

**SUPPLEMENT TO
OPERATOR MANUAL
FOR
Micom-3**

**New Features Available
Starting with
Software Version 3.8300**

Revision A

FEBRUARY 2012

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SCOPE

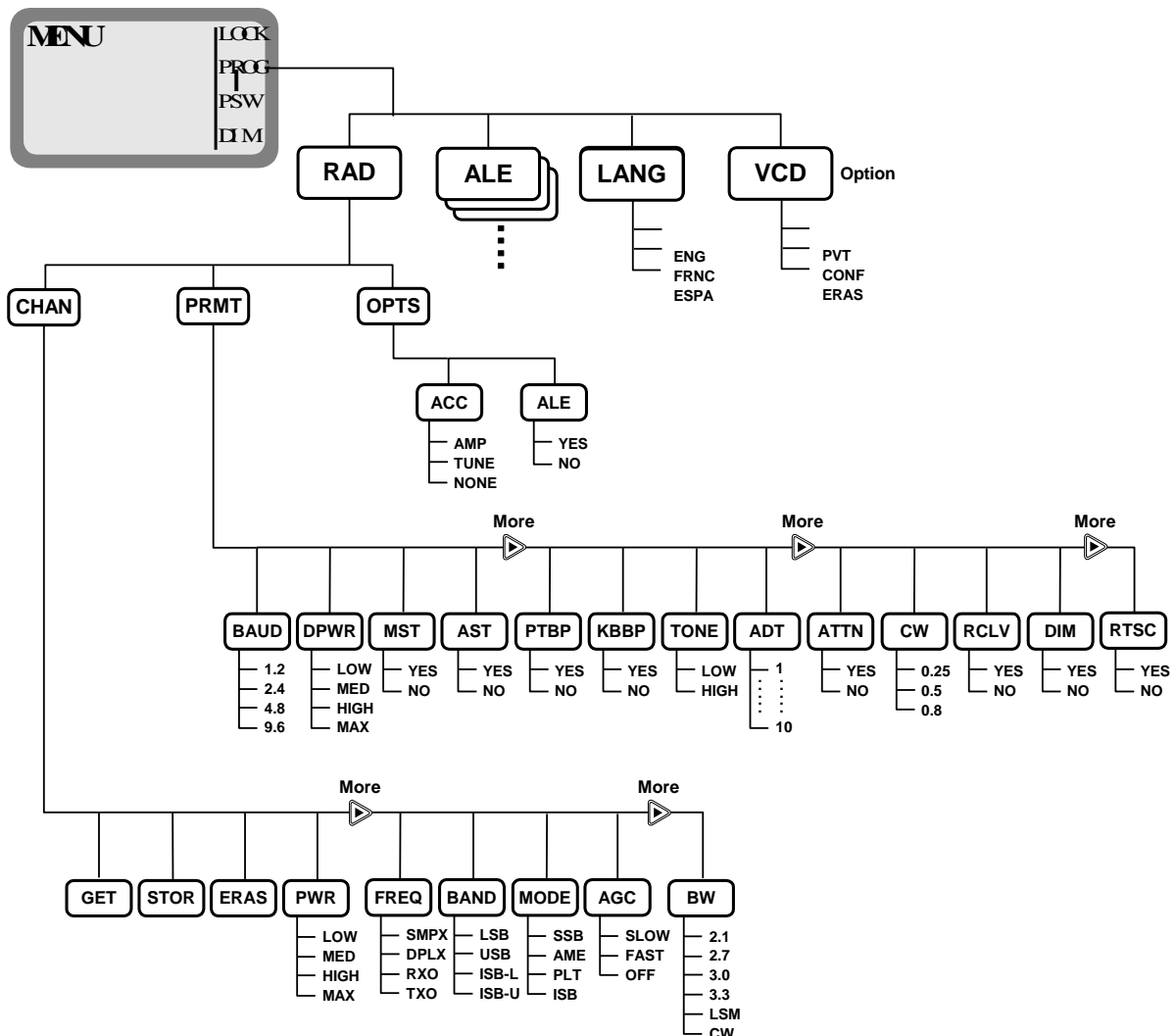
This Supplement covers the new features available for Micom-3 radio sets with software Ver. 3.8300 and higher, which are not yet covered by the Micom-3 Operator Manual, OM-E 2072-09566-00 Revision B, and by the Micom-3 Operator Leaflet, LF-E 2072-09567-00 Revision A.

