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HDP100
DMR Portable Radio

Quick Guide
14222-1100-1000, Nov/11

HARRIS®

DMR
DIGITAL MOBILE RADIO ASSOCIATION

SYMBOLS USED IN THIS GUIDE

The following table lists symbols used in this guide:

SYMBOL	DESCRIPTION
	The **DIGITAL CHANNEL** symbol indicates the particular feature or function is available on digital channels only.
	The **ANALOG CHANNEL** symbol indicates the particular feature or function is available on analog channels only.
NOTE	The **NOTE** symbol calls attention to supplemental information, which may improve system performance or clarify a process or procedure. It may also be used to add tips that can help you make better use of the radio.

If no digital channel or analog channel symbol appears, the function/feature is applies to both analog channels and digital channels.

NOTICE!

 NOTE
For detailed operating information and a list of options and accessories available for the HDP100 portable radio, refer to *Operator's Manual* publication number 14222-1100-2000. This and other related publications are also available online at www.pspc.harris.com.

 NOTE
Also refer to the *Operator's Manual* for important safety-related information!

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RADIO OVERVIEW

RADIO CONTROLS AND OTHER ITEMS

ITEM	NAME		ITEM	NAME
❶	Side Key 1 (SK1)		❽	On/Off/Volume Control Knob
❷	PTT Key		❾	Microphone
❸	Side Key 2 (SK2)		❿	Accessory Jack
❹	Top Key (TK)		⓫	Battery Latch
❺	Channel Selector Knob		⓬	Antenna
❻	Speaker		⓭	Belt Clip
❼	LED Indicator		⓮	Battery

PROGRAMMABLE SHORTCUT KEYS

For enhanced convenience, you may request your dealer pre-program keys SK1, SK2, and TK as shortcuts to any of the functions listed in this table:

NO.	SHORTCUT NAME	SHORTCUT KEY FUNCTION
1	Zone Up	Change to another zone. See page 5.
2	Zone Down	
3	Adjust Power Level	Quickly change the radio's transmitting power level. See page 10.
4	Talk-Around	Directly communicate with other radios. See page 8.
5	Monitor 〰	Toggle receiver muting on and off. See page 9.
6	Monitor Momentary 〰	Momentarily turn receiver muting off. See page 9.
7	Squelch Off 〰	Toggle squelch on and off. When off, the radio always unmutes so if no radio carrier is present on the channel, receiver noise is heard. See page 9.
8	Squelch Off Momentary 〰	Momentarily turn squelch off. Otherwise, same as above. See page 9.
9	Scan	Enable and disable scanning. See page 10.
10	Nuisance Temporary Delete	Temporarily skip unwanted channel activity during scanning. See page 11.
11	Emergency On	Turn on the emergency mode and transmit emergency call/signaling.
12	Emergency Off	Turn off the emergency call/signaling, exiting emergency mode.
13	Lone Worker	Toggle the Lone Worker feature on and off.
14	Adjust Squelch Level 〰	Temporarily adjust the receiver squelch threshold. See page 9.
15	Battery Strength Indicator	Indicate remaining battery strength by the LED indicator. See page 10.
16	Man Down *(Optional Feature)*	Activate this emergency feature so if the radio is positioned at an angle for a preset period of time, it will begin emergency transmissions.

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NO.	SHORTCUT NAME	SHORTCUT KEY FUNCTION
17	Scrambler ⋀⋀/ Encrypt ▐▐▐	Scrambler: Encrypt voice transmissions for secure communications. Encrypt: Encrypt voice and message transmissions for secure communications. See page 12.
18	One Touch Call (1 though 5) ⋀⋀	Quickly make calls or send messages.
19	Telemetry ▐▐▐	To supervise remote devices.
20	Roam	To enable and disable the Roam feature.

NOTE

Long and short presses of a key can be programmed with different functions by your dealer.

The Top Key (TK) is programmed as the emergency key by default. It may be reprogrammed by your dealer.

BASIC OPERATIONS

TURNING THE RADIO ON AND OFF

To turn on the radio, rotate its **On/Off Volume Control** knob clockwise out of the detent position. A click will be sensed. The radio flashes its LED status indicator green. This knob is item 8 on page 3.

