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Baofeng DM-1701 Custom Firmware, August 2026: OpenGD77 Stable Line, SMS Fork and OpenRTX

The DM-1701's custom firmware scene in mid-2026 is dominated by OpenGD77's OpenDM1701 build (current stable R20260504), with a community SMS fork in beta, an experimental OpenRTX/M17 path requiring a hardware mod, and stock V2.06 firmware archived on GitHub since Baofeng only distributes CPS.

12 min read · 23 sources

2026 | Baofeng DM-1701 | DMR | M17 | OpenGD77 | OpenRTX | firmware | open source

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The Baofeng DM-1701 — a dual-band 2m/70cm DMR handheld sold since 2020, with the Retevis RT-84 as its twin — has one dominant custom firmware ecosystem in 2026: OpenGD77's **OpenDM1701** build, which reached a new stable release (**R20260504**) in May 2026 after nearly a year and a half of quiet. Alongside it sit a community-developed SMS fork still in beta, an experimental OpenRTX path that needs a soldering iron and targets M17 rather than DMR, and archived factory firmware (V2.06) that Baofeng itself no longer publishes on its download page. This document covers the current state of all four threads as of 20 August 2026.

R20260504	23–3	v0.4.4	V2.06
Latest OpenGD77 stable	Latest SMS fork build	Latest OpenRTX release	Latest stock firmware (archived)
4 May 2026	Mar 2026	1 May 2026	

The firmware landscape in 2026

Three firmware families compete for the DM-1701, and they answer different questions:

- **OpenGD77 (OpenDM1701)** — the mainstream choice. A full DMR + FM replacement firmware developed originally by Roger Clark (VK3KYY), Daniel Caujolle-Bert (F1RMB) and others, now distributed from opengd77.com with binaries for the DM-1701, DM-1701B, RT-84, MD-UV380/390 and RT-3S built from one codebase[1][2]. It adds a friendlier UI, expanded channel/contact capacity, satellite tracking, DMR ID database loading, and is the reason most owners say the radio is worth keeping despite its weak factory software[17].
- **OpenRTX** — a from-scratch, modular firmware aimed at the M17 digital voice protocol rather than DMR. The DM-1701 is not on OpenRTX's official supported-devices table, but it runs via the MD-UV3x0 target after a hardware modification, and the M17 project maintains the mod guide[6][11][13].
- **Stock firmware** — factory V2.06 (in CSV and no-CSV variants) plus the DMR Firmware Download tool, preserved on GitHub because Baofeng's own download area offers only the programming software (CPS 1.05), manuals and certifications for the DM-1701 — no firmware binary at all[7][9].

A clarification on the "nicsure" name sometimes attached to DM-1701 firmware searches: nicsure is the author of the QuanSheng UV-K5 tooling (QuanshengDock and related repos); his GitHub contains no DM-1701 work, and the stock-firmware archive is by GitHub user daniel5600, credited "from BG7QVB"[9]. Any association between nicsure and the DM-1701 is a search artifact.

The DM-1701 family itself has variants — CE certification covers **DM-1701, DM-1701A and DM-1701B** — and reviewers note the lettered variants can use different CPS software and chips, so firmware choice should match the exact model[17][20].

OpenGD77: current stable release and what changed

The current official stable firmware for the DM-1701 is **R20260504**, dated 4 May 2026, git revision `ebd7100bb4c930e6ff0c24202474b5b72e7d6beb`[1][2]. It is explicitly a maintenance release, not a feature drop:

