

TEAM STONE DOCTRINE

Comprehensive Field Manual

v30.36 Publisher's Edition - Updated 2026-11-10

Radio · Roads · Family · Movement · Continuity

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

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

FIELD DEFAULTS

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

Family fallback: GMRS Ch 6 DCS 073. Tone default: 110.9 Hz CTCSS / code 15 where used. Marine: Ch 69 working; Ch 16 distress/calling; Ch 9 boater calling. CB: Ch 30 FM 27.305 / Ch 32 AM 27.325. QSO One: BrandMeister uses DMR ID 3173147 with no SSID; other configured DMR networks use SSID 11. APRS SSIDs remain separate. CQutie: 433.775 MHz C4FM Half Deviation; Quick Call for DMR destinations. APRS/GPS reporting remains on.

Operating rule: memory first, geography first, reachable RF first, internet bridge last.

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Attendant Binder Reference Pages

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

Family / channel	Frequency / block	Setting	Doctrine use
GMRS Ch 6	462.6875 MHz	DCS 073	Primary Team Stone family / convoy default.
Glovebox GMRS handhelds	GMRS Ch 6; DCS 073 where supported / 110.9 Hz CTCSS code 15 where tone-mode constrained	3x AA capable; no bell/alert tone	Quick family/friend coordination. Staged in U.S. vehicles; leave at home before Mexico/Baja travel.
FRS / GMRS 1-14	462/467 MHz interstitials	Ch 8-14 low-power / 0.5 W where radio settings allow	Short-range family/camp/local convenience.

Family / channel	Frequency / block	Setting	Doctrine use
GMRS 15-22	462 MHz main/repeater outputs / 467 MHz inputs	Power appropriate to radio capability and operating moment	GMRS main/simplex and repeater layer where legal. U.S./legal-jurisdiction use only; not part of the Mexico operating plan.

Platform	Identity	Job	Operational note
FT-5DR HT	K6RCS-7	On-body field radio	Carry-first manual. Memory-defined behavior matters more than wishful reconfiguration.
TM-D700 mobile	K6RCS	Driving / APRS / road utility	The moving station. Corridor doctrine stops being theory when this station is beaconing.
TM-D700 QTH	Packet / TNC utility	Always-on shack support	Supports APRSIS32, packet utility, and quiet backbone work.
IC-756 Pro III shack HF	K6RCS	Primary PC-connected HF / WSJT-X station	The shack HF rig and normal computer-digital baseline. Use the current official WSJT-X release and a saved IC-756 Pro III station profile.
FT-897D bedroom HF	K6RCS	Bedroom HF / manual operating / iOS-assisted logging	No standing PC dependency. Use manual or iOS-assisted logging; connect a computer only for a deliberate temporary digital-mode session.
QSO One - Office Windows	K6RCS / DMR 3173147; BM no SSID; others SSID 11	Fixed-site software network-radio console	For BrandMeister use no SSID; for other configured DMR networks use SSID 11.
QSO One - Shack Windows	K6RCS / DMR 3173147; BM no SSID; others SSID 11	Shack software digital client	Runs beside APRSIS32. BrandMeister uses no SSID; other configured DMR networks use SSID 11. Do not assume an attended station.
QSO One - iOS	K6RCS / DMR 3173147; BM no SSID; others SSID 11	Commissioned mobile software network-radio client	Operational on iPhone 16 Pro Max; requires app foreground/on screen. For targeted nets and direct software links, not the routine moving digital interface.
CQutie openSPOT4 Pro	K6RCS-5	Physical-radio interface / cross-mode / remote deployment	Preferred routine mobile digital physical-radio/cross-mode platform. Supports hands-free device operation independent of a foreground iOS QSO One session.
APRSIS32 QTH digipeater	K6RCS-10	Always-on APRS / packet presence	Home-side continuity layer and station awareness anchor.
iOS APRS	K6RCS-3	iOS APRS identity	iOS uses K6RCS-3. The aprs.fi map is a viewer, not a separate station identity.
Honda Accord vehicle kit	Accord field support	Roadside / electrical / antenna reserve	Vehicle kit inventory: oversized battery for electrical demand, heavy-duty jumper cables, mylar blankets, spare flip-flops, fire blanket, reflective vests, fire extinguisher, and center-console 2m/70cm roll-up J-pole for external antenna use.
Field generator	Field deployment power standard	Communications-first field power and charging	Communications and device charging. Use the current unit nameplate and measured AC load; see Appendix J.
Honda paper reference	2026 ARRL Repeater Directory	Offline repeater reference supplement	Useful backup reference, but not more authoritative than the programmed FT-5DR memory file or current verified sources.
Baofeng UV-5R Mini - orange	Randall	EUC-mounted mobile HT	Randall's orange Mini is mounted on the EUC as a mobile installation. UHF operation has been trialed without observed wheel interference; VHF/GEARS East response remains under evaluation. Installation status: fielded; RF testing ongoing.
Baofeng UV-5R Mini - yellow	Krista	Assigned family field HT	Compact basic field radio; use the programmed Team Stone memories and normal service/licensing boundaries.
Baofeng UV-5R Mini - blue	Rhys	Assigned family field HT	Speaker microphone already issued. Keep the radio, microphone, battery, and USB-C cable together.
Baofeng UV-5R Mini - green	Karden	Assigned family field HT	Speaker microphone already issued. Keep the radio, microphone, battery, and USB-C cable together.
Baofeng UV-5R3 - legacy	Unassigned reserve	Demoted backup only	One unit remains. Proprietary charger and aging fleet status keep it below the UV-5R Mini standard; do not buy more.

Baofeng UV 5R Mini family field standard

The four Baofeng UV-5R Mini radios supersede the failing BTECH UV-5X3 handhelds for routine Team Stone family field use. They are basic, compact radios chosen because they are easy to carry. Their short stock antennas are a deliberate portability compromise, so use an external antenna or a higher-capability radio when terrain, distance, or link margin requires it. The UV-5R Mini is a distinct model and must not be treated as the standard UV-5R.

Programming and support: use the Mini-specific manual and software. The radio supports keypad, CPS, CHIRP, and OLA Radio programming. Its internal Bluetooth is for app programming, not native Bluetooth speaker-microphone audio. OLA remains a controlled evaluation item, not the fleet source of truth: test it on one radio, read and save the current image first, write a noncritical change, verify every expected memory afterward, and expand use only if the round trip is reliable. Hardware validation is still pending.

Speaker microphones: Rhys and Karden already have wired speaker microphones. Acquire two inexpensive wired 2-pin Kenwood K-plug speaker microphones for Randall and Krista and bench-test PTT, transmit audio, receive audio, strain relief, and plug seating on the exact Mini before field issue. A wireless option requires an external adapter; TIDRADIO lists the Q2L microphone with BL-2 adapter for the UV-5R Mini, but field reports show that plug seating can affect PTT, so it is not the default procurement path.

Mini-specific sources: official product and specifications, https://www.baofengradio.com/products/5r-mini ; official manual and programming downloads, https://www.baofengradio.com/pages/download ; OLA Radio, https://play.google.com/store/apps/details?id=com.aewt.app.friends ; optional wireless microphone and BL-2 adapter, https://tidradio.com/products/td-q2l-bluetooth-noise-cancelling-magnetic-mic-for-td-h3-plus-td-h9 .

v30.36 Operational and EDC Update

QSO One for iOS is installed and operational on Randall's iPhone 16 Pro Max. Its requirement to remain on screen makes it a targeted nets/direct links client, not the default moving/mobile digital interface. CQutie/openSPOT4 Pro is the preferred everyday mobile physical-radio and cross-mode platform. The Office QSO One instance remains outside the operational count under current security settings.

The active DAPNET paging stack remains the DAPNET iOS app, openSPOT4 Pro transmitter connector, and AlphaPoc 602R pager. An Advisor 602 has not been located and is not part of the fielded paging stack.

Open EDC acquisitions: a small leak-resistant, food-safe, clearly labeled container sized for concentrated Gatorade powder, kept dry and carrying its mixing directions; and assorted stainless-steel safety pins stored closed in a small container or sleeve. Do not record either item as fielded until acquired and packed.

Decision ladder: analog primary -> analog secondary -> Team Stone direct simplex/crossband -> GMRS Ch 6 DCS 073 family fallback -> reachable repeater/RF infrastructure. For routine mobile digital operation use CQutie/openSPOT4 Pro with a physical radio; use QSO One iOS for intentional targeted nets/direct links while the app stays in the foreground; use QSO One Windows at the shack/office. EchoLink is one active login per identity across clients.

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 network access from the commissioned shack or iPhone, or openSPOT physical-radio/cross-mode operation.

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

- openSPOT4 Pro CQutie: K6RCS-5, powered when appropriate.
- QSO One BrandMeister uses DMR ID 3173147 with no SSID. Other configured QSO One DMR networks use SSID 11. APRS identities remain separate, and APRSIS32 may remain running independently.
- 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 paging	DAPNET iOS app, CQutie/openSPOT4 Pro transmitter connector, RIC 173147, and AlphaPoc 602R pager	Short alert/direct-message and H&W layer; iOS network control plus local/RF pager delivery	Send from the DAPNET iOS app or OS4P portal; receive on the AlphaPoc. Confirm network submission, OS4P handling, and pager RF receipt separately.
Hotspot / internet bridge	QSO One Windows and commissioned iOS client, CQutie/openSPOT4 Pro, APRS-IS, digital services	Fixed-site network-radio access, physical-radio/cross-mode access, and fallback interoperability	QSO One is not itself RF; configured linked-system connections may terminate on amateur RF nodes/repeaters. openSPOT4 Pro remains the physical-radio and remote appliance.
Mexico travel internet	Starlink	Backhaul for planning, messaging, streaming, and remote references in sparse-service travel	Keep RF posture separate; Starlink supports, not replaces, field radio. No GMRS radios, including glovebox handhelds, are brought into Mexico.
Air/fire aviation reference	FT-5DR receive, scanner, printed frequency card	National Air Guard 168.625 FM PL 110.9 and Flight Following 168.650 FM PL 110.9	AirGuard is emergency aviation; Flight Following is routine fire/aviation tracking. Receive/reference only unless authorized.
Mountain AWOS / ASOS / ATIS	FT-5DR air-band receive; aviation weather listings; DOT/NWAC as companion sources	Quick pass/ski weather: Truckee, Tahoe, Minden, Mammoth, Ellensburg, Wenatchee, Chehalis, Bellingham, Bend, Sunriver	Prefer weather channels over tower/ground chatter for travel decisions. AWOS supplements, not replaces, avalanche/DOT/weather sources.
State patrol / interop receive	FT-5DR receive where analog, scanner where P25/trunked	CHP low-band FM, OSP analog FM I-5 chain, NIFOG VCALL/VTAC/UCALL/UTAC references	Receive/reference layer. WSP is generally scanner/P25 territory, not a useful FT-5DR memory layer.
Satellite mini-bank	FT-5DR, APRS/packet awareness, pass prediction app	ISS APRS 145.825 plus current amateur satellite APRS/digipeater opportunities; check pass and live status before use.	High-value beyond-terrestrial-coverage contingency for position/status/message traffic when a usable pass is available. Not a guaranteed distress service; success depends on satellite mode, pass geometry, antenna, and ground/network reception.

