



DA-7X2 Store-and-Forward Repeater

Record and replay a complete analog FM or DMR simplex message

What this feature lets you do: Use the DA-7X2 as a delayed simplex relay. It records one complete analog FM or DMR message and retransmits it after the caller releases PTT, allowing another station on the same channel to hear the stored message. It does not pass live audio while the caller is speaking.

Controlled testing only: Use only a frequency, mode, signaling, and talkgroup authorized for your license or system. Verify the channel is clear, use the lowest practical power, and do not involve an active repeater unless its owner approves the test.

Validated controls: These steps and control names were verified with DA-7X2 firmware V1.05d2 and BTECH CPS V1.05d. A later release may use equivalent labels.

What you need

Radio and software	Safe test setup
DA-7X2 with current firmware, matching BTECH CPS, and a separately saved working codeplug	Two other radios capable of the selected analog FM or DMR mode and an authorized clear simplex frequency

1. Turn on the supporting functions

CPS area	Setting	Value
Optional Setting > Auto repeater	Simp Repeater	On
Optional Setting > Auto repeater	Simp Repeater Slot	CH Slot recommended for DMR; not an input-slot filter
Optional Setting > Auto repeater	Simp Repeater VoiceEn	On for local playback; Off to mute local playback
Optional Setting > Record	Record Function	On
Optional Setting > Key Function	Preferred side-key action	Simplex Repeater

DMR time-slot behavior: Leave Simp Repeater Slot at CH Slot for a consistent setup, but do not rely on this control to filter the incoming DMR time slot. On V1.05d2, a matching DMR call can be repeated from TS 1 or TS 2. Record Function must be On in both analog and DMR operation.

2A. Build an analog FM simplex test channel

1. Create or edit an A-Analog channel with the same authorized receive and transmit frequency.
2. Use the same authorized bandwidth on the DA-7X2 and both test radios.
3. For the first controlled test, use carrier squelch without CTCSS/DCS. If your authorized channel requires tones, program matching transmit and receive signaling on all radios.
4. Add the channel to a zone, save the working codeplug, write it to the radio, and power-cycle the radio.

2B. Build a DMR simplex test channel

1. Create or edit a D-Digital channel with the same authorized receive and transmit frequency.
2. Assign a Group Call contact with TG/DMR ID 99 for the controlled test.
3. Set both receive and transmit Color Code to 1 and set the channel Slot to 1.
4. Set DMR Mode to DMO/Simplex when that field is shown.
5. Leave Simplex TDMA Off and TDMA Adaptive Off.
6. Turn Digital Monitor Off for the controlled test so its relaxed receive filters do not obscure the result.
7. Add the channel to a zone, save the working codeplug, write it to the radio, and power-cycle the radio.

TG 99 and CC 1 provide a predictable local DMR test when those values are authorized. The source may use TS 1 or TS 2; frequency, color code, and talkgroup are the required DMR matches.

3. Activate and verify

1. Program Radio A and Radio B for the selected mode. For analog, match the frequency, bandwidth, and any required signaling. For DMR, match the frequency, color code, and talkgroup.
2. On the DA-7X2, select the test channel and press the assigned Simplex Repeater side-key action. Confirm the repeater indicator appears on the radio display.
3. Listen first. When the channel is clear, transmit a short test message from Radio A and release PTT.
4. Wait for the incoming signal to end. Confirm the DA-7X2 then transmits the stored message once and Radio B receives it completely.
5. For a DMR input-slot check, change only Radio A from TS 1 to TS 2 or from TS 2 to TS 1. Keep the frequency, color code, and talkgroup unchanged, then confirm one stored message is still replayed.
6. Restore the test radios, repeat once if needed, then press the assigned side-key action to turn Store-and-Forward off.

Expected behavior: While Radio A transmits, the DA-7X2 receives and records without transmitting. After Radio A releases PTT, the DA-7X2 keys once, replays the stored audio, and returns to standby.

Mode matching and DMR time-slot behavior

Incoming signal	Store-and-Forward behavior
Analog FM	Use the selected simplex frequency, matching bandwidth, and any required CTCSS/DCS signaling
DMR	Frequency, color code, and talkgroup must match the selected DA-7X2 channel
DMR input time slot	TS 1 or TS 2 can trigger Store-and-Forward when frequency, color code, and talkgroup match
Simp Repeater Slot	Leave at CH Slot for setup consistency; it does not restrict the incoming DMR slot on V1.05d2
Timing	The DA-7X2 retransmits only after the incoming analog or DMR transmission ends

Delayed replay is not live Cross-Band Repeater: Store-and-Forward records and replays analog FM or DMR on the selected simplex channel after the caller releases PTT. Live Cross-Band Repeater uses one UHF channel and one VHF channel and transmits while the incoming signal is still active. Continue in the DA-7X2 Cross-Band Repeater Guide for that workflow.

Troubleshooting

Symptom	Check
No replay after reception	Record Function On; Simp Repeater On; assigned key actually enabled; incoming message ended
Analog message is not replayed	Selected analog simplex frequency, bandwidth, squelch, and any required CTCSS/DCS signaling
DMR message is not replayed	Same frequency, color code, and talkgroup; Digital Monitor Off; input slot alone should not prevent replay
No incoming audio is heard locally	Simp Repeater VoiceEn is On; this does not affect whether the stored message is retransmitted
A live relay occurs instead	Turn Repeater Mode Off; Store-and-Forward uses the separate Simplex Repeater control
Other radio cannot decode replay	Receiver mode and frequency match; for analog check bandwidth/tones; for DMR check color code, talkgroup, DMR mode, and TDMA settings