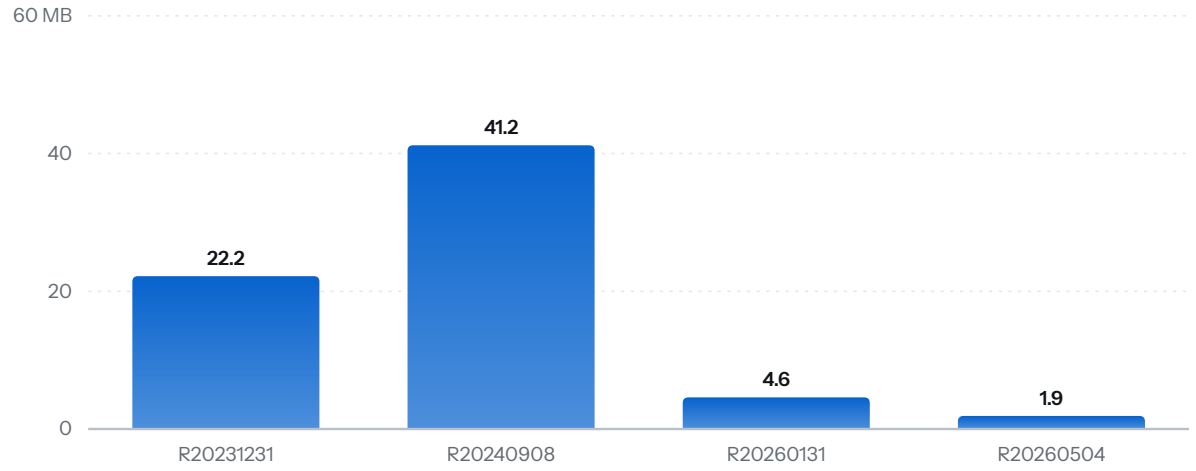
> *"This is a maintenance release so that the source code can be compiled using the latest STMCubeIDE development environment which uses a newer version of GCC. Specifically the AMBE codec_interface assembler code would no longer link, because the linker no longer allows direct calls to absolute memory addresses. To overcome this problem, the codec_interface has been reworked to use C function pointers, and this change has also been back-ported to the GD77 (MK22 MCU) version. The change to no longer use inline assembly code has also allowed the codec_interface.c file to be compiled with optimisation (-Os). Thanks to SASANO Takayoshi (JG1UAA) for reporting the problem."*[1]

In practice this means R20260504 is a drop-in rebuild: it fixes compilation against current toolchains rather than adding user-visible features, and forum reports confirm it loads cleanly (“Loaded perfectly on my RT3S”)[2]. The previous stable, **R20260131** (31 January 2026), was notable for being the first release in a long while to ship source code alongside binaries — an `sources_and_tools/` folder (2.7 MB) sits next to the firmware zips on the mirror[3][4]. Forum members compared it against the March 2025 beta and found most file sizes identical, concluding it was “maybe just a source code release + some performance tweaks”[4]. The 2026-05-04 folder, by contrast, contains only the eight firmware zips and the changelog — no public sources folder — and users requesting the R20260504 source were told it would be sent by private message[2][5].

- 31 Dec 2023 — **R20231231**
  Stable release for MD-UV380/DM-1701 family
- 8 Sep 2024 — **R20240908**
  Stable; base for the minimum-volume fork
- 23 Mar 2025 — **Beta 2025-03-23**
  Last public beta for over a year; CPS 2025-03-23 required
- 31 Jan 2026 — **R20260131**
  First stable in 16 months; source code published alongside
- 16 Mar 2026 — **SMS build 16–3**
  First BrandMeister-compatible SMS build (PD0FR fork)
- 4 May 2026 — **R20260504**
  Current stable; codec_interface rework for new GCC
- 1 May 2026 — **OpenRTX v0.4.4**
  M17-oriented firmware pre-release

Downloads are available from three places: the official index at `opengd77.com/downloads/MDUV380_DM1701/Firmware/Latest/`, the new `opengd77.org/releases/` path, and the opengd77.eu mirror which also preserves older releases (R20231231, R20240908, R20260131)[1][2][3][5]. Each release ships separate zips per radio: **OpenDM1701.zip** (and a Japanese-language variant) for the DM-1701, plus OpenRT84, OpenMDUV380 and 10 W Plus variants built from the same tree[5].

Release package size on opengd77.eu mirror



Source: opengd77.eu directory index [3] [5]. The early packages bundled full source; R20260131 split sources into a separate folder; R20260504 ships binaries only.

RELEASE	DATE	FIRMWARE ZIPS	SOURCE INCLUDED	WHAT IT WAS
R20231231	31 Dec 2023	8	Yes (in 22.2 MB pkg)	Stable for MD-UV380 family
R20240908	8 Sep 2024	8	Yes (in 41.2 MB pkg)	Stable; last for 16 months
R20260131	31 Jan 2026	8	Yes (sources_and_tools folder)	First 2026 stable + source release
R20260504	4 May 2026	8	No (binaries only)	Codec_interface fix for new GCC

Folder sizes from the opengd77.eu mirror index [3] [5].