2.2 Deployment, Setup, and Takedown Doctrine

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

2.3 Net Calendar and Operating Skeds

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

Net / event	Schedule	Frequency / access	Doctrine use
GEARS Club Net	Tuesday 7:30 PM	147.945 MHz - / CTCSS 123.0; GEARS VHF South East, Bloomer Mountain.	Primary QTH club net and high-value Team Stone regional repeater. Operator-confirmed operational; PL 123.0 Hz retained.
OARS / W6AF 2-meter Net	Sunday 8:00 PM	146.655 MHz - / PL 136.5; WD6AXM current backup	Oroville-area club net and North Valley awareness.
OARS / W6AF 10-meter SSB Net	After the Sunday 8:00 PM 2-meter net	28.450 MHz SSB	Local HF/10m practice using the IC-756 Pro III shack station or the FT-897D bedroom/manual station.
GARS Club Net	Monday 8:00 PM PT	147.105 MHz +0.600 / PL 110.9 (W6GRC)	Glenn / Artois / west-side valley awareness.
Yuba Sutter Club Net	Monday 7:00 PM	146.085 MHz PL 127.3	Yuba-Sutter valley-area club monitoring option.
PARS Club Net	Monday 6:30 PM PT	W6PAR 146.670 - / PL 131.8 and 145.370 - / PL 131.8; EchoLink W6PAR-R 234739	Paradise / Magalia home-ridge club layer. Keep W6SCR 145.290 separate as the Friends of High Lakes-linked system.
Simplex Net	Thursday 7:30 PM	146.520 MHz, no tone	Local direct/simplex practice; aligns with Wilderness Protocol habits.
Yuba Sutter ARES Net	Thursday 7:00 PM	146.085 MHz PL 127.3	ARES/regional readiness and valley awareness.
Sacramento Valley Traffic Net	Nightly 9:00 PM	146.850 MHz PL 110.9	Traffic handling and Sacramento Valley regional monitoring anchor.
Sacramento Valley Section HF Net	V - section announcement	3.880 MHz LSB +/- 3 kHz; section announcements may pair 146.085 + / PL 127.3 first	Section awareness and HF traffic practice; use the current Sacramento Valley Section announcement.
GEARS Slow Speed CW Net	Thursday 3:30 PM PT	7.052 MHz +/- QRM/QSB	GEARS CW practice and HF listening layer.
WIN System Net	Sunday 10:00 AM	AllStar hub 2560; IRLP 9100; EchoLink KA6WIN-L 126012. From GEARS 440.650 / ASL 56934, connect WIN on request with *3 2560; *70 status; *1 2560 disconnect.	Wide-area linked-system practice. GEARS 440.650 is no longer permanently tied to WIN; connect only when wanted and clear the link afterward.
WIN System Insomniac Trivia Net	Nightly 10:00 PM Pacific	WIN System: AllStar 2560; IRLP 9100; EchoLink KA6WIN-L 126012	Late-night linked-system check, casual operating habit, and wide-area audio test.
WIN System TechNet	1st and 3rd Friday 6:00 PM Pacific	WIN System: AllStar 2560; IRLP 9100; EchoLink KA6WIN-L 126012	Technical-learning net and systemwide operating practice.
W6EK Coffee Break Net	Daily / every morning, 0730-1000 PT	W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X W6EK-2M-ROOM 62545	Low-friction daily operating practice and social continuity.
W6EK Club Weekly Net	Thursday, 1930-2030 PT	W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X 62545	Primary Sierra Foothills / Auburn club anchor.
W6EK Elmer Net	1st and 3rd Wednesday, 1930-2030 PT	W6EK 2m system; AllStar 51018; EchoLink 4128; WIRES-X 62545	Practice and skills support for ongoing learning and technical cleanup.
W6EK All-Nodes Net	Monday, 1800-1900 PT	W6EK linked/node family	Interoperability and casual habit-building across linked systems.
W6EK Friday Night Trivia	1st and 3rd Friday, 1930-2030 PT	W6EK 2m system / AllStar 51018 / linked access	Casual linked-system habit-building and W6EK community contact.
Placer County ARES Net	3rd Sunday, 1930-2000 PT	W6EK 2m system / Placer ARES family	ARES readiness and Sierra foothill continuity.
NHRC / K6IS Tech and Simplex practice	V - current NHRC/K6IS schedule	Sacramento/simplex practice layer	Optional simplex and technical practice model.
San Francisco Radio Club DMR Net	Monday 7:30 PM PT	BM TG 31068 NorCal; W6PW UHF, hotspot, or other DMR repeater	Monday Bay Area/NorCal regional DMR anchor. Useful through RF-backed W6PW or the CQutie/hotspot layer.
NorCal DMR Net	Thursday 7:00 PM PT	BM TG 31068 NorCal; RF-backed repeaters and hotspot	Primary home-QTH/NorCal DMR net and North State digital operating habit.
MARS DMR Net	Tuesday 6:45 PM PT	BM TG 31068 Marin ARC; RF-backed repeaters and hotspot	Bay Area / North Coast regional DMR practice relevant to west-side and Marin travel.
SNARS Digital Weekly Net	Tuesday 8:00 PM PT	BM TG 31328; YSF 29961; WIRES-X 84619 (digital only)	Tuesday 8 PM Pacific regional digital practice for Reno/Tahoe. Operator net page also lists Ophir DG-ID 28; Fusion page lists 00. Verify local RF DG-ID before use.
Nevada RACES DMR Net	V - Monday 7:30 PM PT reference	BM TG 3132 Nevada	Retain as a statewide DMR reference; confirm organizer schedule before relying on it.
PNWDigital Gathering	Wednesday 7:00 PM PT	PNW Regional TG 31771, TS2	PNWDigital primary directed gathering; Oregon, Washington, Kitsap and Puget Sound relationships.
Oregon Regional DMR Net	Monday 7:00 PM PT	Oregon TG 3141, TS1; available via PNWDigital and BrandMeister	Current Oregon regional net; keep native-DMR/statewide policy separate from FT-5DR cross-mode shortcuts.

Net / event	Schedule	Frequency / access	Doctrine use
APRS group check	As needed before/while traveling	ANSRVR/CQSRVR groups in current region	Keeps APRS messaging alive without creating emergency-only unfamiliarity.
SWL/HF sked card review	Pre-trip and occasional evening checks	HFCC / Short-Wave.info / current net pages	Keeps SWL schedule data current rather than dead binder ink.
SCRA Sonoma Fusion Net	Thursday 7:00 PM PT	WIRES-X K6SON-ROOM 80798; local 441.375 +5 MHz, DG-ID 07	Remote check-ins welcome. Conflicts with Thursday NorCal DMR; select one according to the trip or community.
Nevada Statewide Fusion Net	Wednesday 9:15-9:30 AM PT	WIRES-X NEVADA-USA 21676; linked CVRC/W7DEM digital system	CVRC detailed net schedule. System reserved 9-10 AM; confirm before use.
WARREA weekly net	Suspended July 2, 2026	Retain YSF 68901 as a regional destination	Weekly net suspended; retain YSF 68901 for regional access.
Ham Nation After Show	V - Wednesday 7:00 PM	REF014 module C via D-STAR connector	MDARC-listed net. Module C is distinct from Team Stone REF014B / SNARS Open D-STAR use.
Western Digital D-Star	V - Saturday 7:00 PM	REF029 module A via D-STAR connector	MDARC-listed net; save reflector and module together.

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

Local Practice / In-Person Radio Culture

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

Eyeball QSO / practice event	Where	Schedule	Doctrine use
Chico / GEARS East Ham Radio Breakfast	Farmer's Skillet, 690 Rio Lindo Ave, Chico	2nd Saturday, 8:30 AM	Local QTH club relationships and informal operating awareness.
OARS Breakfast	V - location by current club announcement	V - current announcement	Oroville-area club relationships; OARS currently publishes each breakfast date/location rather than a durable binder schedule.
GEARS Meeting	Golden Beaver Distillery - Park Ave Still House, 2420 Park Ave, Chico	3rd Monday, 7:00 PM; doors 6:00 PM	Home-club coordination and local operating culture.
OARS Meeting	1430 Pine Street, Oroville; V - current club announcement	V - current announcement	Oroville-area club contact. Current OARS page publishes the next meeting rather than a durable recurring schedule.
GARS Meeting	St. Paul's Church Fellowship Hall, 565 Main St., Artois	2nd Friday, 6:30 PM PT	Glenn / Artois-area club contact.
PARS Meeting	Old Magalia Community Resource Center	2nd Thursday; doors 6:00 PM; meeting 6:30 PM	Ridge / Paradise / Magalia relationships.
GEARS Morse code class / social practice	Golden Beaver Distillery - Park Ave Still House, 2420 Park Ave, Chico	Wednesday 6:00-7:00 PM	CW practice, club culture, and low-pressure skill building.

2.4 HF Net, SWL, and Digital Bulletin References

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

Reference	Schedule / channel	Access / frequency	Doctrine use
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.
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.

Bank	Name	Doctrine purpose
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 Commerc	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 VHF East (Forest Ranch); primary local monitor / QTH club anchor; AllStar 57364; EchoLink 7818.
4	GEARS Bloomer	147.9450	W6RHC GEARS VHF South East (Bloomer Mountain), - / CTCSS 123.0; high-value Team Stone home-region and Northern Sacramento Valley coverage. Operator-confirmed operational; PL 123.0 Hz retained.
5	GEARS WinSys	440.6500	W6RHC UHF + / PL 110.9; AllStar 56934. WIN remains an on-request path via AllStar hub 2560; *3 2560 connect, *70 status, *1 2560 disconnect.
6	W6SCR	145.2900	Linked full time to Friends of High Lakes / K6FHL
7	W6SCR 440	440.9000	W6SCR 70cm
8	Willows	146.1150	K6LNK
10	Stonyford EL	443.0750	N6MVT
12	Elk Creek	147.1050	N6YCK
13	W6ECE-L	146.9400	W6ECE
14	W6ECE 440	442.3750	W6ECE; high-value local repeater
15	Paradise-L YSF	146.6700	W6PAR
16	Magalia-XL EL	145.3700	W6PAR
17	Sutter Buttes	146.0850	WD6AXM
18	Friends High Lks	146.7000	K6FHL
19	Trinity	146.9250	N4SMF; high-value local repeater
21	Grass Valley	146.6250	W6YDD
22	Grass Valley 2-L	147.2850	W6DD; high-value local repeater
23	Grass Valley 3-L	147.0150	W6DD; high-value local repeater

Ch	Name	Frequency MHz	Comment
24	Red Bluff	145.4500	KF6KDD
25	Redding	146.6400	W6STA
26	KE6CHO EL	145.1100	KE6CHO - verify current EchoLink ID before programming
29	Berryessa EL	146.9700	K6BER; high-value local repeater
40	Sacramento	145.5500	K6SAC Sacramento Valley / capital-region local reference.
41	Mt Diablo EL	147.0600	W6CX
900	APRS	144.3900	APRS North America standard
SET	FT-5DR WX Alert	162.550 MHz	WXL88, South Fork Mountain — northern valley / Red Bluff area. Select the received NOAA station and enable WX Alert.

3.2 Wilderness and VHF/UHF Call Memories

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

3.3 FM satellite field reference

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

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

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

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

Pass/status references: amsat.org/live-fm-satellites/ • ariss.org/current-status-of-iss-stations.html

4. Digital Destinations and Mode Competency

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

Mode / family	Doctrine handling
C4FM / WIRES-X / YSF	Primary digital bridge layer. Store 5-digit room IDs with leading zeroes intact. Preserve Yaesu simplex references separately from Team Stone voice doctrine.

Mode / family	Doctrine handling
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	Active network/app/OS4P/AlphaPoc paging layer. RIC 173147; 439.9875 MHz.
EchoLink	Consistently monitored. Established local and regional linked access.
AllStar	Established shack operating system through QSO One.
IRLP / P25 / NXDN	Experimental modes; maintain working familiarity.

Digital priority ladder
Reachable direct/repeater RF first. Mobile digital: CQutie/openSPOT4 Pro as the usual physical-radio/cross-mode interface. QSO One iOS: selected nets/direct links while foregrounded. QSO One Windows: fixed-station network console. DAPNET/POCSAG and other adjuncts retain distinct roles. EchoLink: one concurrent logged-in client per identity.

4.1 Node ID Completion and Memory Update

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

4.2 EchoLink Favorites and Companion Systems

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

System / callsign	Companion system	Node / Room ID	Location / family	Doctrine handling
W6PAR-R	EchoLink repeater	234739	Home QTH / Magalia-Paradise	Home-area ridge reference and family continuity.
W6EK-R	EchoLink repeater	4128	Auburn / Sierra Foothills	Primary W6EK / SFARC doctrine anchor.
W6RHC-R	EchoLink repeater	7818	Chico / GEARS East	Current GEARS 146.850 companion path; paired with AllStar 57364.
KE6CHO-R	EchoLink repeater	390402	North State / KE6CHO family	WARREA lists KE6CHO-R 390402. Separate analog/EchoLink and digital YSF access records.
W6AF-R	EchoLink repeater	197558	Oroville / OARS family	Published W6AF EchoLink node; repeater move is back on RF, but OARS says EchoLink completion at the new site is still pending. V before relying on it.
W6BML-R	EchoLink repeater	Verify before programming	Mt Shasta candidate	Verify current node and RF association before programming.
N6NA-R	EchoLink repeater	646535	Shingle Springs / El Dorado	US-50 / foothill companion.
W6VVR-R	EchoLink repeater	454312	Vacaville / Solano	I-80 / Solano corridor reference.
W6CX-R	EchoLink repeater	133896	Concord / Mt Diablo	East Bay / Diablo anchor.
W6BXN-R	EchoLink repeater	424068	Turlock / Central Valley	Hwy 99 / Central Valley reference.
W6UU-R	EchoLink repeater	688640	San Jose / South Bay	SJC / South Bay reference.
KB6LED-R	EchoLink repeater	45808	San Francisco Bay Area	Bay Area reference.
N6SPD-R	EchoLink repeater	202044	Monterey Bay	Monterey / Salinas / coast reference.