To turn the radio off, rotate this knob fully counter-clockwise until the detent click is sensed.

ADJUSTING THE VOLUME

After turning the radio on, rotate the **On/Off Volume Control** knob clockwise to increase the volume or counter-clockwise to decrease it. Volume adjustment can be made at anytime later in the same manner.

SELECTING A ZONE

A zone is a group of pre-programmed radio channels exhibiting similar properties. The radio supports up to three (3) zones and each zone can have up to sixteen (16) channels. Zones and channels are pre-programmed into the radio by your dealer. Select a zone by pressing the programmed **Zone Up** or **Zone Down** shortcut key. When zone 1 is selected, the radio beeps once. When zone 2 is selected, the radio beeps twice. When zone 3 is selected, the radio beeps three times. Keys SK1,

SK2, or TK may be pre-programmed by your dealer as Zone Up and Zone Down shortcut keys. Key locations are shown on page 3.

SELECTING A CHANNEL

The radio's **Channel Selector** knob is located on the top of the radio. It is item 5 on page 3. Rotate this knob to select the desired channel within the currently selected zone.

This knob has sixteen (16) positions, for a total of sixteen channels per zone. Some knob positions may not be programmed with a channel.

SWITCHING THE CHANNEL MODE BETWEEN ANALOG AND DIGITAL

Each channel can be pre-programmed as either an analog channel or a digital channel. If the currently selected zone includes both analog and digital channels, the **Channel Selector** knob can be used to quickly switch between analog and digital channels. Select the desired channel by rotating the knob to the respective position.

LED INDICATOR

A light-emitting diode (LED) type status indicator is located on the top of the radio, near the On/Off/Volume Control Knob. This indicator can be quickly viewed to determine the basic operational status of the radio. Each status indication is described in the table at the right.

PRIVATE CALLS ▐▐▐▐

A private call is a call initiated by a radio user to another radio user.

LED INDICATOR		RADIO STATUS
Flashing Green		Powering on
Glowing Red		Transmitting
Glowing Green		Receiving
Flashing Orange Slowly (approximately once every 2 sec.)		Scanning
Flashing Orange Rapidly (approximately twice every 1 sec.)		Emergency
Glowing Orange		OK to transmit voice audio by pressing the PTT key and speaking into the microphone.

Transmitting a Private Call

When the channel is clear (i.e., when not receiving a signal), hold down the radio's **PTT** key to transmit a private call to the Private Call contact preset for the currently selected channel. Release the **PTT** key to stop transmitting, and listen for a reply.

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	Whenever transmitting (i.e., **PTT** key depressed), hold the front of the radio between 1 to 2 inches from your mouth and speak into the microphone at a normal voice level. This will ensure optimal reception at the receiving radio unit(s). Never shout or whisper when transmitting. As illustrated on page 3, the radio's microphone is located near the top of the radio.
NOTE	

	Each digital channel may be pre-programmed with a preset contact by your dealer. The preset contact can be a Private Call contact, a Group Call contact, or an All Call contact.
NOTE	

Receiving and Responding to a Private Call

When a private call is received, listen to the call and adjust the volume as necessary. To respond to the call, hold down the **PTT** key within the preset time period, and speak into the microphone at a normal voice level.

GROUP CALLS ▊▊▊

A group call is a call initiated by a radio user to a group of radio users.

Transmitting a Group Call

When the channel is clear (i.e., when not receiving a signal), hold down the radio's **PTT** key to transmit a group call to the Group Call contact preset for the currently selected channel. Release the **PTT** key to stop transmitting, and listen for a reply. See *Receiving and Responding to a Group Call* for additional information.

Receiving and Responding to a Group Call

When a group call is received, listen to the call and adjust the volume as necessary. To respond to the call, hold down the **PTT** key within the preset time period, and speak into the microphone at a normal voice level.

ALL CALLS ▊▊▊

An all call is a call initiated by a radio user to all radio users on the channel.