The SMS fork line (2026 community development)

The most active 2026 development is not in the official line at all. In March 2026, forum member **PD0FR** — a high-school student who openly used AI assistance — announced a custom OpenGD77 build with **DMR SMS support**, a feature the official firmware has never had [8]. The timeline of that fork, all from the "Big news about SMS" thread [8]:

- **15 Mar 2026** — first build posted; ETSI-format simplex SMS, ACK handling, inbox/sent storage, quick text (hold 0 to create), filter/wait-for-ACK settings.
- **16 Mar 2026** — build briefly withdrawn for a bug, re-released; settings fixed later that day.
- **18 Mar 2026** — UI flow reworked: select contact or manual dial, resend prompt.
- **23 Mar 2026** — duplex bug fixed ("Duplex SMS should work most of the time now"), but BrandMeister would not yet recognise messages; **build 23–3 is the last public build** [8] [10].

- **29 Mar–14 Apr 2026** — work switched to a Motorola-format build for BrandMeister; Tx succeeded 5 April (“Brandmeister is successfully receiving a message”), and RC1 was declared ready on 14 April but held back while PD0FR was travelling [8].
- **25 Apr 2026** — “SMS Beta 1” released as a BrandMeister-compatible build; later taken offline (“update coming”), and as of mid-July 2026 the RC had not appeared — PD0FR cites school commitments, and answered a question about the stable release with **“this is an official release from the devs so no sms yet”** [2] [10].

Known bugs in the SMS beta are documented in the threads: radio freezes caused by RAM overflow when very long messages arrive (recover by pulling the battery), TX occasionally failing, minimum 750 mW advised for hotspot users, and key-mapping quirks on some models (an RT-3S tester found the hash key acting like the green key) [10]. Testers confirmed functionality on the UV380, RT3S and on pairs of DM-1701s — with the caveat that two radios on two different hotspots could not exchange SMS even when both hotspots shared a master [8].

KEY FINDING

SMS is a community fork, not part of the official stable line. As of 20 August 2026 the official releases (R20260504 included) have no SMS, and the fork’s BrandMeister RC1 — announced 14 April 2026 — had not been released.

Installing and flashing OpenDM1701

The canonical procedure is still the installation thread VK3KYY wrote in September 2022, which remains the link the current forum points to [11] [12]. The one-time setup:

1. **Back up first.** Use the official CPS to back up calibration data (hold Ctrl+T for the test screen) and the codeplug. The OpenGD77 codeplug format is **not compatible** with the factory CPS — after flashing you must create a fresh codeplug with the OpenGD77 CPS or reuse a GD-77 codeplug.
2. **Get the donor.** OpenDM1701 is built by merging open code with the codec from the official **MD9600-CSV(2571V5)-V26.45.bin** — the MD-UV380 shares its CPU and codec with the MD9600, so that file is the “donor” the firmware loader needs. It is hosted on the OpenGD77 site and repackaged in community starter packs [11] [16].
3. **Enter DFU mode.** With the radio off and the programming cable connected, hold **SK1 + PTT** and power on; the LED flashes red/green and Windows shows an STM DFU device (install the Dfuse 3.0.6 driver if not). On the DM-1701 the button sequence can differ from the MD-UV380, so check the radio-specific note [11].
4. **Flash.** In OpenGD77 CPS → Extras → firmware loader, select radio type MD-UV-380, choose the donor file, then the OpenDM1701 zip, and update. After reboot you get the OpenGD77 VFO screen with garbage frequencies until a codeplug is written.

5. **Back up the 16 MB flash** through the CPS and keep it safe — the official firmware will not run again unless the flash is restored first. Reverting is done with the official loader after restoring the flash backup; if the factory CPS then demands a passcode, set `password=password` in its settings.ini[11].