System / callsign	Companion system	Node / Room ID	Location / family	Doctrine handling
WB6QAZ-R	EchoLink repeater	288318	Cloverdale / US-101	US-101 / Sonoma-Mendocino corridor.
KA6SUB-R	EchoLink repeater	983970	Gold Run / I-80 Sierra	I-80 / Sierra foothill reference.
KA6GWY-R	EchoLink repeater	95726	Pollock Pines / US-50	Sierra / El Dorado foothill reference.
WA6EWV-R	EchoLink repeater	7240	South Lake Tahoe	Tahoe / Sierra reference.
W6DWY-R	EchoLink repeater	793849	Brookings, OR	Southern Oregon coast reference.
W7VW-R	EchoLink repeater	470009	Klamath Falls, OR	Southern Oregon / Klamath corridor.
W7JVO-R	EchoLink repeater	159091	Bend, OR	Central Oregon / Bend reference.
N7NPA-R	EchoLink repeater	188961	Thurston Hills, OR	Oregon I-5 / Willamette Valley reference.
W7PRA-L	EchoLink link	521741	Puget Sound / AB7BS	Puget Sound companion link.
N7JN-R	EchoLink repeater	441527	San Juan Islands, WA	Puget Sound / islands reference.
W7ACS-R	EchoLink repeater	146713	Seattle metro	Seattle metro reference.
W7AW-R	EchoLink repeater	56575	Seattle / Western WA	Western WA reference.
W7EAT-R	EchoLink repeater	229737	Pierce County, WA	Tacoma / Pierce County reference.
WW7PSR-L	EchoLink link	770247	Seattle / Puget Sound	Puget Sound Repeater Group link.
WW7PSR-R	EchoLink repeater	447770	Seattle / Puget Sound	Puget Sound Repeater Group repeater.
WW7SEA-R	EchoLink repeater	48845	Seattle / Queen Anne	Seattle QA-area repeater reference.
KE6QK-L	EchoLink link	976012	Fallon, Nevada	Nevada / US-50 corridor haunt.
W7JCA-L	EchoLink link	294842	Las Vegas, NV	Las Vegas link-node reference.
WA7HXO-L	EchoLink link	481877	Las Vegas, NV	Las Vegas link-node reference.
W7HEN-R	EchoLink repeater	740644	Henderson, NV	Las Vegas / Henderson reference.
WA7SCA-R	EchoLink repeater	479173	Sun City Anthem / Henderson	Henderson / Las Vegas-area reference.
N7RSL-R	EchoLink repeater	553217	Las Vegas, NV	Southern Nevada reference.
KP4UZ-R	EchoLink repeater	9212	Las Vegas, NV	Southern Nevada reference.
K7SDC-R	EchoLink repeater	64264	Eastern Utah	Utah / NV corridor candidate.

4.3 WIRES-X / YSF / C4FM Reference Set

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

Callsign / room / memory	Node / room IDs / frequency	Location / notes
Hotspot C4FM - Memory 1	433.775 MHz DN	CQutie/openSPOT4 Pro local access. Digital bridge convenience; not the primary family voice layer.
W6EK 2m system	WIRES-X W6EK-2M-ROOM 62545; W6EK node 52998; EL 4128; AllStar 51018	Auburn / SFARC primary NorCal/Sierra Fusion and companion-system anchor.
W6EK 70cm / NorCal Repeater GRP	Memory 34, 440.575 MHz DN; WIRES-X NorCal Repeater GRP 43847; YSF06040 US-NorCalRptGrp	Sierra Foothills ARC 440 Fusion/C4FM layer.
GEARS 147.945 - Memory 4	147.945 MHz - / CTCSS 123.0; AMS-capable memory; GEARS VHF South East, Bloomer Mountain.	Primary GEARS club-net path and high-value Team Stone regional coverage repeater.
Paradise-L C4FM RF - Memory 15	146.670 MHz AMS; PL 131.8; Fusion DG-ID 05; WIRES-X node 92322; W6PAR family	Home/ridge Fusion-aware local layer. W6PAR-R EchoLink 234739. 145.370 - / PL 131.8 is the Magalia companion repeater.
KE6CHO C4FM RF - Memory 27	440.050 MHz +5 MHz, DN; YSF 68901	WARREA South Fork Mountain; Hatchet W6POC 440.075 +5 MHz links to the same YSF reflector.
Lincoln C4FM RF - Memory 32	147.300 MHz DN; K6PAC	Lincoln / Sacramento Valley YSF layer. RF memory reference; reflector endpoint requires separate verification.
Woodside C4FM RF - Memories 60/61	145.370 MHz DN; 440.450 MHz DN; N6ZX	Bay Area / Peninsula digital layer. RF memory reference; reflector endpoint requires separate verification.
Willits C4FM RF - Memory 167	145.130 MHz DN; W6MMM	Mendocino / US-101 digital layer. RF memory reference; reflector endpoint requires separate verification.
SeaTac C4FM RF - Memory 258	146.660 MHz DN; NC7G	Seattle / airport digital layer. RF memory reference; reflector endpoint requires separate verification.
Belfair C4FM RF - Memory 263	145.170 MHz DN; NM7E	Bremerton/Kitsap connector. RF memory reference; reflector endpoint requires separate verification.

Callsign / room / memory	Node / room IDs / frequency	Location / notes
Seattle C4FM RF - Memory 272	442.900 MHz DN; WA7LZO	Seattle metro digital haunt. RF memory reference; reflector endpoint requires separate verification.
Rattlesnake C4FM RF - Memory 275	441.650 MHz DN; N7NFY	Eastside / I-90 / Seattle-area digital layer. RF memory reference; reflector endpoint requires separate verification.
Bend C4FM RF EL - Memory 499	443.750 MHz; W7JVO	Central Oregon digital/linked reference. RF memory reference; reflector endpoint requires separate verification.
Ophir Peak-C4FM RF - Memory 569	146.610 MHz DN; W7TA	SNARS Ophir RF memory. Net page lists DG-ID 28; Fusion page lists 00. Verify current local setting; remote YSF 29961 / WIRES-X 84619 are separately published.
LV C4FM RF / Henderson C4FM RF - Memories 673-675	445.875 MHz W7JCA; 145.280 / 445.680 MHz WA7SCA	Southern Nevada / Las Vegas digital layer. RF memory reference; reflector endpoint requires separate verification.
Yaesu C4FM simplex reference	C4FM Call Memories 875/876: 445.5625 / 145.5625 MHz DG-ID 00	Reference conventions only; not Team Stone primary voice channels.
FCS reference destinations	FCS00206 California; FCS00237 Oregon; FCS00247 Washington; FCS00228 Nevada	Separate FCS network, not YSF or a statewide RF coverage guarantee. Retained candidates; verify directory presence and traffic before use.
Nevada statewide Fusion	WIRES-X NEVADA-USA 21676	CVRC/W7DEM digital system. Wednesday Fusion net 9:15-9:30 AM PT; system reserved 9-10 AM. FCS00321 is a separate FCS access path, not a YSF ID.
SNARS regional digital	YSF 29961; WIRES-X 84619; BM TG 31328	Reno/Tahoe regional favorite; WIRES-X access digital only. Tuesday digital net 8 PM PT.
Sonoma K6SON-ROOM	WIRES-X 80798; local 441.375 +5 MHz, DN, DG-ID 07	North Bay haunt; Thursday 7 PM PT Fusion net. No YSF endpoint inferred.
Bay-Net WW6BAY-ROOM	WIRES-X WW6BAY-ROOM; local 444.425 +5 MHz, DN, DG-ID 00; BM TG 31075; AllStar 55915	Bay-Net cross-mode family. TG 31075 is usually bridged to AllStar 55915; numerical WIRES-X room ID/YSF endpoint still require operator/directory confirmation.

4.4 Companion Digital Mode Records

Mode / family	Records to retain	Doctrine handling
EchoLink	Primary records live in the corridor-sorted EchoLink Favorites table. Home anchors: W6RHC-R 7818, W6PAR-R 234739, W6EK-R 4128. KE6QK-L is 976012. Excluded: KN6TED-R, W6LND-R, W6SUV-R, WW6BAY-R.	Use for RF-backed/corridor bridging; not a substitute for direct local voice.
IRLP	AG6AU IRLP 7195; WIN System reflector 9100.	AG6AU remains 7195 only. WIN also has AllStar 2560 and EchoLink KA6WIN-L 126012.
AllStar	QSO One Node/WT modes. Home: GEARS East W6RHC 57364 VHF and 56934 UHF; GEARS Bloomer 147.945 - / CTCSS 123.0. Regional: W6EK 51018, WIN hub 2560, Bay-Net 55915; western favorites in Section 4.4.2.	Commissioned shack and iOS AllStar client is QSO One. GEARS UHF 56934 can reach WIN 2560 on request; clear links after use. Default UDP 4569 remains normal for outbound clients.
DMR / BrandMeister	DMR source ID 3173147. OS4P Homebrew connector IDs 317314701-317314710 by profile. Saved shortcuts: Section 4.4.2. Utilities: group 4000 disconnect; private 9990 parrot.	QSO One BrandMeister uses DMR ID 3173147 with no SSID; its other configured DMR networks use SSID 11. OS4P uses profile-suffixed Homebrew connector logins. HoseLine remains receive-only diagnostics.
BrandMeister HoseLine	https://hose.brandmeister.network/ - browser-based live BrandMeister talkgroup audio and activity monitor. Works in modern desktop and mobile browsers, including Safari/iOS; supports single or multiple talkgroup listening.	High-value receive-only DMR awareness and troubleshooting tool. Use it to find active talkgroups, monitor a net without tying up a radio, and confirm that BrandMeister traffic is reaching the network. Internet-dependent; it is not an RF path and does not provide transmit access.
DAPNET / POCSAG	K6RCS subscriber RIC 173147; active iOS app, OS4P transmitter connector at dapnet.afu.rwth-aachen.de:43434, and AlphaPoc 602R pager; 439.9875 MHz.	Network submission, OS4P handling, and pager RF receipt are separate evidence. App visibility is not RF receipt. Keep messages short, public, and radio-purpose.
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.

Mode / family	Records to retain	Doctrine handling
DMR / BrandMeister - Kitsap identity	DMR ID 3173147. Saved shortcuts: Section 4.4.2. Geographic use: Section 4.6. Utilities: group 4000 disconnect; private 9990 parrot where supported.	KCARC 311429 is retained as a repeater identity. Do not promote it to a hotspot talkgroup without operator confirmation of the route.
M17	QSO One reflectors/modules: M17-NCA A; M17-PNW A; M17-PNW C as active-monitoring alternative.	Software-access open digital voice layer. Callsign K6RCS is the identity; a selected network endpoint may be linked to amateur RF infrastructure.

4.4.1 QSO One Software Client and Operation

QSO One is operational on the shack system and on Randall's iPhone 16 Pro Max. The Office instance is not counted as operational under the current security settings. For BrandMeister, use DMR ID 3173147 with no SSID. For every other configured QSO One DMR network, use SSID 11. These are separate from APRS identities. QSO One is a software and network client, not an RF path, though linked destinations may terminate on amateur RF nodes and repeaters.

