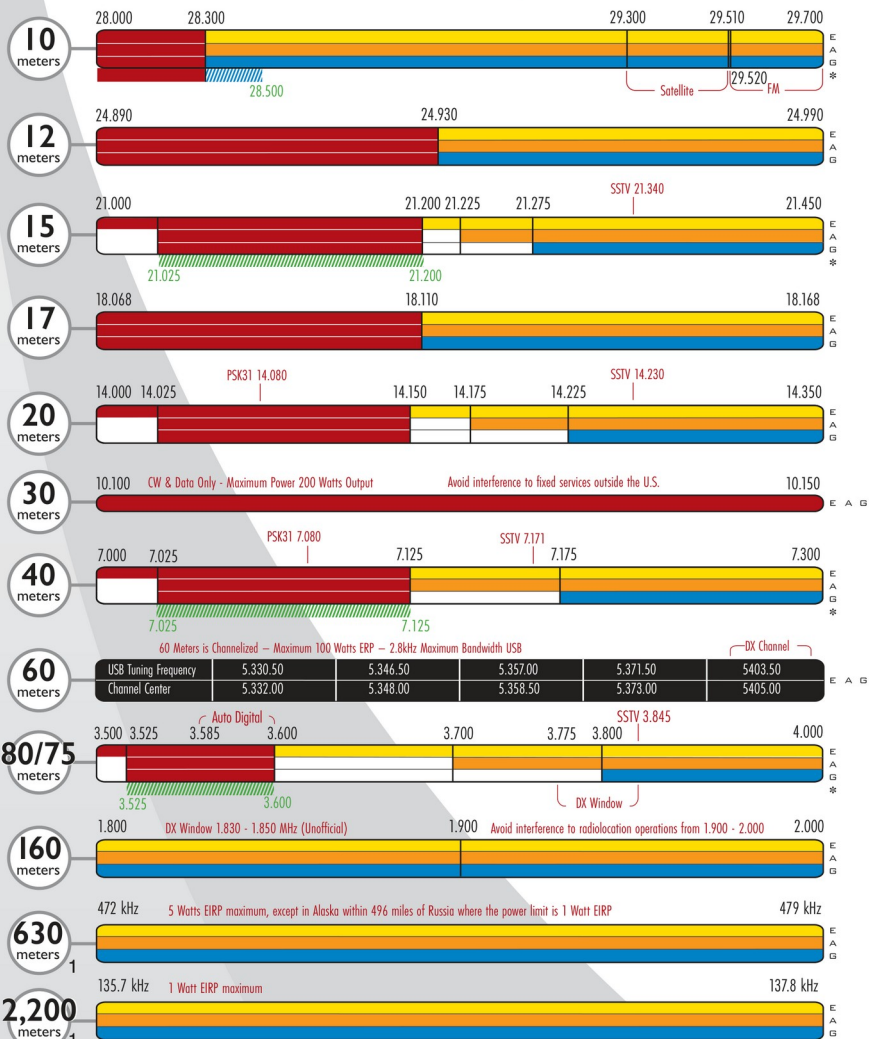
This Band Plan is meant to be a general guide and local band plans take precedence.

- Amateur TV Fast Scan
- Satellite
- CW
- Digital
- FM Simplex
- SSB & Weak Signal (No FM)
- FM Repeater

U.S.A. Amateur Radio VHF/UHF Band Plan



U.S.A. Amateur Radio MF/HF Band Plan



E Extra A Advanced G General

* Novice and Technician Limited to 200 watts

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

¹ 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/>. You will need to register once for each band.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: STONE, RANDALL

STONE, RANDALL
1390 GREENWICH DRIVE
CHICO, CA 95926

FCC Registration Number (FRN): 0011322559

Call Sign	File Number	Radio Service	
WRQF503	0010014070	ZA - General Mobile Radio (GMRS)	
Grant Date	Effective Date	Print Date	Expiration Date
04-22-2022	04-22-2022	04-22-2022	04-22-2032

Waivers/Conditions:

Effective 2/16/99 the GMRS rules have been amended and you may operate on any of the primary or interstitial channels shown in section 95.1763. Exception: Licensees who operate North of Line A and East of Line C may not operate on channels 462.650 MHZ, 467.650 MHZ, 462.700 MHZ and 467.700 MHZ unless your previous license authorized such operations.

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.



Cut Along This Line

UNITED STATES OF AMERICA FEDERAL COMMUNICATIONS COMMISSION AMATEUR RADIO LICENSE K6RCS			
ATTN: RANDALL STONE FINANCIAL STONE, RANDALL 383 CONNORS COURT, SUITE D CHICO, CA 95926			
FCC Registration Number (FRN): 0011322559			
Special Conditions / Endorsements			
NONE			
Grant Date	Effective Date	Print Date	Expiration Date
08-21-2024	08-21-2024	08-21-2024	08-21-2034
File Number	Operator Privileges		Station Privileges
0011210627	Amateur Extra		PRIMARY
THIS LICENSE IS NOT TRANSFERABLE _____ (Licensee's Signature)			
FCC 660 - August 2021			

Licensee: This is your radio authorization in sizes suitable for your wallet and for framing. Carefully cut the documents along the lines as indicated.

The Commission suggests that the wallet size version be laminated (or another similar document protection process) after signing. The Commission has found, under certain circumstances, laser print is subject to displacement.

Cut Along This Line

Cut Along This Line

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
Operator Privileges		Station Privileges		THIS LICENSE IS NOT TRANSFERABLE Special Conditions / Endorsements: NONE	
Amateur Extra		PRIMARY			
ATTN: RANDALL STONE FINANCIAL STONE, RANDALL 383 CONNORS COURT, SUITE D CHICO, CA 95926					
AMATEUR RADIO LICENSE FCC Registration Number (FRN): 0011322559					
FCC 660 - August 2021			_____ (Licensee's Signature) FEDERAL COMMUNICATIONS COMMISSION		

Cut Along This Line

Cut Along This Line

Cut Along This Line