

THE SEVEN BUTTONS

Everything the M1KE does from the outside — every press, hold and multi-press in the manual, on one page.

VOLUME AND TRANSMIT — THE THREE YOU USE WITH A QSO IN PROGRESS

VOLUME UP

LOUDER

Press

Speaker volume up.

ANY BUTTON

TRUE OF ALL SEVEN

Press

Wakes the display. The screen dims and then switches off when no button has been pressed for a while — any button brings it back.

If it stays dark, check Display brightness under Display / keypad settings in the web interface.

PTT

TRANSMIT · LINK · REPLY

Hold

Transmit. **Speak when the status LED turns red**, not before.

Clearing the "PTT on" beep sequence speeds up the response.

Short tap

A **quick call** (kerchunk) — how linking works. Group call a TG to link it; private call 4000–5000 for a reflector; TG4000 unlinks all.

While it blinks

Call hold reply: after a received DMR/NXDN call, pressing PTT switches your destination to that call's.

Press again **ADVANCED**

With **PTT lock mode** on, PTT latches — a second press ends the transmission.

VOLUME DOWN

QUIETER · BOOTLOADER

Press

Speaker volume down.

+ Power, 10 s

Bootloader mode for USB firmware recovery — the only two-button combination on the M1KE. See the red tile above.

WATCH THESE

EASY TO TRIGGER BY ACCIDENT

Same button, two outcomes

OK/Menu is **unlock the keypad** at a few seconds, **erase all ten profiles** at thirty. No warning in between.

A long thumb costs a restart

Power/Back is 2–3 s to switch off, but 8 s hard-reboots.

The rescue combination

Power + Volume Down, 10 s → bootloader mode for USB firmware recovery. Blank screen, LED off — it looks dead. Power 8 s to leave.

POWER AND NAVIGATION — PLUS THE LONG-PRESSES HIDING ON EACH ONE

POWER / BACK

ON · OFF · BACK OUT

Hold 1–2 s

Power on.
Brand-new units must be on USB power the first time or they won't turn on.

Hold 2–3 s

Power off. Wait ~3 s before switching back on.

Hold 8 s+

Hard reset. Reboots; config kept.

Short press

Back. Exits menus, closes the Call Log.

Triple press

Beeps the active profile number and name in Morse.

Triple press **ADVANCED**

With **Unlink on 3 presses** on:

Homebrew/MMDVM → quick call **TG4000**;
otherwise → **Null connector**.

UP

NAVIGATE · LOG · PROFILES

Press

Move the cursor up.

Long press

Call Log. Scroll with Up/Down, close with Power/Back.

Triple press

Config profiles screen.

DOWN

NAVIGATE · DESTINATION · AP

Press

Move the cursor down.

Long press

PTT Destination Settings.

Triple press

Toggle your connector ↔ **Null connector** — the fast way off the network.

Hold at power-on

Wi-Fi **access point mode:** join "M1KE AP", browse to **http://192.168.99.1/**.
The way back in when it can't reach your Wi-Fi.

OK / MENU

CONFIRM · MENU · RESET

Press

Main Menu from the Main or Ongoing call screen.

Press (in menus)

Confirm a selection; pick a character on the keyboard.

Hold a few seconds

Unlocks the keypad when Keypad Lock is on.

FACTORY RESET

OK / MENU · HELD 30 S+

Hold 30 s+

FULL FACTORY RESET. LED blinks red 5×, then out; release and it reboots. **All 10 profiles erased.**

DMR LINKING

Talkgroups, reflectors and the four ID numbers that do all the work.

MAKING THE CALL — LINKING IS DONE BY THE NETWORK; THE MIC JUST CALLS THE RIGHT ID

LINK A TALKGROUP

GROUP CALL · TG ID

Short group call to the TG ID

The server links you **dynamically**. Stations with the same TG linked hear your group calls to it.

Example: with TG969 linked, group calls to DMR ID 969 reach your M1KE.