Capability	QSO One desktop role	openSPOT4 Pro role	Phone / iOS role	Doctrine boundary
AllStarLink	Node Mode and WT Mode; software audio, DTMF, search, favorites.	-	QSO One iOS operational on iPhone 16 Pro Max.	QSO One is software access; a selected node may be RF-linked.
EchoLink	Direct connection with automatic proxy fallback.	-	Native EchoLink iOS app now; QSO One iOS operational on iPhone 16 Pro Max.	Field phone access is commissioned through native EchoLink and QSO One iOS.
DMR	BrandMeister and TGIF without hotspot or radio.	FT-5DR cross-mode and compact field appliance.	QSO One iOS operational on iPhone 16 Pro Max.	Keep the network and operating identity explicit.
System Fusion	YSF reflectors in software.	FT-5DR/C4FM radio-side profiles and physical-radio operation.	QSO One iOS operational on iPhone 16 Pro Max.	YSF software access is not full Yaesu WIRES-X; linked endpoints may reach RF systems.
M17	Reflectors and modules; K6RCS callsign identity.	-	MSeven - M17 (M7) iOS app now; QSO One iOS operational on iPhone 16 Pro Max.	Software access may reach network-linked amateur RF infrastructure.
IAX Direct	Operator-issued host, port, username and secret.	Not the normal direct-IAX tool.	QSO One iOS operational on iPhone 16 Pro Max.	Leave blank without issued credentials.
D-STAR / P25 / NXDN / pager	Outside QSO One current advertised client set.	D-STAR/P25/NXDN and POCSAG modem/transmitter work are retained where supported.	DAPNET iOS app provides network call submission, templates, transmitter map, and Shortcuts automation; it is not an RF receiver.	Use openSPOT4 Pro for physical-radio/cross-mode/paging jobs; use the AlphaPoc for proof of POCSAG RF reception.
Mobile software role	Windows desktop. QSO One DMR ID 3173147; BrandMeister no SSID; other DMR networks SSID 11.	Current compact field/travel appliance.	EchoLink and M17 retain native iOS paths; QSO One iOS is also operational on iPhone 16 Pro Max.	Use the available client for the intended network; do not treat software access itself as RF.

Identity and configuration baseline

Setting	Office Windows	Shack Windows	Identity note
Callsign	K6RCS	K6RCS	Licensed callsign identity.
DMR ID	3173147	3173147	DMR Radio ID.
DMR ESSID	BrandMeister: none; other DMR networks: 11	BrandMeister: none; other DMR networks: 11	QSO One BrandMeister uses DMR ID 3173147 with no SSID; every other configured QSO One DMR network uses SSID 11.
APRS identity	K6RCS-5 (OS4P location identity)	K6RCS-10 (APRSIS32)	APRS SSIDs are separate from DMR operator IDs and openSPOT connector suffixes.
AllStar IAX	UDP 4569	UDP 4569	Shared NAT with openSPOT4 Pro does not require another port for an outbound client.
AllStar modes	Node Mode + WT	Node Mode + WT	Node password differs from website password; WT uses website credentials.
TGIF credential	16-character user security key	16-character user security key	Not the TGIF website-login password.
Audio/PTT	Office devices / Shokz as selected	Shack devices / Shokz as selected	Local audio device selection.

Rapid deployment procedure

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

2. Launch QSO One with DMR ID 3173147. For BrandMeister, leave SSID unset; for every other configured DMR network, use SSID 11. Confirm the intended network, destination, microphone, speaker/headset, and PTT method.
3. Confirm microphone, speaker/headset, platform audio routing, and PTT method. On iOS, verify the intended audio device and screen-lock behavior before field use.
4. Select the service and a tested favorite. Geography and mission come before novelty.
5. Listen before transmitting; identify as K6RCS and state the network/client context when useful.
6. Release unneeded network links and PTT after use. Leave the shack QSO One and APRSIS32 clients in their intended monitoring state.
7. After two authentication, audio, or connection failures, move to the alternate service or RF path.
8. Use openSPOT4 Pro when the FT-5DR must be the interface, cross-mode/additional modes are required, or a compact remote appliance is the correct tool.

4.4.2 QSO One Favorite Nodes

AllStar is established through QSO One on the shack system and the commissioned iOS client. EchoLink is consistently monitored. Select the regional node for the current operating area.

AllStarLink - Priority A doctrine favorites

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

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

AllStarLink - Priority B test candidates

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

EchoLink doctrine favorites

Favorite	Node	Geography	Doctrine handling
W6RHC-R	7818	Chico / GEARS East	Primary home-area GEARS EchoLink path; RF anchor 146.850, companion AllStar 57364.
W6PAR-R	234739	Paradise / Magalia	Home-area ridge and family continuity.
W6EK-R	4128	Auburn / Sierra Foothills	Primary W6EK / Sacramento-I-80 digital anchor.
K6BER-R	750550	Woodland / Berryessa region	Sacramento Valley and North Bay corridor.
K7CAM-R	530602	Winston / Roseburg	Southern Oregon I-5 haunt.

Favorite	Node	Geography	Doctrine handling
W6BXN-R	424068	Turlock / Central Valley	Central Valley southbound corridor.
W6CDW-R	348987	Elsinore Peak	Southern California inland/coastal transition.
K6BB-R	335272	Big Bear	Big Bear mountain destination; K6BB-R EchoLink 335272.

YSF / System Fusion favorites

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

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

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

M17 favorites

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

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

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

DMR favorites and saved field shortcuts

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

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

IAX Direct

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

4.5 CQutie / openSPOT4 Pro Profiles

★ Team Stone defaults by profile: FCS 2 → FCS002 room 06; DMR 7 → BrandMeister TG 3173147 Group Call; experimental profile 8 retains its saved test purpose. Homebrew/MMDVM connector IDs are profile-numbered 317314701 through 317314710. Only the connector login receives that two-digit suffix; the operator/source ID and DMR SMS source remain 3173147. Randall and Krista retain their own source identities.

Profile	Purpose	Typical trigger	Operating rule
1 — YSF	Default Fusion bridge	Known RF-backed YSF destination	Home DMR shortcuts may remain as fallback.
2 — FCS	FCS reflector network	Selected FCS room	Use its own room/server selection.
3 — DMR	Home BrandMeister reference	Home QTH interest shortcuts	Use the twelve-button Home screen above.
4 — DSTAR	Reflector and module access	Selected REF/XRF/DCS/XLX destination	DN on HT. DMR shortcuts are fallback only.

Profile	Purpose	Typical trigger	Operating rule
5 — Travel	RF-backed corridor destinations	Select before departure or corridor change	Keep BayNet and Team Stone group 3173147.
6 — Tactical	Agreed coordination and liaison	Short-duration mission	Use tested primary/alternate destinations; public TGs are not private.
7 — Team Stone	Team contact and continuity	Agreed team destination	Public Team Stone contact: BM TG 3173147, Group Call; test reception.
8 — Experimental	P25 primarily; NXDN tests	P25 / NXDN tests	Select one connector at a time; verify after switching.
9 — vita	Existing user profile	Retain current configured purpose	Reserved profile; do not repurpose casually.
10 — SharkSrvr	SharkRF server workflow	Configured server endpoint	Keep endpoint-specific settings.

Profile numbers above are authoritative. DAPNET/POCSAG is an active background connector, not an additional numbered profile; it may remain connected while another numbered voice profile is selected. FreeDMR, AmComm and TGIF remain separate network configurations; identical TG numbers on different networks do not establish equivalent destinations.

4.5.1 DAPNET / POCSAG Paging Layer

Surface	Send	Receive
DAPNET iOS	Open a paging call; enter the message; tap Send.	Read the call list.
OS4P	Open POCSAG/DAPNET messaging; enter the message; choose local/direct or DAPNET/network; tap Send.	Watch the log.
AlphaPoc 602R	—	Receive only; read the alert.

4.5.2 CQutie / openSPOT4 Pro Field Profile Switching

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

Field action	Normal method	Doctrine handling
Switch profile	Use the OS4P web profile selector, device controls, or C4FM DTMF profile commands where configured.	Profiles 1-10 use Homebrew connector IDs 317314701-317314710 respectively. The source/SMS ID remains 3173147.
C4FM profile command pattern	*A to query; *A1 through *A10 to change profile, matching the OS4P profile number where SharkRF default control codes are configured.	Use short, practiced commands only. OS4P reboots on profile change; wait for the device/voice/status confirmation before transmitting into a network.
Change DMR destination	Saved Quick Call for talkgroup changes inside the same BM profile; DTMF route control when validated.	Keep Auto group call 4000 before shortcut call enabled. Change profiles when the network/mode changes, not simply for every regional TG.
Live connector edit	OS4P web UI connector/profile editor.	Last resort. Used at base, hotel, or bench, not while driving or in degraded field conditions.
Backup profile	Same network family only.	Do not mix BrandMeister primary with FreeDMR, AmComm, TGIF, or unrelated MMDVM backups.

OS4P / CQutie DTMF Quick Reference

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

Field action	FT-5DR / C4FM DTMF	Other OS4P control path	Doctrine handling
Query current profile	*A	DMR/NXDN/P25 call ID 9000; D-STAR DTMF A or URCALL .....P	Use when unsure which profile is active. Listen for voice announcement before transmitting into a network.
Change to profile n	*A1 through *A10	DMR/NXDN/P25 9000+n; D-STAR DTMF A followed by the profile number. Use the documented URCALL form for single-digit profiles.	Primary field shortcut for OS4P profile switching. The OS4P reboots on profile change, so wait for the device and voice/status confirmation.
Connector status	*D	DMR/NXDN/P25 call ID 9998; D-STAR DTMF D or 0	Confirms current connector/link state. Use before assuming DMR/D-STAR/P25/YSF behavior.
IP address query	*B	DMR/NXDN/P25 call ID 9997; D-STAR DTMF B	Hotel/QTH troubleshooting and web UI recovery.
Battery status query	*C	DMR/NXDN/P25 call ID 9996; D-STAR DTMF C	Field power sanity check.

Field action	FT-5DR / C4FM DTMF	Other OS4P control path	Doctrine handling
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 and the profile-numbered connector ID 317314701-317314710.
FreeDMR / AmComm / TGIF / HamUnited / HBLink-style DMR	DN	Use MMDVM or network-specific preset. Keep each network family in its own profile family.
D-STAR REF/XRF/DCS/XLX	DN	D-STAR uses reflector/module logic, not DMR talkgroup logic. REF/XRF reflector profiles use local module D; gateway profiles use blank/space local module.
P25	WIDE deviation	★ Team Stone P25: PAPA Bridge 31078, profile 8. Profile/network setup is already saved; field action is the FT-5DR deviation switch below.

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

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

Profile naming standard

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

4.6 DMR / BrandMeister RF Overlay Architecture

Use QSO One for commissioned shack and iOS network access and FT-5DR/CQutie for the physical-radio field path. QSO One BrandMeister uses DMR ID 3173147 with no SSID; other configured QSO One DMR networks use SSID 11. openSPOT4 Pro uses its profile-suffixed Homebrew connector login. Section 4.4.2 holds the saved shortcuts; the corridor table below groups them by geography. Repeater IDs are separate records and do not establish hotspot talkgroup routes.

Operator/source DMR ID: 3173147. QSO One BrandMeister uses no SSID; other configured QSO One DMR networks use SSID 11. openSPOT4 Pro Homebrew/MMDVM connector logins use profile-specific IDs 317314701-317314710. Group 4000 is a disconnect/cleanup action, not an operating destination; private 9990 is the parrot where supported.

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

DMR operating rule

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

Digital visibility and discretion

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

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

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

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

4.7 D-STAR / openSPOT Reachable Reflector Records

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

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

Server / reflector	Module / family	Region / interest	Why it belongs	Doctrine handling
REF001C	DPlus / REF	Worldwide / The Cloud	General worldwide D-STAR listening and test target.	Baseline D-STAR target; some REF/XRF systems may require valid D-STAR registration.
REF030C	DPlus / REF	North America / wide-area linked repeaters	High-activity North America reference; common D-STAR hotspot target.	Use as general D-STAR reach test and casual-monitoring target.
XRF757A	DExtra / XRF	QuadNet / North America bridge	Widely used bridge-style D-STAR/DMR reflector family.	Verify current XRF757 module and bridge routes. QuadNet reports its BrandMeister link was disconnected; do not assume the former BM TG 31012 bridge still works.
XLX470	XLX / DCS-XLX	Northern California NET TALK / multiprotocol	Regional NorCal multiprotocol D-STAR/YSF/DMR candidate.	Good regional hotspot target if present in openSPOT list; verify module before adding to profile.
XLX159	XLX / DCS-XLX	Olympia / South Sound, WA	Destination-side Puget/South Sound multiprotocol reference.	Useful for Bremerton/Kitsap/PNW doctrine after current-status verification.
XLX094	XLX / DCS-XLX	UtahDRN / Intermountain West	NV/UT/desert-corridor digital haunt candidate.	Keep as corridor tertiary target; verify current module and bridge behavior.
XLXSAT	XLX / special interest	AMSAT / satellite operations	Special-interest digital target tied to satellite/radio culture.	Monitor/learn target only; verify server/module status before use.