Transmitting an All Call

When the channel is clear (i.e., when not receiving a signal), hold down the radio's **PTT** key to transmit an all call to the All Call contact preset for the currently selected channel. Release the **PTT** key to stop transmitting, and listen for a reply.

Receiving an All Call

When an all call is received, the call's audio is heard in the radio's speaker.

TALK-AROUND (DIRECT MODE)

The talk-around feature provides direct radio-to-radio communications. With talk-around, a radio repeater system is <u>not</u> required for radio communications. This type of operation is sometimes called "direct mode." Talk-around is beneficial when, for example, a radio repeater system malfunction has occurred, or when the radio is out-of-range of a radio repeater system, but other radios are nearby that can communicate on the same pre-programmed radio channels.

To toggle radio operation between normal communications mode (repeater mode) and talk-around, press the pre-configured **Talk-Around** shortcut key.

CALLS ON ANALOG CHANNELS 〰

Transmitting a Call on an Analog Channel

1. If not already, select the desired analog channel.
2. Listen for a clear channel. In other words, if another person is using the channel, wait for them to finish transmitting/speaking. If pre-programmed, a monitor or squelch off shortcut key should be used to verify the channel is clear. See the following sections for additional information on these functions.
3. Hold down the radio's **PTT** key and speak into the microphone at a normal voice level.
4. Release the **PTT** key to stop transmitting and listen for a reply.

Receiving a Call on an Analog Channel

1. If not already, select the desired analog channel. Do **not** press the **PTT** key.
2. When an incoming call is received on the channel, rotate the **On/Off Volume Control** knob as necessary to adjust the volume.

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If programmed, a **Monitor**, **Monitor Momentary**, **Squelch Off** and/or **Squelch Off Momentary** shortcut key can be used to verify there is no signal on the channel. Also, the **Squelch Off** shortcut key can be used in weak signal conditions.

Monitor

Monitor is a function for analog channels that allows any pre-programmed receiver decoding to be disabled so calls (or other activity) on the selected channel without the correct code can be monitored.

This does not disable receiver squelch. When the Monitor function is enabled, any calls on the channel will be heard in the radio's speaker.

To enable and disable the Monitor function, press the pre-programmed **Monitor** shortcut key, or the **Monitor Momentary** shortcut key. The **Monitor** shortcut key provides a toggle on/off type function, whereas the **Monitor Momentary** shortcut key temporarily enables the function only while the shortcut key is depressed.

Squelch Off

Squelch Off is an analog channel function that, when enabled, keeps the receiver unsquelched (i.e., not muted) even when there is no signal on the selected channel. When enabled, call audio on the channel (or receiver noise) is routed to the radio's speaker.

To toggle squelch between enabled and disabled, press the pre-configured **Squelch Off** shortcut key.

To momentarily turn squelch off, depress the pre-configured **Squelch Off Momentary** key. When this key is released, squelch turns back on.

Adjust Squelch Level

If programmed, the **Adjust Squelch Level** shortcut key can be used to select one of three receiver squelch levels: Tight, Normal, and Open. The default squelch level is Normal, which is often used in a low radio frequency noise environment. Generally, the Tight level should be used in a high radio frequency noise environment; it requires a stronger received radio signal to unmute the receiver. Using Open will keep the speaker unmuted, regardless of the noise level or the decode settings.

When switching from Tight to Open, a low-pitched tone sounds and received noise or call audio is heard from the speaker. When switching from Open to Normal, a high-pitched tone sounds and the background sounds disappear. When switching from Normal to Tight, a high-pitched tone announces.

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BATTERY STRENGTH INDICATOR

If the **Battery Strength Indicator** shortcut key is pre-programmed, this function can be used to quickly check the remaining battery strength via the LED indicator on the top of the radio. Press and hold this pre-programmed shortcut key and view the LED indicator on the top of the radio.

