DuraFon UHF Quick Ref. / FAQ Sheet

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BASIC TROUBLESHOOTING

If you encounter any issues with the system, first try power cycling both the handset(s) and base station. If the system still isn't working correctly, try resetting the handset and if needed, the base station.
NOTE: Resetting a handset will cause loss of registration and all stored information and resetting the base station will cause loss of any special settings such as line dedication, if programmed in the base station.

Q1: How do I customize the display on the handset?
A1: It is recommended that you customize the name of each handset to match the user's name and/or extension it is wired to. Press menu, 5, 5, 1, then change the display name.

Q2: How to put the handset in RSSI test mode to verify base station to handset coverage?
A2: Press menu, * # # *, enter the base number, press 1 (BER), then press star. A -80 dBm or less negative signal is good. A -90 dBm or weaker signal will result in a poor signal condition. Refer to the "RSSI instruction sheet" for more information (link for this is at the end of this document).

Q3: How do I register a handset to the base station?
A3: NOTE: With the PRO system you must register all handsets to the first (primary) base unit (base ID00). First power up the base station for at least 5 seconds. Find the register button (near the antenna, blue button labeled "REG"). Press and hold the REG button until all line lights illuminate, then let go. Now grab the handset you want to register and press Menu 6, 1. The handset should then show "registration complete" and then be given a new 2-digit ID. Handset ID's start at 10 and will up from there. Up to 90 handsets can be registered (ID 10-99). ID 10 and 11 are "Administrative handsets". Only admin handsets can do wireless programming changes to the base station such as dedicating handsets to specific line ports, turning the auto attendant on or off, or to clear or assign new handset IDs to other handsets etc. If you lose both of your admin handsets, you will need to RESET the base and register all handsets over again.

Q4: How do I deregister a handset from the base station?
A4: Same procedure as **Q3** but instead press menu 6, 2. Keep in mind, deregistering a handset is not required to register a handset so if you have a handset that already has a registration ID but is not communicating with the base, go ahead and register it again (it will override any previous registration information with a new registration ID). If you need to restore a specific handset ID number, refer to **Q5**.

Q5: How do restore or change a handset ID?
A5: The base allocates ID's to handsets consecutively. Example, if you have four handsets registered as ID10, 11, 12, and 13, the next handset you register will become ID14. If you were to send handset ID12 in or repair, when getting it back and you reregister it, you will get ID14 because the base still thinks handset ID12 is still in use. To get your handset registration back to ID12 you must erase the base station information for handset ID12. To erase a registration ID that is stored by the base station, get an administrative handset (ID10 or ID11) and press menu 9, 1, enter base (00), then choose 4 (clear hs). Now enter the handset ID you want to restore. In our example it would be ID12. After clearing ID12, it will now be available as the next registration ID. Now you can register that handset and it should get that ID. The base unit gives IDs to handsets in numerical order of free IDs.

Q6: How do I reset the handset?
A6: Press menu, * # # *, enter base "00", press *, then 1 (clear all), then press OK, then turn off and back on.

Q7: How do I check the firmware version of a handset and base station?
A7: Press menu, ** #, then enter the base ID (primary base is 00 and additional bases are 01 through 07). Press 1 for "SW VER", then scroll up/down to see handset and base station firmware versions.

Q8: How do I dedicate line ports so the handsets only use one port and not share other ports? In other words, how to I assign a handset its own private extension?
A8: See picture below for programming the base so each handset is dedicated to a specific line port. Note this is for one base station only. If multiple bases are used, refer to the "Pro Quick Reference sheet".

**Even though in this example just one handset is using one port, the grouping feature allows for more handsets to share an extension as well (if desired). Just add that additional handset to the desired group that the port is assigned to.
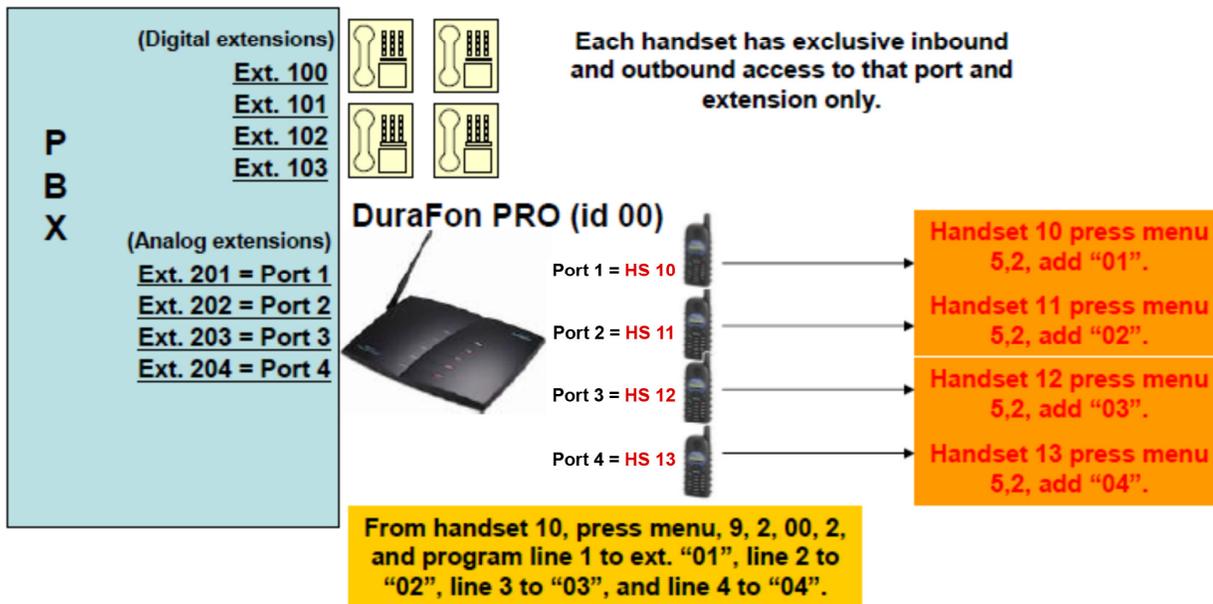
Q9: How do I create a group and put handsets in groups?
A9: To create a group you simply put handsets in a group, thus creating (building) the group. To add a handset to a group, press menu 5, 2, then ADD. You can have up to 7 groups. Group IDs are 01 through 07. Note: There is also an "all" group which is "00" and is used when the broadcast button is pressed.