D-STAR net switching: select profile 4, then the REF/XRF connector. Choose REF014 with module C for Ham Nation or REF029 with module A for Western Digital. Save, confirm the connected server/module, use DN on the FT-5DR, listen, then identify. Use the built-

in directory rather than inventing a custom IP address. Restore the normal meeting destination afterward. Schedule source: https://www.mdarc.org/repeater-systems/digital-voice/d-star

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

5. APRS Messaging and Services

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

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

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

Operating pattern	How Team Stone uses it	Do / do not
Routine beaconing	Keep mobile and HT APRS familiar during normal movement so emergency use is not a first-time event.	Do beacon with sane rates and useful status. Do not spam or treat APRS as private.
Family movement	Use APRS as an orientation layer for where the station is, where it was, and whether the path is still alive.	Do use aprs.fi/APRSIS32 for awareness. Do not rely on it as the only family coordination method.
Corridor travel	Use APRS track, digipeater reach, objects, and messages as an overlay to repeater handoffs and road geography.	Do check whether the path changes across passes/deserts/coast. Do not confuse APRS coverage with voice coverage.
Event / trailhead / harbor	Use APRS to keep loose situational awareness without building a fake command structure.	Do keep messages short. Do not turn public APRS into a private logistics feed.
GPS / compass posture	Use phone, radio, and watch GPS/reporting as a live location layer while keeping manual compass carry normal.	Do keep location reporting useful and intentional. Do not confuse electronic breadcrumbs with navigation skill.
Emergency / degraded comms	Use APRS messaging, objects, and position/status as one layer after direct voice and local RF.	Do keep messages factual and minimal. Do not transmit sensitive details.

Service	Message pattern / use	Team Stone handling
CQSRVR	CQ <GROUP> <MESSAGE>	Use for group callouts when casual APRS reach makes sense. Keep messages brief and non-sensitive.
ANSRVR	J <GROUP> / U <GROUP> / CQ <GROUP> <MESSAGE>	Join only groups that match the operating moment. Leave stale groups instead of accumulating clutter.
WXBOT	Weather quick pulls	Useful for quick conditions, but verify against NOAA/OTA/weather apps when decisions matter.
EMAIL / EMAIL-2	Short APRS-to-email and controlled email-to-APRS gateway	Use EMAIL-2 / javAPRSSrvr EmailGate as the current baseline. Short utility messages only; use shortcuts for trusted targets; no confidential content.
SMSGTE	Legacy SMS gateway; not a dependable path	Do not rely on this historical entry without current operator documentation and a successful end-to-end test.
WTSAPP	@+number <msg>; #SET alias +number; #RM alias; @alias <msg>	Experimental; confirm current operator documentation and end-to-end delivery before use.

Service	Message pattern / use	Team Stone handling
APRSLink / WLNK-1	APRS-to-Winlink gateway workflows	Use for Winlink email over APRS, especially TM-D700/TM-D710-style front-panel workflows. Confirm IGate/message path before relying on it.
Directed queries	? one-shot; ?APRS? menu where supported	Use for quick station/path/service discovery; avoid noisy repeated queries.
9M2PJU-4 bot queries	whereami, whereis CALLSIGN-SSID, distance, bearing, today, tomorrow, wind, riseset, satpass iss, fuel, hospital, pharmacy, police, hotel, aerodrome, train_station	Retain as optional bot query list. Use sparingly. APRS is public.

ANSRVR / CQSRVR group family	Why it belongs	Use note
NorCal	Home-region APRS awareness and casual operating practice.	Good default local/regional APRS group.
PNW / Oregon / Washington	Northbound travel and Bremerton/Seattle destination context.	Join for the trip, then leave if it becomes stale.
SkyWarn / Weather	Weather awareness layer when conditions matter.	Use with NOAA/OTA/RDS, not instead of them.
CASAR / CalFire / ARES / RACES / EMCOMM	Emergency-readiness culture and public-service monitoring.	Listen and learn. Do not self-deploy or imply authority.
POTA / SOTA / Kayak / EUC	Activity-based operating that keeps radio practice alive.	Use because everyday operating creates emergency competence.
C4FM / PACKET / SATOPS	Mode-specific experimentation and skills maintenance.	Good practice lane for digital/radio skills.
Nevada / Utah	NV/UT/Las Vegas corridor and destination layer.	Use when the route/region makes it relevant.
TeamStone	Family/team experimental group name retained in doctrine.	Family group label only. APRS traffic is public; group naming creates no privacy.

APRS field habit	Checklist
Before leaving	Confirm correct SSID/station, 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
Home / Sacramento Valley / Chico / Auburn / Placerville	STO	STO* base office watch	Local always-on watch; Sacramento WFO.
San Jose / Bay Area / Monterey / Santa Cruz	MTR	MTR* base office watch	Bay Area, Monterey Bay, Santa Cruz haunt layer.
Fort Bragg / Mendocino Coast / Eureka corridor	EKA	EKA* base office watch	North Coast and Mendocino travel layer.
Mount Shasta / Siskiyou / Southern Oregon edge	MFR	MFR* base office watch	Far NorCal and Medford-border weather layer.
Newport / Salem / Portland / north Oregon Coast	PQR	PQR* base office watch	Oregon coast and Willamette Valley I-5 layer.
Bend / Eastern Oregon side-corridor / W7JVO-R	PDT	PDT* base office watch	Central/eastern Oregon side-corridor watch.

5.2 Winlink / Packet Access Set

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

5.3 APRS Email and Pager Bridge Reference

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

Bridge / service	Direction	Field syntax / setup	Team Stone handling
EMAIL-2 one-line email	APRS -> Internet email	Send numbered APRS message to EMAIL-2: address@example.com short text. One line only; use ack-capable messaging.	Best quick outside-email bridge from an APRS radio/client. Keep it short and non-sensitive. Do not use blind automation.
EMAIL-2 shortcut	APRS -> saved email target	Send to EMAIL-2: shortcut address@example.com. Use shortcut text later as the first word of the APRS message.	Good for approved family/radio-service targets where typing a full email address from the radio is impractical.
EMAIL-2 email-to-APRS	Internet email -> APRS message	First create a shortcut from APRS. Sender must match the stored email address. Email subject starts CALLSIGN-SSID:message. Body contains userid:shortcut: with no spaces in the token.	Most current controlled email-to-APRS path. Use for trusted senders/automation only; public, non-sensitive, and short.
EMAIL-2 cached messages	Internet email -> delayed APRS retrieval	If not acked, EMAIL-2 may cache. Retrieve by sending get to EMAIL-2 or using ?APRSM.	Useful when station is intermittently reachable. Treat as convenience, not guaranteed delivery.
APRSLink / WLNK-1	APRS <-> Winlink email	Send APRS messages to WLNK-1. SMS address/call message sends one short message. SP address subject starts a composed message; finish with /EX.	Best Winlink/APRS bridge, especially for TM-D700/TM-D710-style front-panel operation. Requires Winlink account/login behavior and an APRS path/IGate.
Winlink pending-mail notice	Winlink -> APRS alert	Add WINLINK in APRS position comment/status where appropriate; APRSLink can notify of pending Winlink mail.	Useful as a low-noise radio-mail alert. Do not turn every inbox event into APRS noise.
DAPNET / POCSAG bridge use	APRS/email/Winlink or approved automation -> DAPNET network call	Translate only the short radio-purpose alert. Network submission may be visible in the iOS app and offered to OS4P, but pager reception is the only RF-delivery proof.	Attention layer, not a conversation layer. A direct OS4P modem page and DMR-SMS-to-POCSAG forwarding may bypass DAPNET app history.

Rule	Doctrine handling
No privacy assumption	APRS, EMAIL-2, APRSLink, and DAPNET are public/observable amateur-radio style layers. No client, tax, medical, intimate family, financial, or confidential content.

Rule	Doctrine handling
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 147.945. / 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 / 1022	Coast Guard liaison and safety broadcasts	157.100 MHz simplex. Use for Coast Guard-directed liaison; broadcasts are announced on Ch 16.
67	Regional charter/fleet or bridge working in some areas	Region-dependent. Treat as local practice, not a universal Team Stone channel.
68 / 71 / 72 / 78A	Secondary small-craft and Bay/harbor working set	Retain as working-channel awareness. Ch 69 is Team Stone's default small-craft/kayak working channel where lawful and appropriate.
Newport / Yaquina Bay / Port of Newport South	Local harbor movement and contact layer	Marine Ch 12 reference; Ch 16 remains distress/calling.

6.1 Destination Marine / Weather Watch References

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

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

7. Corridor and Destination Doctrine

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

Corridor / destination	Handling
South Corridor	Distinct bank and waypoint order, now split for doctrine use into Southern Inland and Southern Coastal legs. Harris Ranch / Coalinga remains the Central Valley rest/overnight anchor; Pinecrest and Kings Canyon remain inland mountain/PCT-adjacent layers. CARLA is amateur-only. Add only true GMRS fill repeaters where they materially improve handoff coverage.
PCT	Separate parallel reference layer. Do not treat as South Corridor.
Tahoe / Reno	Separate operating regions. Exclude memories 888-890 entirely from doctrine tables and segment lists.
PNW / Oregon / Bremerton / Seattle	Retain I-5/Oregon/PNW, Bremerton/Kitsap, Seattle Metro, and Seattle Ski Pass as distinct destination layers.
Mexico / Baja	Retain legal caution, marine awareness, Starlink/travel internet support, and border/corridor operational posture. GMRS is not part of the Mexico operating plan. No GMRS radios, including glovebox handhelds, are brought into Mexico.
Southern Inland leg	Mt Oso / Coalinga / Pinecrest / Kings Canyon / Breckenridge / Frazier / Keller / Palm Springs / Superstition / Imperial Valley. This is the desert, I-5/99, I-10, Imperial Valley, and border approach logic.
Southern Coastal leg	Mt Wilson / Oat Mountain / Santiago Peak / Palomar / Otay / Soledad / Black Mountain PAPA / coastal San Diego and Baja-reference logic. U.S.-side use and legal authority remain mandatory.

8. Travel Compliance While Driving

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

Compliance control	Doctrine handling
Memory programming	Use monitor-only, bandwidth/mode, and TX constraints to prevent field mistakes.
Jurisdiction changes	Switch corridor bank and compliance posture at state, province, country, and service-boundary changes.
FT-5DR / BTECH / TM-D700 differences	FT-5DR, BTECH and TM-D700: verify transmit and receive tone settings independently. The TM-D700 supports DCS receive squelch and DCS code identification; the prior statement that it cannot filter DCS was incorrect. See Kenwood TM-D700 manual, chapters 10–11.