ADDITIONS TO ALE OPERATION

The Micom-3 can be configured to automatically return to scanning the last used ALE net after an idle time-out interval of 2 minutes (that is, after the operator does not press the PTT for 2 minutes). This option is available when making ALE calls in the **FREQ** and **CHAN** modes.

The item controlling this function, designated **RTSC**, has been added to the end of the **MENU>PROG>RAD>PRMT** submenu, as shown below. The available options are as follows:

- YES – scanning is automatically resumed after an idle time of 2 minutes.
- NO – the operator must manually resume scanning.



OVER-THE-AIR BITE

When Micom-3 is configured to use the ALE function with AMD messages enabled (**MENU>PROG>ALE>OPT>MORE>MORE>AMD=YES**), a radio station can request a remote Micom-3 radio set to perform diagnostics (the L.RF BITE test – see para. 3-8.3.3 of the Micom-3 Operator Manual), and report the results, without intervention of the remote Micom-3 operator.

The L.RF test is initiated by sending the string LOW RF BITE as an AMD message to the destination Micom-3, using the PAGE function.

When a Micom-3 radio set running software version 3.8300 or higher receives this message, it stops normal operation, and performs the L.RF test. After completing the L.RF test, the Micom-3 radio set returns to normal operation, and automatically transmits an AMD message containing the self-test results to the station:

- If the self-test is successfully passed, the AMD message is PASSED.
- If a problem is detected, the AMD message carries the string FAILED, followed by the detected problem (one of the strings explained in Table 3-2 or Table 3-3 of the Micom-3 Operator Manual).

Note that the over-the-air BITE can be activated by any radio set, irrespective of its vendor, provided it supports the standard AMD messaging function.

SUPPORT FOR EXTERNAL VOICE PRIVACY UNITS

The G849 option enables the Micom-3 to support a compatible external voice privacy (VP) unit, and configure that unit directly from the radio panel.

NOTE

Micom-3 can be equipped with an internal vocoder by ordering either option G148 or G883 (with or without the corresponding digital encryption option, FVN5225 or FVN5227). Therefore, a Micom-3 equipped with an internal vocoder does not require an external voice privacy unit.

If nevertheless you want to connect an external VP unit to a Micom-3 with internal vocoder, it is not allowed to enable the internal vocoder as long as the external voice privacy unit is connected to Micom-3.

Starting with software version 3.8300, Micom-3 radio sets equipped with option G849 support the use of two types of external voice privacy units:

- Rockwell-Collins VP-116 analog voice privacy unit
- Rockwell-Collins DVP-200 digital voice privacy unit.

For a description of the VP-116 and DVP-200 characteristics and detailed operating instructions, refer to their user manuals.

NOTES

The VP menu appears on your Micom-3 radio only if the radio is connected to the VP-116 or DVP-200 **before** the radio is turned on.

When the radio is turned ON while the VP-116 or DVP-200 is physically connected to the Micom-3, the radio automatically starts using the specific parameters needed by the unit. For example, you can see that when the privacy function is used, the bandwidth is set to 3.3K, instead of 2.7K in the clear mode (operation without VP) and the squelch is turned OFF.


After you turn the radio off and disconnect the VP unit, the radio reverts to normal operation with a 2.7K filter bandwidth.

CONNECTING/DISCONNECTING THE VP UNIT

To connect the VP to your Micom-3:

1. Turn the radio off.
2. Connect the VP-116 or DVP-200 to the 44-pin accessories connector on the rear panel of your Micom-3, using the supplied cable.
3. Turn the radio on.

To disconnect the VP-116 or DVP-200 from your Micom-3:



IMPORTANT

If you do not turn the radio off before disconnecting the VP unit, the radio will continue working in the VP mode, even though the unit is disconnected.