UNLINK EVERYTHING

GROUP CALL · TG 4000

Short group call to 4000

Drops **all dynamic talkgroups** — and any linked reflector with them. The one number to remember when the mic is on something you didn't intend.

LINK A REFLECTOR

PRIVATE CALL · 4000-5000

Short private call to the reflector ID

One reflector at a time. Talk on it by sending group calls to **TG9**; reflector traffic comes back on TG9 too.

Private call to 4000

Unlinks the reflector.

XLX MODULES

DCS/XLX · DMRPLUS DONGLE

Call 4001, 4002, 4003 ...

Connects to module **A, B, C** and so on, in order.

Call 4000

Unlinks the current module.

HOW LINKS BEHAVE — AND WHAT SHARKRF RECOMMENDS YOU ACTUALLY DO

DYNAMIC

TIMES OUT

Linked by calling the TG; expires after the last call — usually **15 minutes** on BrandMeister, depending on the server.

AUTO-STATIC

BRANDMEISTER FEATURE

The **first TG you call after calling TG4000** is linked auto-static and will not time out. Call TG4000 again to clear it.

STATIC

SET ON THE NETWORK, NOT THE MIC

BrandMeister

On the BM dashboard, or from the M1KE's own **BrandMeister Manager** tool panel.

DMRplus / IPSC / others

In the **DMRplus options** at the bottom of the Homebrew/MMDVM connector, or on the network's dashboard.

QUICK CALLS

THE TAP THAT DOES THE LINKING

What it is

A short PTT tap with no audio — a kerchunk. These empty calls **do show up on the BrandMeister dashboard**.

Shortcuts

Saved in the active config profile.

Hover or hold a saved button to see its name.

Auto group call 4000

When checked, fires TG4000 before every shortcut so the server unlinks everything first.

RECOMMENDED

SHARKRF'S OWN ADVICE

- **BrandMeister:** avoid static talkgroups — use one auto-static TG at a time.
- **DMRplus / IPSC:** set statics in the DMRplus options on the Homebrew/MMDVM connector.
- **Reflectors have been off on BrandMeister since 2020.** Most servers have them disabled — use talkgroups.

CONNECTORS

DIGITAL VOICE NETWORKS — PICK ONE; ONLY ONE CONNECTOR IS ACTIVE AT A TIME

All eighteen, grouped by what you are trying to reach. **Only one is active at a time**, though some stay alive in the background.

DMR

HOMEBREW/MMDVM · DMRPLUS DONGLE

Homebrew/MMDVM

Homebrew protocol → BrandMeister.
MMDVM protocol → TGIF, DMRplus, Phoenix, DMR-MARC, XLX. Holds the DMRplus static-TG options and the BM hotspot security settings.

DMRplus dongle

DMRplus, Phoenix, DMR-MARC, XLX over the dongle protocol.

D-STAR

DCS/XLX · REF/XRF

DCS/XLX

DCS and XLX reflectors, over the DCS protocol.

REF/XRF

REF and XRF reflectors and gateways over Dplus (REF001, REF030 ...).

Both

Need a registered call sign that matches exactly — no suffix, no whitespace.

FUSION & FRIENDS

YSF · FCS · NXDN · P25

YSFReflector

System Fusion / C4FM reflectors.

FCS

The FCS network.

NXDNReflector · P25Reflector

NXDN and P25 reflectors, both with talkgroup handling.

ANALOG LINKS

ALLSTAR · ECHOLINK · SVX

IAX2/AllStarLink

ASL nodes or plain IAX2. Two modes plus a web-transceiver mode; token comes from your allstarlink.org account.

EchoLink

Needs a validated account. Call sign comes from Owner information, password from the connector. Proxy supported.

SVXReflector

Address and port by hand — no catalog. **No audio monitoring of multiple talkgroups.**

EVERYTHING ELSE — DATA, DIRECT LINKS, AND THE TWO THAT GO NOWHERE ON PURPOSE

DATA & PAGING

DAPNET · APRS

DAPNET

POCSAG paging. Can **stay connected in the background** behind another connector.