Compliance control	Doctrine handling
Canada / Mexico	Treat foreign operation as a separate legal posture. Do not assume U.S. amateur, GMRS, marine, scanner, or mobile-radio habits carry across borders. For Mexico/Baja travel, no GMRS radios, including glovebox handhelds, are brought across the border.
California	CVC §§ 23123 and 23123.5. Use hands-free / safe-driving posture; keep controls mounted/managed and manipulation minimal. Amateur, GMRS, broadcast, and scan operations remain secondary to driving.
Oregon	ORS 811.507(4)(e). Licensed amateur radio operator affirmative defense while operating amateur radio; keep license copy accessible and driver-first facts clean.
Washington	RCW 46.61.672(5)(b). Personal electronic device definition excludes two-way radio, citizens band radio, and amateur radio equipment.
Nevada	NRS 484B.165(2)(e). FCC-licensed amateur radio operator exemption for actual/impending emergency, disaster communications, public information, drills, tests, or exercises.
Utah	Utah Code § 41-6a-1716. Wireless communication device definition excludes two-way radio devices under 47 CFR Parts 90, 95, or 97, or functional equivalent.
Idaho	Idaho Code § 49-1401A. Distracted-driving/mobile-electronic-device law excludes citizens band and amateur radio service devices; maintain safe, minimal-manipulation posture.
Arizona	A.R.S. § 28-914(C)(2), (I)(1)(b). FCC-licensed operator radio-frequency device exception; portable wireless device definition excludes amateur/ham radio device.
Canada / British Columbia	B.C. Motor Vehicle Act, R.S.B.C. 1996 c.318, Part 3.1; B.C. Reg. 308/2009 ss. 3 and 9. Hand microphone use allowed only when within easy reach and securely fixed/worn; no Class 7/7L exception.
Mexico / Baja / Sonora	No GMRS operation and no GMRS radios across the border. Treat amateur, marine, scanner/broadcast, and internet use as separate legal questions; carry verified Mexican authorization/operating documents rather than a U.S. code citation.
California / in-state mobile use	CVC §§ 23123 and 23123.5. Operate under normal amateur/GMRS/marine/public-safety receive rules and avoid distracted-driving behavior. Use mounted/managed controls; driver drives first.
Oregon mobile-radio law	ORS 811.507(4)(e). Licensed amateur radio affirmative defense while operating amateur radio; avoid extending the citation beyond the actual exemption and safe-driving facts.
Washington mobile-radio law	RCW 46.61.672(5)(b). Two-way radio, CB, and amateur radio equipment are excluded from the personal electronic device definition; keep operation plainly radio-related.
British Columbia / Canada	B.C. Motor Vehicle Act Part 3.1; B.C. Reg. 308/2009 ss. 3 and 9. Canadian amateur, GMRS/FRS, marine, scanner, and mobile-use rules differ from U.S. defaults; verify before travel.
Marine jurisdiction changes	Use marine radio only within the proper service context. Ch. 16 is distress/calling; harbor/VTS channels are working channels, not family chat.
Scanner / receive-only posture	Public-safety and aviation/marine receive entries are awareness layers only. Do not transmit outside authorized services and bands.

Appendix C - iOS Field Kit and Radio Utility Stack

The iPhone is part of the field station. Keep discovery, logging, propagation, network access, written traffic, location, and decoding tools available, and distinguish offline-capable tools from Internet-dependent ones. QSO One is installed and operational on Randall's iPhone 16 Pro Max; native EchoLink, MSeven, and DAPNET are also available. QSO One and the DAPNET app are network clients, not RF paths or RF pagers.

iOS Field Kit App	Field role	Dependency
QSO One (iOS - operational)	Commissioned iOS client for AllStarLink, EchoLink, DMR, System Fusion/YSF, M17, and IAX Direct on Randall's iPhone 16 Pro Max. Internet-dependent; not an RF path.	Internet
DAPNET	Active iOS network client for sending paging calls, templates, transmitter proximity/map review, and Shortcuts automation. Network visibility does not prove RF reception.	Internet; DAPNET account
HamLog	Field logger and toolbox: band plans, grid/bearing, wavelength, WWV propagation, DX, DTMF, UTC, and portable references.	Mixed; many tools local
RepeaterBook	Amateur repeater directory with downloadable local database and nearby/GPS search; useful offline after update.	Offline-capable
myGMRS	GMRS repeater and callsign directory for route/destination discovery; verify owner terms and current status.	Internet
WiresApps	Refresh the Yaesu node database with Update Database, locate a WIRES-X node, then make the RF connection with the FT-5DR.	Internet to refresh; local list afterward

iOS Field Kit App	Field role	Dependency
MSeven - M17 (M7)	Native iOS M17 reflector client; station activity, mapping, notes, audio/CarPlay, and optional supported 9600-baud KISS/TNC RF.	Internet; optional RF interface
EchoLink	Native iOS EchoLink access to licensed amateur stations and repeaters.	Internet
BrandMeister HoseLine (Safari)	Receive-only BrandMeister DMR audio/activity for discovery, monitoring, and network-side troubleshooting.	Internet / receive only
APRS.fi	APRS map, station history, and status awareness; use with location privacy in mind.	Internet
RadioMail	Winlink email workflow from iOS where configured and supported.	Internet / radio path depends on setup
WSPR Watch	WSPR and propagation activity; evidence for what the bands are actually doing.	Internet
iDX	DX spotting, logging, and reference.	Internet
SSTV	SSTV receive/decode and image-mode utility.	Local / audio
PSK31 Pad	PSK31 field-mode utility.	Local / audio
Packet	Packet workflow utility.	Local / interface dependent
Morse Pad	CW decoder and scratch-pad utility.	Local
Koch Trainer	CW copy training.	Local
Morse Key	CW sending practice.	Local
Maidenhead	Grid locator utility.	Local / GPS

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

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

Q-Code	Question	Answer / meaning
QUA	News of ...?	Here is news of ...
QUD	Urgent signal received?	I have received urgent signal from ...
QUF	Distress signal received?	I have received distress signal from ...
QUZ	Resume normal working?	Resume normal working.

Appendix E - Bandwidth and Wide/Narrow Rules

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

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

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

Public Safety / Fire - Current Memory Detail

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

Ch	Name	RX MHz	Mode	Tone / code
847	CIC Fire Dept	453.75000	FM	PL 131.8
848	CIC Fire Dept II	154.90500	FM	PL 131.8
849	CIC Fire Yellow	453.55000	FM	PL 173.8
850	CIC Fire Blue	458.75000	FM	PL 131.8
851	CIC Fire White	154.28000	FM	PL 131.8
852	CIC Fire Extendr	153.83000	FM	PL 100.0
853	CalFire County	154.19000	FM	PL 100.0
854	CalFire	151.40000	FM	PL 110.9
855	CalFire ICS	154.41500	FM	PL 123.0
856	Enloe	463.02500	FM	PL 141.3
857	Butte EMS	453.82500	FM	PL 162.2
858	CIC Medics	155.34000	FM	PL 100.0
859	Paradise Fire	153.95000	FM	PL 100.0
860	SAR	155.94000	FM	PL 100.0
861	Natl SAR	155.16000	FM	PL 127.3
863	Flight Follow	168.65000	FM	PL 110.9
864	CHP A-G 2	45.86000	AM	PL 100.0

Ch	Name	RX MHz	Mode	Tone / code
865	CHP A-A A-G	122.87500	AM	None
866	CHP Low Air	122.75000	AM	None
867	CHP Ivory A-G	45.02000	AM	PL 100.0
868	CHP Air Blue	42.34000	AM	PL 100.0
869	CHP Truckee	45.60000	FM	PL 173.8
870	CHP Ukiah	42.56000	FM	PL 107.2
871	CHP Sac	44.66000	FM	PL 167.9
872	CHP Mobile	45.36000	FM	PL 167.9
873	CHP CIC	44.70000	FM	PL 136.5
A-G	AirGuard (National Air Guard; receive/reference only)	168.62500	FM	PL 110.9

National Parks / Forest - Current Memory Detail

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

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

Ch	Name	RX MHz	Mode	Tone / code
655	Olympic Mtn Resc	155.20500	FM	PL 100.0
656	Mt Rainier	169.72500	FM	PL 100.0
657	Mt Rainier Com 1	168.61250	FM	PL 97.4
658	Mt Rainier Com 2	163.71250	FM	PL 97.4
659	North Cascades	166.75000	FM	PL 100.0
660	Arches NP	171.70000	FM	PL 141.3
661	Arches NP	171.81250	FM	PL 203.5
662	Canyonlands NP	170.36250	FM	PL 123.0
663	Canyonlands NP	173.82500	FM	PL 250.3
664	Natural Bridges	170.05000	FM	PL 103.5
854	CalFire	151.40000	FM	PL 110.9
855	CalFire ICS	154.41500	FM	PL 123.0
860	SAR	155.94000	FM	PL 100.0
861	Natl SAR	155.16000	FM	PL 127.3
863	Flight Follow	168.65000	FM	PL 110.9
A-G	AirGuard (National Air Guard; receive/reference only)	168.62500	FM	PL 110.9

Appendix G - Binder Order and Attendant Documents

Binder item	Status / handling
Doctrine body	This v30.36 Publisher's Edition - Updated 2026-11-10.
K6RCS FCC amateur license	Included reference page.
WRQF503 GMRS license	Included reference page.
ARRL US Amateur Radio Bands chart	Included reference page.
Icom America US Band Plan	Included reference page.
NS6T azimuthal/radial maps	Included: global/no-radius, 312 km radius, and 1000 km radius centered at 39 deg 43 min 45 sec N, 121 deg 52 min 30 sec W.
Honda 2026 ARRL Repeater Directory	Vehicle paper/offline repeater reference carried in the Honda.
Field generator	Communications and device charging; capacity and load planning follow the current unit nameplate (Appendix J).
FT-5DR Weather Alert setting	Weather Alert enabled on local NOAA frequency; verify local NOAA frequency during travel.
QSO One rapid-deployment card	Print or extract Sections 4.4.1-4.4.2 for Office/Shack setup, identity, backup, and destination reference.
QSO One favorite nodes	Keep Office and Shack favorites aligned; review before travel and after known network changes.

Appendix J - Field Deployment Power and Operating Conventions

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

Generator Field Power Standard

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

Default Operating Postures

Situation	Primary layer	Secondary / fallback	Rule
Home / Chico normal	GEARS East / GEARS Bloomer / local QTH stack	GMRS Ch 6 DCS 073	Keep the local monitor and family fallback mentally separate.

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

LiTZ and Wilderness Protocol

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

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

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

Appendix L - Northbound Amateur Handoff Corridor

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

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

Segment	Memory	Name	Frequency	Tone / mode	Use
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
Olympia	236	Olympia EL	145.47	PL 100.0	South Sound
Shelton / Kitsap	237	Shelton-X	147.2	PL 97.4	Kitsap connector
Seattle / Eastside	257	East Tiger Mtn	146.82	PL 103.5	Seattle wide-area
SeaTac / digital	258	SeaTac YSF	146.66	PL 103.5	Seattle / airport layer
Puget Sound	260	Puget Sound EL	146.96	PL 103.5	Puget Sound linked layer
Seattle WIN	261	Seattle WinSys	441.625	PL 100.0	WIN System
Bainbridge	262	Bainbridge	444.475	PL 103.5	Bainbridge
Bremerton	264	Bremerton	146.62	PL 103.5	Bremerton
Silverdale	268	Silverdale-L	145.425	PL 88.5	Silverdale / Kitsap
Poulsbo	269	Poulsbo-L	442.2	PL 103.5	North Kitsap

Appendix M - Northbound GMRS Handoff Corridor

Segment	Memory	Name	Frequency	Tone / code	Use
Family default	-	GMRS Ch 6	462.6875	DCS 073	Team Stone family / convoy
Yreka	239	FRS 23 Yreka	462.550 / 467.550	PL 100.0	Far NorCal GMRS
Yreka	240	FRS 16 Yreka	462.575 / 467.575	DCS 606	Yreka fill
Shasta Valley	241	FRS 18 Shasta Vl	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

Segment	Memory	Name	Frequency	Tone / code	Use
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

Segment	Memory	Name	Frequency	Tone / mode	Use
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	-	GMRS Ch 6	462.6875	DCS 073	Team Stone family / convoy
Southern Inland	557	Mt Oso 15	462.55 / 467.55	PL 136.5	Central Valley GMRS fill
Southern Inland	558	Turlock 18	462.625 / 467.625	PL 141.3	Hwy 99 / Central Valley fill
Southern Inland	559	Coalinga 16	462.575 / 467.575	PL 186.2	Harris Ranch / Coalinga layer
Southern Inland	560	Bakersfield 19	462.65 / 467.65	DCS 116	Bakersfield layer
Southern Coastal	561	Mt Wilson 15	462.55 / 467.55	PL 103.5	Mt Wilson / Los Angeles coastal 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. FT4 conventions move faster than this binder: use the current WSJT-X working-frequency preset rather than a frozen printed FT4 column.

