



DA-7X2 V1.05 New Features Guide

Store-and-Forward, linked and priority scan, ad-hoc talkgroups, and analog squelch

What V1.05 adds

BTECH improvement	What it provides	Configuration needed
Store-and-Forward Repeater	Records an incoming transmission, then retransmits the stored audio after reception ends	CPS repeater, recording, channel, and key settings
Linked Scan Groups	Lets one channel use more than one scan group	Create the lists, then link them to the channel
Priority Scan	Checks one or two important channels repeatedly while scanning the normal list	Priority channels and look-back timing
Ad-hoc Talkgroup	Selects a DMR group ID from the keypad without editing the codeplug	Manual Dial and an Unlimited hold time
Analog Squelch Adjustment	Quickly changes the analog carrier threshold from the radio	Assign Ana SQ Set to a side key
Scan PTT correction	Keeps a scan-mode transmission active while PTT is held	No new setting; verify the configured transmit target

Before programming: Read the radio with BTECH CPS V1.05d and save a separate backup before changing settings. Transmit only on frequencies, talkgroups, color codes, time slots, and systems you are authorized to use.

1. Store-and-Forward Repeater

Store-and-Forward receives a complete analog FM or DMR transmission on the selected simplex channel, stores its audio, and retransmits it after reception ends. The repeated message begins only after the original transmission is complete. It is not the radio's live Cross-Band Repeater feature.

Required CPS settings

CPS area	Setting	Required 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 to hear the received audio locally; Off to mute it
Optional Setting > Record	Record Function	On
Optional Setting > Key Function	Preferred side-key action	Simplex Repeater

Use the dedicated guide: Continue in the Store-and-Forward Repeater Guide for separate analog FM and DMR setup and a safe test. Keep Record Function On. For DMR, leave Simp Repeater Slot at CH Slot, but do not use it as an input-slot filter. Use the Cross-Band Repeater Guide for live VHF/UHF relaying.

2. Linked Scan Groups

V1.05 lets a channel use multiple scan groups. A scan group may contain analog channels, DMR channels, or both. Each individual group supports up to 50 channels; the BTECH improvement is the ability to link multiple groups.

Build and link the groups

1. In CPS, open Common Settings > Scan List and create each scan group separately.
2. Give every group a clear purpose-based name, such as Local DMR, Event Analog, or Travel Monitor.
3. Add the required channels to each group. Keep each individual group at or below 50 channels.
4. Open the channel that should launch the combined scan workflow.
5. In Channel Information, add the scan groups that should be linked to that channel.
6. Write the codeplug, switch the radio to Channel mode, select the programmed channel, and start Scan.

Scan List settings

The screenshot shows the 'Scan Edit' window with the following components:

- Scan List Name:** A text field containing 'Scan List 1'.
- Available Channel:** A table with two columns: 'ID' and 'Name'. It contains two rows: '1 Channel 1' and '2 Channel 2'.
- Scan Channel Member:** An empty table with two columns: 'ID' and 'Name'.
- Order By:** A dropdown menu with options 'ID' and 'Name'.
- Buttons:** '>>' and '<<' buttons between the channel lists; 'Up' and 'Down' buttons next to the 'Order By' dropdown; 'OK', 'Cancel', 'Previous', and 'Next' buttons on the right side.
- Settings:** A section at the bottom with the following options:
 - Priority Channel Select: Off
 - Priority Channel 1: Off
 - Priority Channel 2: Off
 - Revert Channel: Selected
 - Look Back Time A[s]: 2.0
 - Look Back Time B[s]: 3.0
 - Dropout Delay Time[s]: 3.1
 - Dwell Time[s]: 3.1

Build each scan list here. Use Channel Information to link the required lists to a channel.

If only one list is scanned: Read the radio back and confirm the linked groups remained assigned. Scan lists work in Channel mode, not VFO mode.

3. Priority Scan

Priority Scan checks one or two important channels more often than the rest of the list.

1. Open Common Settings > Scan List and select the list to configure.
2. Choose Priority Channel 1 and, when needed, Priority Channel 2.
3. Set Look Back Time A and Look Back Time B. Shorter times check priority traffic more often but interrupt other scan audio more frequently.
4. Review Priority Channel Select and Revert Channel so pressing PTT during a scan transmits on the intended channel.
5. Write the codeplug and test with controlled activity on both priority and non-priority channels.

4. Ad-hoc Talkgroup with unlimited hold

Ad-hoc dialing selects a talkgroup that is not programmed as the channel's normal contact. The channel frequency, color code, and time slot do not change.

Prepare the shortcut

1. In CPS, open Optional Setting > Digital Func.
2. Set Manual Dial - Group TG Hold Time to Unlimited. Do not change the separate Group Call Hold Time for this feature.
3. In Optional Setting > Key Function, assign Dial to a programmable key if desired. V1.05 also supports the long-press 0 shortcut.
4. Write the codeplug to the radio.

Dial from the radio

1. Select the DMR channel whose frequency, color code, time slot, and radio ID should be used.
2. Long-press 0, press the assigned Dial key, or use Menu > Talk Group > Manual Dial.
3. Select Group ID, enter the talkgroup number, and confirm. Verify that Group—not Private—is displayed before transmitting.
4. Press PTT to call. With the manual-dial hold set to Unlimited, the selected talkgroup should remain active until the channel is changed or the ad-hoc selection is cleared.
5. Confirm the displayed transmit contact before every call, especially after returning from a private call or changing channels.

5. Analog Squelch Level Adjustment

V1.05 adds the Ana SQ Set programmable side-key shortcut for quick access to five analog squelch levels. Lower levels admit weaker signals and more noise; higher levels require a stronger signal before opening the speaker.

1. In BTECH CPS V1.05d, open Optional Setting > Key Function and assign Ana SQ Set to the preferred short- or long-press action of a side key. Write the codeplug to the radio.
2. Select an analog channel, then use the assigned side-key action to open the analog squelch adjustment. This control does not set DMR filtering and is separate from AM air-band squelch.
3. Choose a level from 1 through 5. Increase it only enough to close background noise without hiding the signals you want to hear.

6. Scan PTT correction

No new option is required. In V1.05, holding PTT during scanning keeps the transmission active and uses the programmed Priority Channel Select and Revert Channel behavior.