APRS

Position and messaging; pairs with the APRS chat tool panel.

DIRECT LINKS

SHARKRF IP CONNECTOR

Client

Straight to another M1KE or openSPOT, or to a SharkRF IP Connector server. Protocol is open, on GitHub.

Server

Accepts up to **32** incoming devices. Forward UDP **65100** to the M1KE on your router.

BROADCAST

M1KE TO M1KE

What it does

Device-to-device, multicast across one LAN, or sitelink over the internet. Adds a **Bcast neighbors** menu item listing what it can see.

Worth knowing

This is the connector that's active when there is no Wi-Fi.

PARROT & NULL

LOCAL · NO NETWORK

Parrot

Records up to **30 seconds** and plays it back when you release PTT. Use it before trusting your audio settings.

Null

Connects nowhere — the clean way to go silent. Triple-press Down toggles into it.

WHERE THINGS LIVE

A map of the web interface, so you stop hunting for the setting you know exists.

GETTING IN, AND THE PAGES YOU SET THINGS UP ON

GETTING IN

TWO WAYS

sharkrf.link

Enter the **device UID** from the sticker on the back (or the About screen). Saves in the browser; can be added to a phone home screen.

Local IP

Straight to the M1KE's address on your LAN.

TURN ON ADVANCED

OR HALF OF THIS IS HIDDEN

Mode settings, beeper sequences, RTC, speaker FX, PTT lock, per-profile Wi-Fi and the misc toggles **do not appear** until Advanced mode is enabled.

STATUS

WHAT IT'S DOING RIGHT NOW

- Connection status and **call log** (CSV export)
- **Live display view** — the screen, mirrored, with remote buttons
- Call audio playback
- **Console** — type help
- M1KE info
- **BER graph** and **dejitter queue graph**, plus the dejitter length setting

QUICK SETUP & CONNECTORS

WHERE YOU ACTUALLY CONFIGURE IT

Quick Setup

Owner info — call sign and IDs — with a **Check D-STAR registration** button. Pick and configure the active connector. Light/dark theme.

Connectors

All 18 and their settings. Save, rename and remove **custom servers**; export and import them; keepalive interval and RX timeout.

TOOLS

SIDE PANELS

- Call — dial an ID, send DTMF
- **Quick Call** and favourites
- **BrandMeister Manager** (needs an API key from BM SelfCare)
- APRS chat · POCSAG/DAPNET · DMR chat
- ID database lookup
- Upgrade

THE THREE SETTINGS PAGES — AND THE KEYBOARD SHORTCUTS THAT DRIVE THE MIC FROM YOUR DESK

MIC SETTINGS

YOU, OUTBOUND

- **PTT destination** and saved IDs / call signs
- Audio settings — gain, loudness
- PTT lock mode, call hold, PTT timeout **ADVANCED**
- Audio DSP FX — noise reduction, pitch, chorus, EQ, delay

SETTINGS

THE DEVICE ITSELF

- Speaker volume
- Config profiles — activate, rename, copy, change-on-timeout
- Global storage · **Firmware upgrade**
- Voice announcements · Location (Fill with GeoIP)
- Display / keypad, incl. keypad lock buttons
- Mode settings (audio gain from network), message templates, call mute, beeper sequences, RTC, **Speaker FX**, logo **ADVANCED**
- Reset config profile / **reset all profiles**

NETWORK

GETTING AND STAYING ONLINE

- Status and traffic
- Wireless: scan, **5 saved networks**, roaming threshold, AP mode settings
- NTP
- IP — including **Override DHCP DNS servers**
- MAC clone **ADVANCED**

REMOTE CONTROL

LIVE DISPLAY VIEW · STATUS PAGE

ctrl + I

Toggle the live display view

ctrl + ←

Back

ctrl + ↑ / ctrl + ↓

Up / Down

ctrl + Shift + ↑ / ↓

Up / Down, long press

ctrl + →

OK/Menu

READING THE SCREEN

What the display is telling you — including the one element that means two different things depending on when it blinks.