Band	FT8 common dial / frequency	Doctrine use
160m	1.840 MHz	Night / low-band propagation check
80m	3.573 MHz	Night regional/DX check
40m	7.074 MHz	Strong all-around digital watch
30m	10.136 MHz	Low-power digital band
20m	14.074 MHz	Primary daytime/worldwide digital watch
17m	18.100 MHz	Daytime DX opening check

Band	FT8 common dial / frequency	Doctrine use
15m	21.074 MHz	Solar-cycle daytime DX
12m	24.915 MHz	Higher-band opening check
10m	28.074 MHz	10m opening / local-to-DX
6m	50.313 MHz	Magic-band opening watch

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

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

Use	Frequencies	Doctrine use	
ARRL digital bulletins	3.5975, 7.095, 14.095, 18.1025, 21.095, 28.095, 50.350, 147.555 MHz	RTTY/Baudot, PSK31, and MFSK16 practice receive targets	
20m QRP CW calling	14.060 MHz	CW practice / QRP watch	
20m QRP SSB calling	14.285 MHz	Voice/QRP watch	
2m SSB weak signal	144.200 MHz	VHF weak-signal reference	
70cm weak signal/calling	432.100 MHz area	UHF weak-signal reference	
OARS / W6AF 10m SSB net	28.450 MHz SSB after Sunday 8 PM 2m net	Local HF/10m ground-wave practice across the IC-756 Pro III shack and FT-897D bedroom/manual operating layers	

CB Default Operating Frequencies

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

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

Ten-Meter FM / Repeater Tone Reference

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

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

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

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

Appendix R - Radio Propagation Field Reference

Indicator	What it tells us	Field use
SFI / F10.7	Broad solar-activity proxy	Higher sustained values often support higher daytime HF bands; never treat as a path guarantee.
Kp	Planetary geomagnetic disturbance over 3 hours	Rising Kp warns of disturbed HF, especially high-latitude paths.
A / Ap	Daily geomagnetic summary	Trend/context for whether conditions have been quiet or disturbed.
NOAA R scale	Solar-flare radio blackout severity	Immediate sunlit-side HF degradation/blackout risk.
NOAA G scale	Geomagnetic storm severity	HF, GNSS, auroral and high-latitude disturbance context.
foF2 / MUF	Measured/derived ionospheric support	Useful for NVIS and band choice; remember MUF is path-specific.
WSPR / FT8 / beacons	Observed on-air evidence	Use actual reception reports to test the forecast.

Considerate Operator Guide

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

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

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

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

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

Problem	First checks	Likely engineering response
RF in audio / controls	Does it change with power, band, cable position?	Common-mode choke/bonding/cable routing; verify

Problem	First checks	Likely engineering response
		shield and connector integrity.
High receiver noise	Kill house circuits; compare battery-powered receiver; move feed line.	Locate source; choke/filter the source cables; improve common-mode isolation.
Good SWR, poor performance	Check feed-line loss, antenna current/pattern, connectors, water ingress.	Measure at feed point; do not let coax loss masquerade as a match.
Two radios interfere	Measure/estimate isolation; identify harmonic or broadband mechanism.	Increase antenna isolation; add band filters/stubs; reduce power or coordinate operation.
Static / storm exposure	Inspect bonding, entry panel, protectors, disconnect plan.	Use code-compliant bonding/surge protection; do not rely on a single gadget.
RF exposure question	Frequency, PEP, duty cycle, gain, distance, accessible areas.	Run current FCC/ARRL evaluation; mitigate with distance, power, duty cycle, barriers, or antenna changes.

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

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

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

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

Attendant Binder Reference Pages

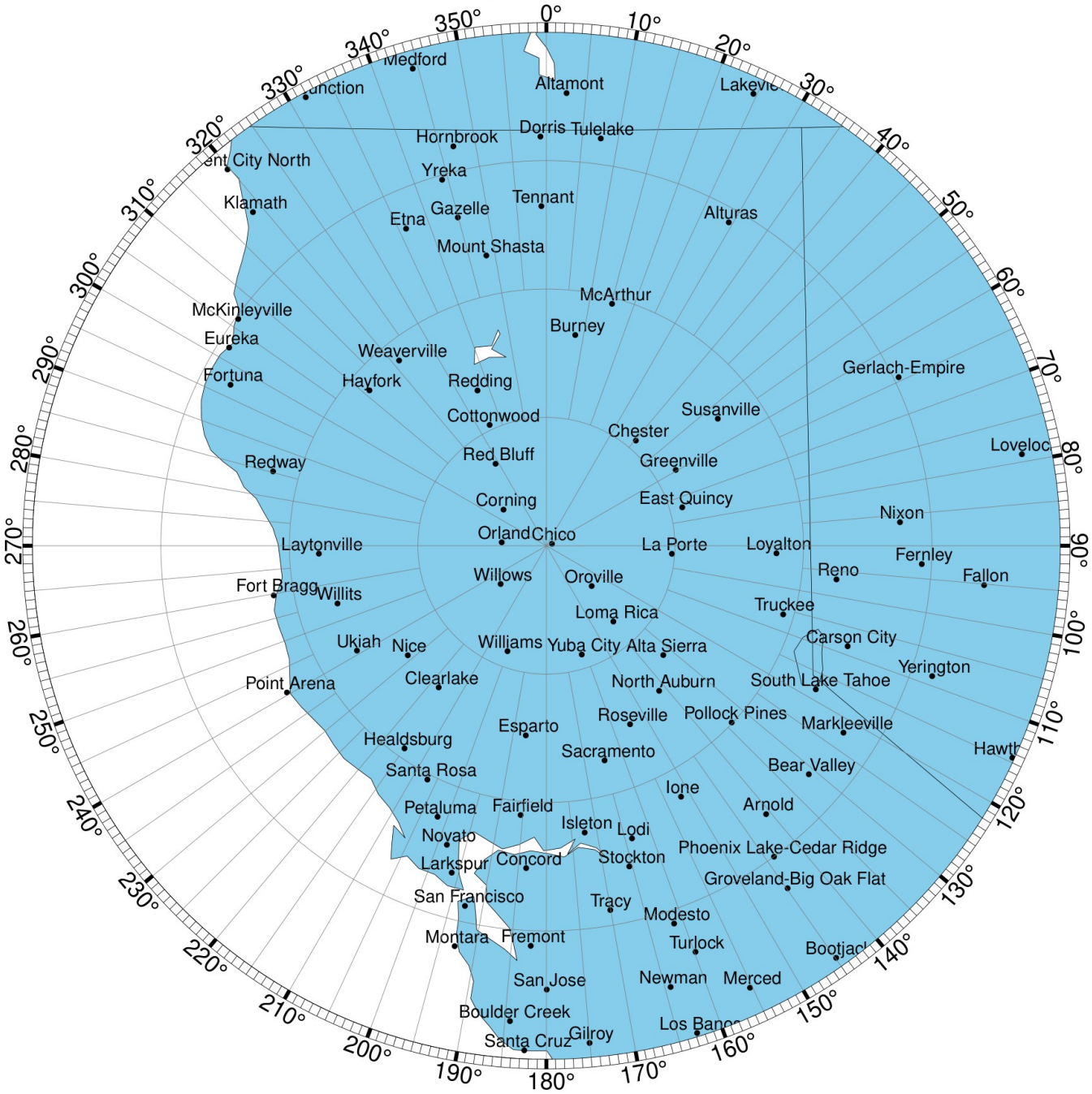
The following reference pages keep licenses, maps and compact operating charts beside the field doctrine where they are useful.

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

Azimuthal Map

Center: 39°43'45"N 121°52'30"W Radius: 312 km

Courtesy of Tom (NS6T)

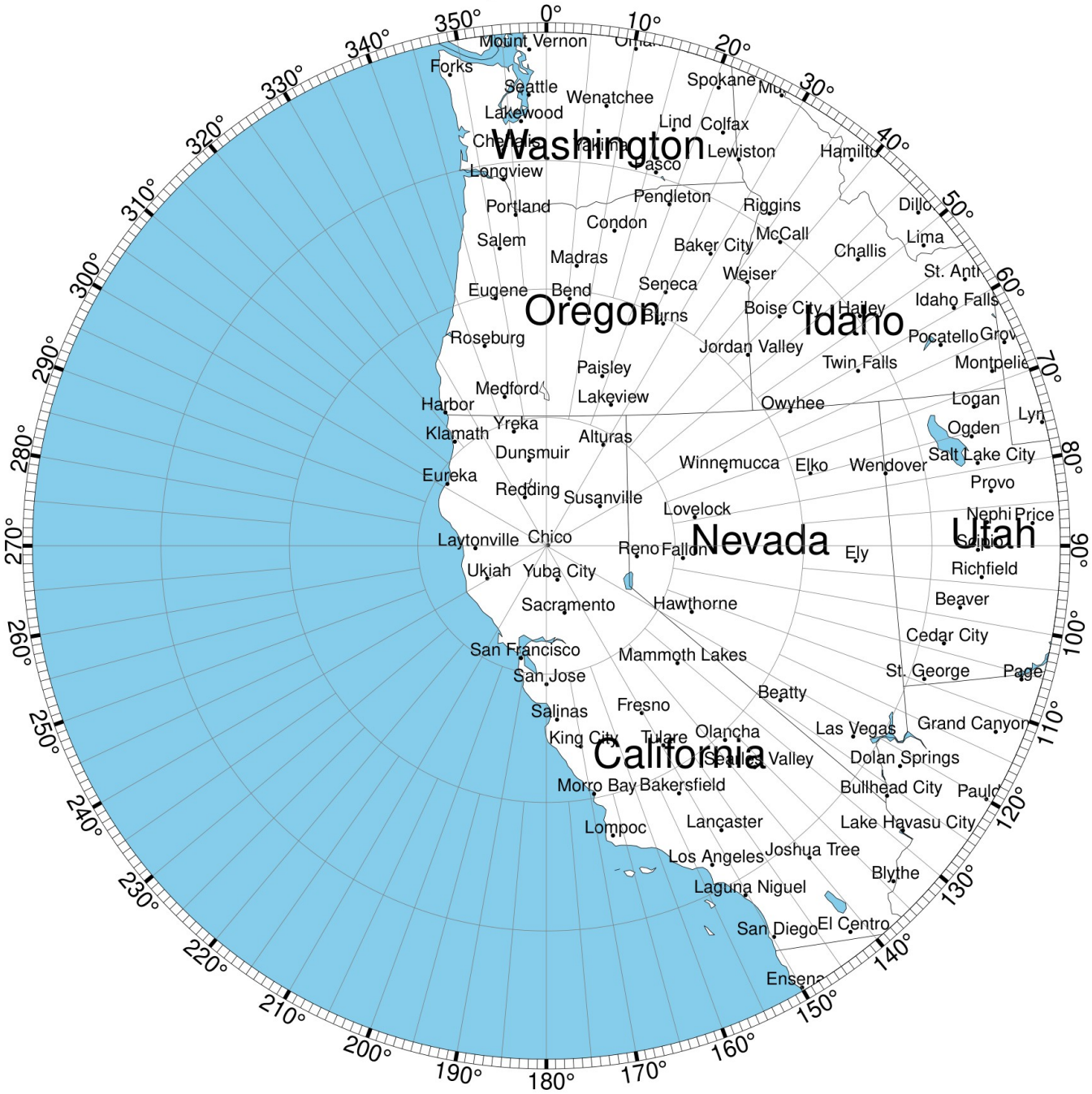


Map from http://ns6t.net/

Azimuthal Map

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

Courtesy of Tom (NS6T)