LED INDICATOR		BATTERY STRENGTH
Glowing Green	🟩	High
Glowing Orange	🟧	Medium
Glowing Red	🟥	Low
Glowing Red (and Low Battery Alert Tone sounds)	🟥	Insufficient

TRANSMIT POWER LEVEL

With this feature, the radio's transmit power level can be quickly changed between a low and a high power level. Use the low power level whenever possible to increase battery operating time and to reduce the possibility of radio communications interference. However, if communications with other radios is not possible on the currently selected channel at the low power level, select and use the high power level.

Press the programmed **Adjust Power Level** shortcut key to toggle between the low and high power levels. When switching to the high power level, a high-pitched tone sounds. When switching the low power level, a low-pitched tone sounds.

SCANNING CHANNELS

GENERAL INFORMATION

The radio's scan feature allows scanning of radio channels pre-programmed into the radio for call activity. Scan lists can be pre-programmed for each channel. Each scan list may contain 32 digital or analog channels. When the radio is scanning channels:

- The LED indicator on the top of the radio flashes orange slowly.
- The radio scans the channels currently on the scan list for calls (or other activity).
- When a call (or other activity) is received/detected on a channel in the scan list:
    o The call's audio is routed to the radio's speaker.
    o The LED indicator glows green.
    o The radio remains on the channel (i.e., scan operation automatically pauses) until the call (or other activity) ends.

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OPERATION

Turning Scan On and Off

Scan can be turned on and off by pressing the **Scan** shortcut key. When scan turns on, a high-pitched tone sounds.

The radio can be pre-programmed with the Auto Scan feature on a per-channel basis. If so, the radio will automatically begin scanning the channel's scan list when the channel is selected. In this case, to turn scan off, press the **Scan** shortcut key once.

Pausing Scan

If a call is received on an analog channel and staying on the channel (i.e., pausing scan) is desired so additional transmissions can be heard on it, press the pre-programmed **Monitor** or **Squelch Off** shortcut key when a call is on the channel. When the Monitor function is on, if present, call audio on the channel is heard in the radio's speaker. When the Squelch Off function is on or when a call is on the channel, call audio on the channel (or receiver noise) is heard in the radio's speaker. Press the shortcut key again or the **Scan** shortcut key to unpause scan.

Nuisance Temporary Delete

To temporarily remove a channel from a channel's scan list so calls on it will not pause scanning, press the pre-programmed **Nuisance Temporary Delete** shortcut key when a call is on the channel. In this case, the channel will not be scanned again until after the channel or zone is changed, the radio is power-cycled, or scan is turned off and back on.

EMERGENCY COMMUNICATIONS

The radio's emergency feature can be used to summon help from another radio operator(s) and/or via a radio dispatch/control center. The emergency process has the highest call priority throughout the radio communications system. Emergency operations can be performed when the radio is transmitting or receiving. The radio can be programmed with different emergency modes, emergency types, and emergency ID types. Each channel can be programmed with different emergency system operation. Refer to the *Operator's Manual* for detailed information. Also consult your radio dealer for specific information on how your radio is programmed.

SECURE COMMUNICATIONS

GENERAL INFORMATION

The radio's Scrambler feature for analog channels can be used to reduce the likelihood of someone "eavesdropping" via analog radio channels. This feature employs analog voice inversion technology. It can be enabled and disabled on a per-channel basis.

The radio's Encrypt feature for digital channels can be used to prevent "eavesdropping" via the digital radio channel. This feature employs 256-bit digital AES encryption technology. This feature ensures the best guarantee of communication privacy. It can be enabled and disabled on a per-channel basis.

OPERATION

The Scrambler/Encrypt feature may be programmed to automatically enable when a channel is selected, or it may be manually enabled.

Manually Enabling and Disabling Scrambler/Encrypt

- If the **Scrambler** or **Encrypt** shortcut key is programmed to a key, press this key to enable or disable the feature. A high-pitched tone sounds to indicate the feature is enabled. A low-pitched tone sounds to indicate the feature is disabled.

TECHNICAL ASSISTANCE

If a technical problem arises, first refer to the troubleshooting table in the radio's *Operator's Manual* for a possible solution to the problem. If the problem cannot be resolved using that table, contact your radio equipment dealer for assistance. Also contact your radio equipment dealer for specific information about how the radio is programmed.