THE TWO SCREENS — IDLE, AND MID-CALL

MAIN SCREEN

NOTHING HAPPENING

PTT destination

Where your next transmission goes. Long-press Down to change it; a saved server shows by name.

Main logo

Shown when idle. Replaceable under Display / keypad settings.

Button hints

The bottom strip shows what long-pressing Up and Down does on this screen.

WHEN IT BLINKS

TWO VERY DIFFERENT MEANINGS

Blinking continuously

The server is not reachable. Start troubleshooting here.

Blinking after a call

Call hold reply. It's showing the destination of the DMR or NXDN call you just received — press PTT to adopt it.

Call timer blinking

The call has ended. Duration of the blink is the **Call hold** setting.

ONGOING CALL

WHO, WHAT, HOW

Destination / Source

Call sign or ID at each end.

Source info

Line 1: source name and ID. Line 2: the station's broadcast message — **this is where Talker Alias shows up** on DMR.

Call info

Protocol (DMR, C4FM ...), codec (PCM, A3K ...), or type: **prv** private, **data** data call.

Audio meter

Incoming level.

STATUS ICONS

TOP OF THE SCREEN

Battery

Level · charging · unknown · **charger error**.

A fast-blinking charge LED by the USB port is a charger fault — change cable, port or charger.

Wi-Fi

Strength when connected; **animating** while getting an IP or roaming; separate icons for AP mode and disconnected.

Three more

New message · keypad locked · speaker muted.

THE MENU — OK/MENU FROM EITHER SCREEN

MAIN MENU

ALWAYS PRESENT

- Keypad Lock
- Quick Setup
- Messages
- Settings
- **About** — device UID and firmware version live here

SETTINGS SUBMENU

EVERYTHING ON-DEVICE

- Connector switch
- Config profiles
- Wi-Fi — connect, reconnect, disconnect, AP mode, saved networks, network settings
- Display settings
- Owner information
- Initialization setup
- Reset profile · **Factory reset**

CONNECTOR-SPECIFIC

APPEARS ONLY WHEN RELEVANT

Broadcast active

Bcast neighbors — other M1KEs nearby or on the same network.

Quick Call

Quick Call and Quick Call Favs.

AllStarLink active

Show ASL linked nodes · Hang up call · Call · DTMF.

CALL LOG

LONG-PRESS UP

Scroll it with Up and Down; close it with Power/Back. The web interface can **export the whole log as CSV** from the Status page.

TROUBLESHOOTING

Symptom, then the checks in the order the manual puts them.

START HERE — THEN WORK DOWN THE COLUMN THAT MATCHES THE SYMPTOM

FIRST TWO CHECKS

BEFORE ANYTHING ELSE

1 · Wi-Fi icon

Is it actually on the network?

2 · PTT destination

Blinking continuously, or Status showing **Connector connecting**, means the connector never came up. That's a server or settings problem, not an audio one.

COSMETIC ONLY

IGNORE IT

"DMR ID is not in the database" — the device only warns. Only the network cares whether the ID is valid.

CAN'T REACH IT

WEB INTERFACE · WI-FI

Web interface won't open

Browser device must be on the **exact same network**. Turn off **Wi-Fi client isolation** in the router. Turn off iCloud Private Relay and any VPN — they block LAN devices.

Won't join Wi-Fi

Enable **2.4 GHz**, not 5 GHz only. Move it closer. Channel width **20 MHz max**. Disable **band steering**. Channels **1, 6 or 11** only.

Interface half-loads

Chrome, Firefox or Safari, up to date. Move closer to the router.

AUDIO PROBLEMS

IN AND OUT

You can't hear anything

Server connected? Volume up, not muted? Raise **Audio gain from network (dB)** in Mode settings. Turn off **EQ** in Speaker FX; optionally raise Loudness. Silence is also normal for a codec it can't decode — C4FM VW, for one.