1. Turn the radio off.
2. Disconnect the VP-116 or DVP-200 from the 44-pin accessories connector of your Micom-3.
3. Turn the radio on.

USING THE VP UNIT

When operating the radio with the VP unit in the Channel, Frequency or ALE mode, you can choose between the CLR and PVT (private) modes:

- PVT activates the VP-116 or DVP-200 automatic voice privacy functions
- CLR reverts to regular radio activity.

NOTES

There are eight preprogrammed PVT keys, PVT1 to PVT8, and one public key (PK). Program the key to be used as described in the PROGRAMMING THE VP UNIT FROM THE MICOM-3 section starting on page 4. The currently-used key number appears on the screen.

In the PVT and PK modes, the VP controls whether you hear or not the received signals, and therefore the squelch option (SQ (F3)) is not displayed. The squelch option (F3) appears only in the clear (CLR) mode.

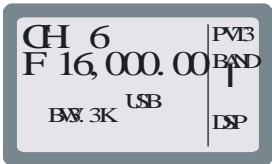
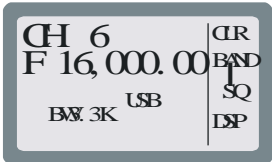
When the PTT is activated, a hold-off tone sounds. Wait for the hold-off tone to end before talking.

To use the VP unit in the Channel mode:

1. Press **PVT#** (F1) whenever it is necessary to toggle between the PVT (Private) and CLR (Clear) modes.

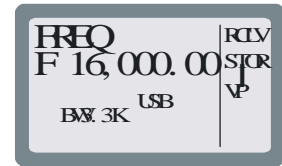
NOTE

When using the public key, you see **PK** instead of **PVT#**.



To use the VP unit in the Frequency mode:

1. When using the Frequency mode, press **MORE** twice to access the third screen.



2. Press **PVT#** (F3) whenever it is necessary to toggle between the PVT (Private) and CLR (Clear) modes.

To use the VP unit in the ALE mode:

1. Enable the ALE mode.
2. After a link has been set up, press **PVT#** (F1) whenever it is necessary to toggle between the PVT (Private) and CLR (Clear) modes.

PROGRAMMING THE VP UNIT FROM THE MICOM-3

The PROG menu of the Micom-3 provides access to the following functions:

- Programming the VP unit key.
- Adjusting the volume provided by the VP unit to match the normal radio volume.
- Testing the operation of the VP unit.

To access the VP unit programming menu:

1. Press **MENU** to display the Menu screen.



2. Press **MORE** to scroll to the second Menu screen.



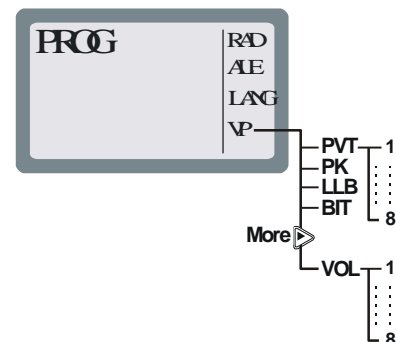
3. Press **PROG** (F2) to enter the Programming screen.



4. Press **VP** (F4) to enter the VP menu.

5. Press the relevant key to access the desired VP mode:

- **PVT** (F1) Select the key used in the private mode.
- **PK** (F2) Select the public key mode.
- **LLB** (F3) Activate the local loopback, used to check proper operation of the VP unit in conjunction with the Micom-3.
- **BIT** (F4) Perform the Built-In-Test, used to confirm that the VP unit is working OK.



After pressing **MORE**, you see the **VOL** (F1) option, used to adjust the relative receive volume of the VP unit.

SELECTING THE VP MODE AND KEYS

The VP unit offers two protection modes: privacy and public key encryption. The keys to be used must be loaded into the VP unit, before starting operations.

All the VP units involved in a private call must use the same key: any unit not using the proper key cannot participate in the call.