The 2026 route is a browser-based CPS: **grid.radio/opengd77**, which the forum's "Installing in 2026" thread recommends[12]. It uses WebUSB — install the **Zadig** driver to expose the radio to the browser — and can write codeplugs, DMR ID databases, satellite TLEs and firmware from one page, including the "Custom File" path used to upload the SMS builds[8][12][14]. The desktop **OpenGD77 CPS** is at E2026.05.26.01 (May 2026), superseding the 2025-03-23 CPS that the 2025 beta line required[15][19].

> CAUTION
>
> Flash OpenGD77 only after backing up the original flash (16 MB) and calibration data. The factory CPS cannot read an OpenGD77 codeplug, and reversion to stock firmware requires restoring that flash backup first[11].

OpenRTX and the M17 path

OpenRTX — the modular open-source firmware by the IU2KIN/IU2KWO team — is a different animal: it targets **M17 digital voice and FM**, with DMR explicitly a future milestone ("DMR RX, TX, and SMS support" sits in the roadmap, all still ✖ on the dev-status table)[13]. The latest release, **v0.4.4 (1 May 2026)**, added M17 packet and metadata TX/RX, QR code generation and internal-flash NVM drivers[18].

The DM-1701's place in OpenRTX is unofficial but real: it is absent from the project's supported-device list (MD-380/390, MD-UV380/390, MD-9600, GD-77, DM-1801, Module17, Talkpod A36Plus, CS7000-M17 and others), yet DM-1701 owners run it via the **mduv3x0 target**, and the OpenRTX tracker carries a DM-1701-labelled issue (#325, "Persistence of Settings", July 2025) confirming M17 communication works but settings (callsign, frequency) do not survive a reboot on some units — a collaborator explained some STM32 clones only allow one write per sector erase, with a fix coming via external-flash storage[6][13].

The catch for M17 is hardware: the DM-1701 has no M17-capable radio path out of the box. The M17-Project's **DM-1701_mod** guide (updated January 2026) walks through a soldering mod — a 200 kΩ resistor (220 kΩ fine), a 1.5 nF capacitor, and a Kynar wire linking MCU pin 18 to the AT1846S pin 9, plus several removed caps and a shunted SOT-23 diode — after which OpenRTX can be flashed the usual way (a Linux bash script is provided; Windows support is "WIP")[7]. The guide warns "the DM-1701 support is still under active development and might not offer all M17 and/or device's functionalities"[7]. An extended photo walkthrough lives at rz01.org (Michael DK1MI)[7].

	OpenGD77 (OpenDM1701)	VS	OpenRTX (mduv3x0 target)
Status on DM-1701	Official binaries	·	Unofficial, experimental
Primary modes	DMR + FM	·	M17 + FM
Hardware mod required	No	·	Yes (for M17 path)
SMS	Fork in beta (2026)	·	Roadmap only
Settings persistence	Yes	·	Broken on some clones (issue #325)
Latest release	R20260504 (4 May 2026)	·	v0.4.4 (1 May 2026)

Known issues, variants and practical caveats

Audio design flaw. The DM-1701's volume control is not a potentiometer in series with the amplifier; it feeds a voltage into the CPU, which adjusts the HR-C6000's audio gain. VK3KYY's verdict from the install thread still stands: "This means the audio control available on this radio is not as good as other radios... the minimum audio gain setting of the C6000 chip is not as low as the volume control if the analog audio signal passed through a pot"[11]. Community responses range from living with it to a fork: **jamarju/opengd77** rebuilds the 20240908 firmware with extra negative DMR AGC steps (−9 dB, −6 dB, −3 dB) specifically because "my DM-1701's minimum volume is still a bit high especially in quiet environments"[20].

Silent DMR bug. A known intermittent issue where a QSO participant goes silent mid-transmission prompted a March 2025 test build (thread t=22); the link was later removed because the fix didn't work, and the bug remains a topic in the family forum[21][22].

Variant confusion. DM-1701 vs DM-1701A vs DM-1701B matters: reviewers report the lettered variants can use different CPS software because they use different chips, and the CE certificate covers all three under one filing[17][20]. The OpenGD77 family forum bundles "Baofeng DM-1701 / DM-1701B / Retevis RT-84" as one supported group[22].