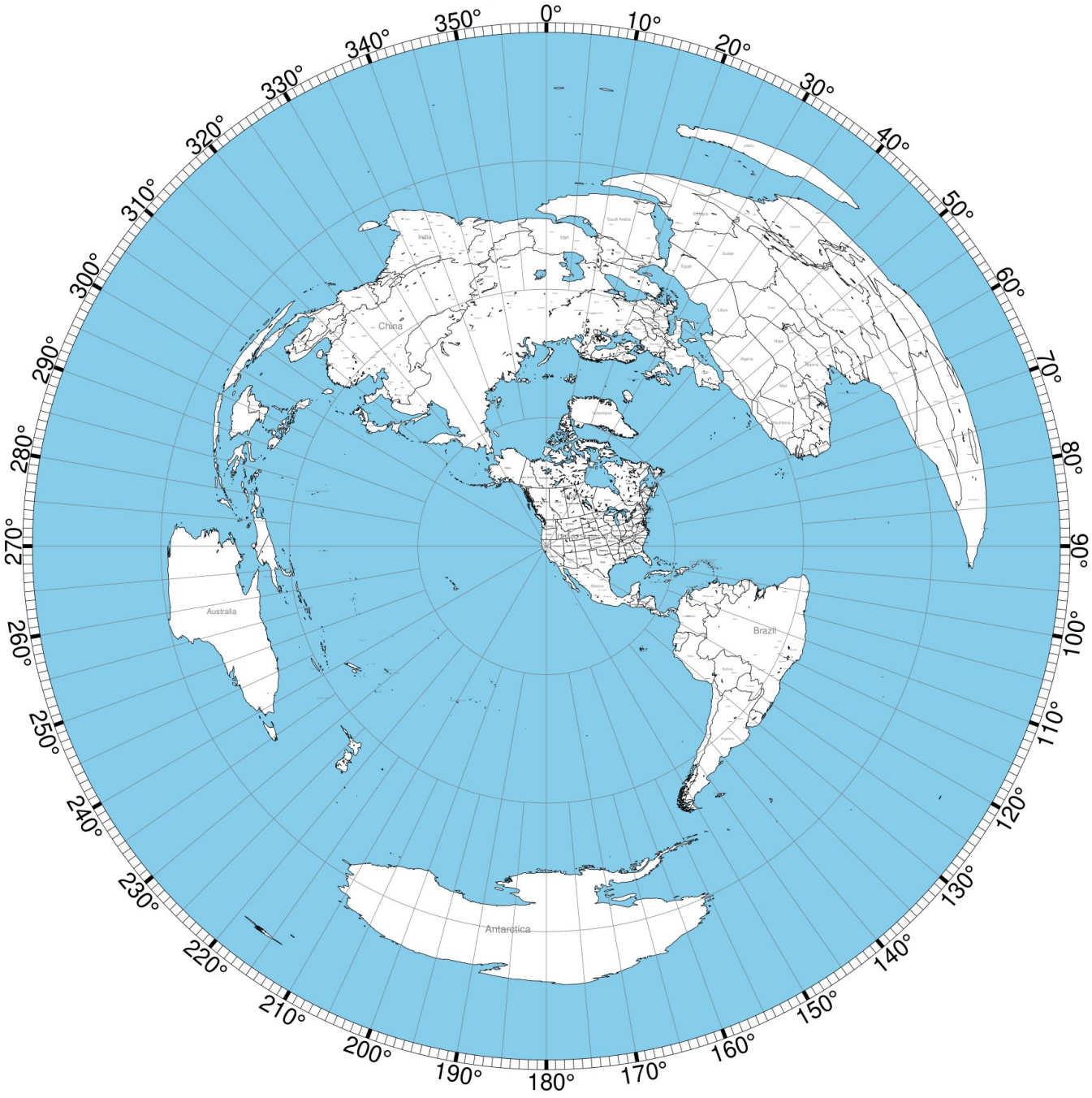


Map from http://ns6t.net/

Azimuthal Map

Center: 39°43'45"N 121°52'30"W

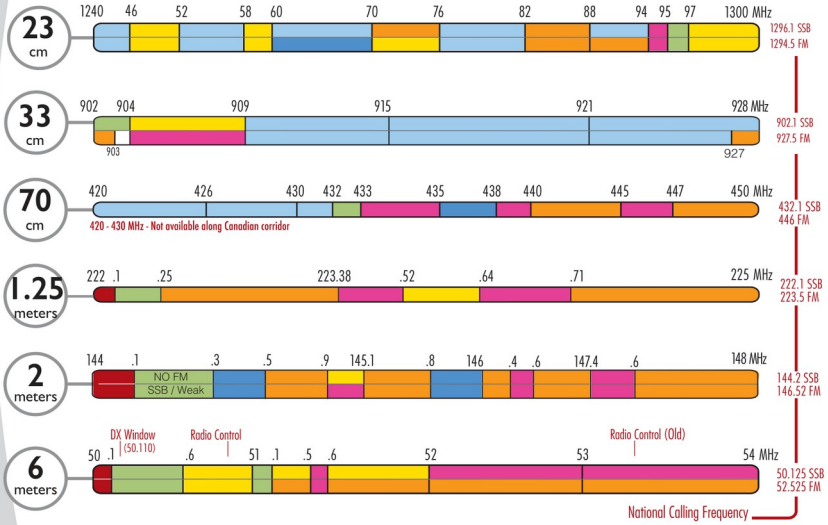
Courtesy of Tom (NS6T)



Map from http://ns6t.net/

ICOM

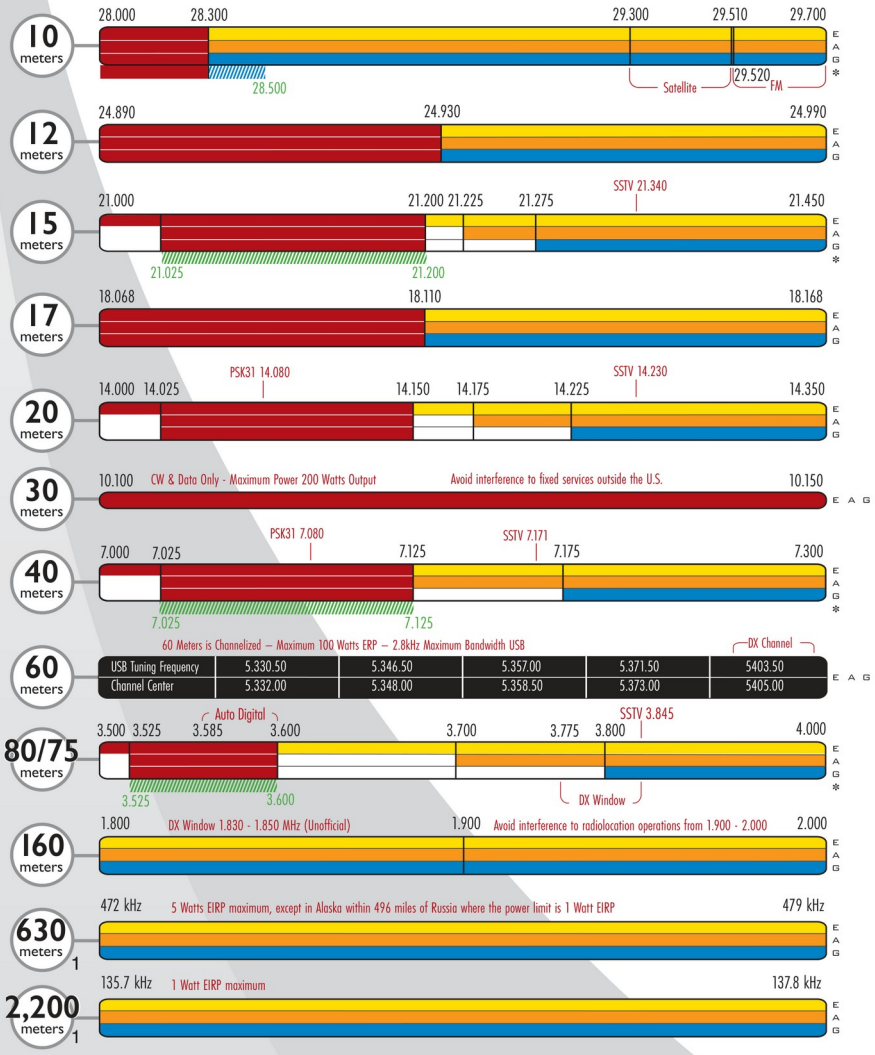
U.S.A. Amateur Radio VHF/UHF Band Plan



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 MF/HF Band Plan



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

E Extra A Advanced G General

✻ Novice and Technician Limited to 200 watts

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

[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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Tehama
Mendocino
Willland
Oroville
Glenn
Colliiza
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Ukiah
Lake
Lakeport
Sutter
Placer
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Placerville
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Kern
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Lancaster
Palmdale
Ventura
Los Angeles
San Bernardino
Riverside
Orange
Imperial
San Diego
En Centgo
Channel Islands (Ventura County)
Pacific Ocean
NEVADA
Reno
Carson City
Alpine
Bridgeport
Inyo
Independence
Oakhurst

Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

Official Copy

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.

FCC 605-G
August 2007

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.

Official Copy

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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
Amateur Extra

Station Privileges
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

Fold Here

THIS LICENSE IS NOT TRANSFERABLE

Special Conditions / Endorsements:
NONE

(Licensee's Signature)
FEDERAL COMMUNICATIONS COMMISSION

Cut Along This Line

Cut Along This Line

Cut Along This Line

v30.36 | Operational Reconciliation and 2027 Las Vegas Planning

Revision date: 10 November 2026. Supersedes v30.35 (2 November 2026). This section documents confirmed operator settings and suggested destination references. The authoritative FT-5DR memory export remains the programming source of truth.

Confirmed Team Stone changes

- GEARS East 146.850 MHz, negative offset, PL 110.9 Hz: operational. AllStar 57364; EchoLink 7818.
- GEARS South/Bloomer 147.945 MHz, negative offset, PL 123.0 Hz: operational. The 123.0 Hz tone is operator-confirmed; do not overwrite from conflicting public listings.
- Randall's orange UV-5R Mini: EUC-mounted mobile unit. UHF trials show no observed interference; VHF behavior, including GEARS East, remains under test.
- Fleet DTMF/ANI alignment: complete as prescribed. No pending standardization action.
- CQutie/openSPOT4 Pro: primary routine mobile digital physical-radio/cross-mode device, not subordinate to QSO One.
- QSO One iOS: operational but must stay visible/foregrounded. Reserve primarily for targeted nets and direct links. QSO One Windows remains fixed-station software.
- EchoLink: one active login per identity. Sign out of the active EchoLink client before switching to another rig/client; other QSO One modes can be managed separately.

Las Vegas: Bank 18 conference sub-group (2027)

Maintain NV/UT/Las Vegas as the geographic bank. Create a compact conference-use shortlist rather than replacing established memories. These are candidate directory references, NOT verified successful RF contacts from the 2026 hotel stay. Check current sponsor listings and the FT-5DR export before programming changes.

System/site	Output MHz	Tone / offset	Disposition
K7UGE Westgate VHF	146.940	100.0 / −0.600	Local club net candidate
K7UGE Westgate UHF	448.500	100.0 / −5.000	Independent of VHF; do not assume link
N4NJJ Angel Peak	448.325	107.2 / −5.000	AllStar 42630; candidate
N4NJJ Low Potosi	449.700	107.2 / −5.000	AllStar 42631; candidate
N4NJJ Centennial Hills	445.375	107.2 / −5.000	AllStar 42632; candidate
N4NJJ Southwest Vegas	446.825	107.2 / −5.000	AllStar 41394; candidate
W7HEN Low Potosi	447.925	156.7 / −5.000	AllStar 44045; candidate
WA7HXO High Potosi	449.175	136.5 / −5.000	CARLA-linked; candidate
WA7HXO Red Mountain	449.100	136.5 / −5.000	CARLA-linked; candidate

Candidate data was compiled from the November 2026 research discussion. Reconfirm with the managing clubs before committing exact channel changes; no live RF reachability was established by this document review.

QSO One: Las Vegas direct access favorites

Proposed W7RPT/Sin City favorites: AllStar 42230 (primary feed), 422314 (Soapbox), 47366 (High Desert). Keep these together as a destination grouping and test them independently. The QSO One net listing at https://qso1.net/nets is a discovery/reference source; net hosts remain authoritative for schedules.

Nets worth retaining in the calendar

- LVRAC Tuesday Check-In: Tuesday 7:00 PM Pacific; 146.940 MHz −, PL 100.0 (verify before 2027 travel).
- LVRAC Thursday Roundtable: Thursday 7:00 PM Pacific; 146.940 MHz −, PL 100.0 (verify before 2027 travel).
- LVRAC Thunderbird: Sunday 7:00 PM Pacific; 28.420 MHz SSB (verify schedule).
- SNARS Digital: Tuesday 8:00 PM Pacific; BM TG 31328 / YSF 29961 (existing doctrine reference).
- SNARS D-STAR: Wednesday 6:00 PM Pacific; REF014B (verify schedule).

Status distinction: 'operational' for GEARS East and South is operator-confirmed; 'candidate' for Las Vegas means published reference requiring field verification, not confirmed accessible from ARIA or elsewhere on the Strip.