Nobody hears you

Server connected? Mic gains not too low? Turn off EQ in Audio DSP FX. **On DCS/XLX or REF/XRF**: registration valid and the call sign matching *exactly* in both connector settings and Owner information — **no suffixes, no whitespace**.

SERVER & STREAM

CONNECTING · DROPOUTS

Can't reach the server

Wi-Fi up? Then recheck connector settings, server password, and that call sign and ID are valid and registered. Server may be down — try another, or enable **Override DHCP DNS servers** under Network → IP.

Dropouts, stuttering

Read the **dejitter queue graph**: *invalid seqnum* errors mean packets are being dropped upstream. Queue running empty instead → **increase the dejitter queue length**. Otherwise a nearer, stabler server; closer to the router; 20 MHz; channels 1/6/11.

Choppy in the browser

Keep the web interface tab active — throttled background tabs garble the audio. Reload to recover.

HARDWARE — WHEN THE DEVICE ITSELF IS THE PROBLEM

WON'T TURN ON

IN ORDER

- Connect USB power and retry — **required on a brand-new unit**
- Different charger, cable or port
- Flip the USB-C plug over**
- Charge at least an hour
- Hold Power **8 s** for a hard reboot

STILL DEAD

FIRMWARE RECOVERY

Over USB

Connect, pick the port (usually "USB JTAG/serial debug unit"), choose **Install firmware**.

Not listed?

Different cable, different port. Then hold **Power + Volume Down for 10 s** for bootloader mode — blank screen, LED off — and try again. Hold Power 8 s to leave.

POWER & BATTERY

CHARGING BEHAVIOR

Turns off on a charger

The charger must supply **at least 1500 mA** while the device runs.

Drains fast

Fully charged = charge LED off, status "ready". Display on, calls, **any traffic on the Wi-Fi network**, weak signal and an open web interface all shorten runtime.

LED blinks 3× then off

Flat battery — charge it.

BLANK DISPLAY

PROBABLY NOT BROKEN

Press any button

The screen dims and switches off on inactivity.

Still dark

Check **Display brightness** under Display / keypad settings in the web interface.

PROFILES & NETWORK

How the M1KE stores what you set up — and where your own reflectors fit.

CONFIGURATION PROFILES — TEN OF THEM, #1 ACTIVE BY FACTORY DEFAULT

IN A PROFILE

PER-PROFILE

Active **connector**, **PTT destination**, and the **Wi-Fi networks and passwords**.

Any setting you change — device or web — saves to the active profile automatically.

GLOBAL INSTEAD

SHARED BY ALL TEN

Owner information

Call sign, DMR ID, NXDN ID, licence flag.

Global storage

Custom servers, favourite PTT destinations, call numbers, DTMF sequences.

SWITCHING

THREE WAYS

- Config profiles screen on the device (triple-press Up)
- The footer dropdown in the web interface
- The Settings page

The device reboots on every switch, and a profile that has never been used runs the welcome flow.

TWO TOGGLES

ADVANCED MODE ONLY

Save to all configuration profiles

Normally **on**, giving one shared Wi-Fi list. Turn it **off** for per-profile networks — home, phone hotspot, portable.

Always use profile #1 on power on

Normally off.

CONSOLE, RESET, AND YOUR OWN NUMBERS

USB CONSOLE

115200 · 8N1

Shows up as a standard USB ACM serial port — **no drivers**. Browser Connect button, or PuTTY / TeraTerm / minicom.

help lists commands · **log** turns on the device log · **cfr** resets the active profile · **cfa** resets all.

THREE WAYS TO RESET

TWO OF THEM WIPE EVERYTHING

Button: hold OK/Menu 30 s+. **Web:** Reset config profile, or Reset *all* config profiles, at the bottom of Settings.

Console: **cfr** / **cfa**.

FILL IN ONCE

KEEP ON THE CARD

DMR ID

NXDN ID

Device UID

M1KE LAN IP

Hotspot SSID

Active profile