Restoring stock. Factory firmware V2.06 (CSV and no-CSV) and the DMR Firmware Download tool v3.05 are archived at github.com/daniel5600/BAOFENG-DM1701-Original-Firmware; the version claim was initially "not verified" by forum users, but a long-time member confirmed using it to revert, check calibration with an SDR, and re-flash OpenGD77 without issues[9][16].

Source-code situation. OpenGD77's developers resumed releasing firmware in 2026 but have chosen not to publish the new code on GitHub; the open-ham/OpenGD77 repo exists to preserve the last publicly released source, and notes the binaries embed the official codec (an IP constraint)[4][23]. R20260131 remains the last stable with public source attached[3][4].

Bottom line

For a DM-1701 owner in August 2026: **flash OpenDM1701 R20260504** (or the latest from `opengd77.com/downloads/MDUV380_DM1701/Firmware/Latest/`) — it is the current stable, tested by the community, and a pure maintenance rebuild so it is safe to adopt. Back up the 16 MB flash and calibration first, and use either the OpenGD77 CPS E2026.05.26.01 or the grid.radio browser CPS. If you specifically want **DMR SMS**, the PD0FR fork (build 23–3, BrandMeister Tx working, RC1 pending) is the only option and is beta-grade — expect freezes and key quirks. If you want **M17**, that's OpenRTX v0.4.4, but it means a hardware mod, no DMR, and settings that may not persist. There is no single "latest custom firmware" — the choice is between a stable DMR line, an SMS experiment, and an M17 work-in-progress.

SOURCES

1 OpenGD77 changelog R20260504 (opengd77.com)
https://www.opengd77.com/downloads/MDUV380_DM1701/Firmware/20260504_ebd7100bb4c930e6ff0c24202474b5b72e7d6beb/changelog.txt

2 New Stable version [R20260504] — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?t=78

3 OpenGD77 firmware download index (opengd77.com)
https://www.opengd77.com/downloads/MDUV380_DM1701/Firmware/

4 New Stable version [R20260131] Including source code — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?t=35

5 opengd77.eu mirror: MDUV380_DM1701_RT3S_RT84 index
https://opengd77.eu/index.php?dir=MDUV380_DM1701_RT3S_RT84/

6 Big news about SMS — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?t=45

7 M17-Project/DM-1701_mod — GitHub
https://github.com/M17-Project/DM-1701_mod

8 SMS Beta 1 — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?t=64

9 daniel5600/BAOFENG-DM1701-Original-Firmware — GitHub
https://github.com/daniel5600/BAOFENG-DM1701-Original-Firmware

10 TYT MD-UV380/390 / RT-3S / DM1701 Installation information — OpenGD77 archive
https://www.opengd77.com/archive/viewtopic9ca7.html?f=19&t=2380&

11 Installing in 2026 — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?p=67

12 OpenRTX development status
https://openrtx.org/#/dev_status

13 grid.radio OpenGD77 CPS (browser)
https://grid.radio/opengd77/

14 OpenGD77 CPS forum (E2026.05.26.01)
https://www.opengd77.org/viewforum.php?f=4

15 Restore Original Firmware on Baofeng DM-1701 — OpenGD77 archive
https://www.opengd77.com/archive/viewtopic2b81.html?f=8&t=4310&start=10

16 Baofeng DM-1701 — 8 Things to Know (besthamradio)
https://www.besthamradio.com/baofeng-dm-1701/

17 OpenRTX releases — GitHub
https://github.com/OpenRTX/OpenRTX/releases

18 Baofeng Download Area (DM-1701 CPS 1.05)
https://www.baofengradio.com/pages/download

19 jamarju/opengd77 — GitHub (minimum-volume fork)
https://github.com/jamarju/opengd77

20 MD-UV380/RT-3S/DM-1701/RT-84 Test version 2025-03-23 — OpenGD77 forum
https://www.opengd77.org/viewtopic.php?t=22

21 TYT MD-UV380 family forum — OpenGD77
https://www.opengd77.org/viewforum.php?f=7

22 open-ham/OpenGD77 — GitHub (source preservation)
https://github.com/open-ham/OpenGD77

23 OpenRTX issue #325 — [DM-1701] Persistence of Settings
https://github.com/OpenRTX/OpenRTX/issues/325

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