Selecting the VP Private Mode and Key

Private reception and transmission are possible only when a valid key is selected. If the selected key is not valid or is not stored in the VP unit, a tone will be heard and the selection is rejected.

To select the Private mode and the key to be used in this mode:

1. Access the VP Programming menu: **MENU>MORE>PROG>VP** (F4).
2. Press **PVT** (F1) to enter the privacy key selection mode.
3. Use the **UP/DOWN** keys to scroll through PVT1 to PVT8.

NOTE

The key number flashes until its selection is confirmed.

4. Press **ENTER** to confirm the selection of the key displayed on the screen.
Press **ESC** to revert to the previous setting.

Using the PK (Public Key) Mode

In the public key mode, two VP units can communicate in private without having to use prearranged keys. A public key call can be established only between two radios, and cannot be used for a group of radios. The key used for the call is temporary and is destroyed when you exit the PK mode, or when you turn the radio off.

To switch to the Public Key mode:

1. Access the VP Programming menu: **MENU>MORE>PROG>VP** (F4).
2. Press **PK** (F2) to initiate a public key exchange with another unit. The initialization process takes approximately 60 seconds; during this interval, you will see VP-PK P-WAIT...

NOTE

To cancel the pending call, press the **STOP** key.

When the other unit responds, you will see PVT-P.

3. Press **PTT** to start talking in the PK mode.

To cancel the call, both parties must press **ESC**. If after 120 seconds there is no response from the other station, or the radio identifies a communication error, the message ERR RESPONSE is displayed.

Press **STOP** (F1) to end the call.

To respond to a public key call:

When a public key call is sent to you, the message VP-PK P-WAIT is displayed on your radio.

- Press **RESP** (F2) to answer the PK request.
- Press **STOP** (F1) to cancel the PK request.

After approximately 60 seconds, the message PVT-P is displayed:

- Press **PTT** to start talking in the PK mode.
- Press **ESC** to cancel the call.

VP LLB (LOCAL LOOPBACK) MODE

The Local Loopback (LLB) mode tests the local audio circuits of the VP unit by closing a loopback from the microphone input to the speaker output; this loopback remains connected until the **ESC** key is pressed.

NOTE
No signal is actually transmitted by the radio.

To perform the VP Local Loopback test:

1. Access the VP Programming menu: **MENU>MORE>PROG>VP** (F4).
2. Press **LLB** (F3) to enter the LLB mode.
3. Press the PTT and talk. When everything is OK, you will hear your own signal during the test.
4. Press **ESC** to end the LLB test.

VP BIT (BUILT-IN-TEST) MODE

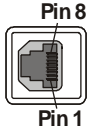
The BIT mode enables checking the proper operation of the VP unit.

To perform the VP Built-In-Test:

1. Access the VP Programming menu: **MENU>MORE>PROG>VP** (F4).
2. Press **BIT** (F4) to start the BIT test.
3. During the test, the message IN TEST... is displayed. The number of periods indicates the progress of the test.
 - If the test is successful, VP BIT-PASS is displayed.
 - A malfunction is detected in the VP unit, you will see VP BIT-ERR. In this case, repeat the BIT test. If the test fails again, your VP unit must be serviced.
4. Press **ESC** to end the BIT mode.

UPDATED DATA FOR MICOM-3F/MICOM-3T MICROPHONE CONNECTOR

Table 1. Micom-3F/Micom-3T Microphone Connector, Pin Functions

Connector View	Pin	Designation	Description
	1	SWA+	13.8 VDC output (not used by the supplied microphone)
	2	RXD	Serial control communication line (input) (connection to RSS or MRC)
	3	TXD	Serial control communication line (output) (connection to RSS or MRC)
	4	GND	Ground line
	5	MIC AUDIO	Transmit audio input from the microphone (600 Ω impedance; 300 mV tone is required for full output power). Floats on a positive DC voltage (use a DC blocking capacitor to connect to this pin)
	6	PTT MIC	Activates transmission by short circuit to ground
	7	MONITOR	Not used (do not connect to this pin)
	8	AUDIO OUT	Receive audio output to earphone (600 Ω, 300 mVRMS)