Q10: How can the earpiece louder (for phone calls)?
A10: Press menu, * * #. Enter base number 00. Scroll (arrow up/down keys) to "Vol Adjust" and select it. Use the up/down arrows to adjust between -8, -4, 0, +4, and +8. +8 is loudest, -8 is lowest, and default is zero. Adjust accordingly and then press the top left soft key to save. Press "End" three times to exit.

Q11: How do I adjust the handset microphone sensitivity for phone calls?
A11: Press menu, * * #. Enter base number 00. Press option "2" for "boardtest". Press **51** and you will be in the "Codec In" test mode. Press the top left soft key (OPTION), then use the arrow up/down key to adjust. Typical default is 30.75dB. Adjust up/down in 3dB increments at a time, then test. Press the top left soft key to "SAVE". After changing the value press "End" to finish and again to exit. If the audio out-going is still not loud enough, try adjusting base station line out levels (refer to the DuraFon-PRO Quick Ref sheet).

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Q12: What frequencies are the channels set to by default?
A12: The DuraFon-UHF is a 5 channel UHF analog 2-way radio with default channels set to:
Channel 1 = set freq. #2 (464.550MHz) PL tone #1 (67Hz)
Channel 2 = set freq. #8 (467.925MHz) PL tone #1 (67Hz)
Channel 3 = set freq. #5 (467.850MHz) PL tone #1 (67Hz)
Channel 4 = set freq. #6 (467.875MHz) PL tone #1 (67Hz)
Channel 5 = set freq.#10 (461.0625MHz) PL tone #1 (67Hz)
Channel 6 = DuraFon PA (900 MHz DuraFon digital radio mode, communicates to DuraFon-PRO or DuraWalkie)

Q13: What frequencies are available from the factory for programming the 5 channels (without using the software programming tool)?
A13: See frequency / Setup Number chart below. To change the "set up number" for any of the five channels to a different frequency, press and hold the "Mode" button while turning on the radio. Then press the mode button several times until you get to the desired screen to make changes.

*(Note: If you need frequencies outside this list see **Q14**)*

CHANNEL SET with FREQUENCIES SETUP NUMBER

Setup Number	Frequency (MHz)	Setup Number	Frequency (MHz)	Setup Number	Frequency (MHz)
01 (CH 9)	464.5000	20	461.3125	39	466.1625
02 (CH 1)	464.5500	21	461.3375	40	466.1875
03 (CH 10)	467.7625	22	461.3625	41	466.2125
04 (CH 11)	467.8125	23	462.7625	42	466.2375
05 (CH 12)	467.8500	24	462.7875	43	466.2625
06 (CH 13)	467.8750	25	462.8125	44	466.2875
07 (CH 14)	467.9000	26	462.8375	45	466.3125
08 (CH 2)	467.9250	27	462.8625	46	466.3375
09 (CH 3)	461.0375	28	462.8875	47	466.3625
10 (CH 4)	461.0625	29	462.9125	48	467.7875
11 (CH 5)	461.0875	30	464.4875	49	467.8375
12 (CH 6)	461.1125	31	464.5125	50	467.8625
13 (CH 7)	461.1375	32	464.5375	51	467.8875
14 (CH 8)	461.1625	33	464.5625	52	467.9125
15 (CH 15)	461.1875	34	466.0375	53	469.4875
16 (CH 16)	461.2125	35	466.0625	54	469.5125
17	461.2375	36	466.0875	55	469.5375
18	461.2625	37	466.1125	56	469.5625
19	461.2875	38	466.1375		

Q14: Can the DuraFon-UHF handset support frequencies outside the predefined set?
A14: Yes. Here is a link to download the PC software programming tool and instructions:
https://www.engeniustech.com/durafon-uhf-phone.html Supports 420-480 MHz.

Q15: How can I find out what frequencies my existing 2-way radios are using?
A15: A relatively cheap and easy way is to purchase a low cost frequency counter. It is recommended to get one that will also decode CTCSS and DCS codes.

Q16: How far does the telephone mode and UHF radio mode go?
A16: This varies greatly by environment but typical range for both telephone and UHF radio mode is 250,000 sq. ft. in a warehouse/retail environment, 12 floors in a building, and up to 3000 acres outdoors.

Q17: How much power does the DuraFon-UHF handset have for phone and UHF radio?
A17: Output power is 708 mW for telephone (900MHz) and 1 watt for the UHF radio.

Q18: How far does the 2-way intercom and broadcast 900MHz EnGenius go between handsets?
A18: The EnGenius exclusive 900MHz 2-way intercom and broadcast mode range is typically 25% to 50% less than for telephone calls because those modes do not use the base station. An even greater disparity in coverage between telephone calls and 2-way will occur if an external antenna is used on the base station. If you need equal range for radio as compared to the telephone calls, we suggest you use UHF radio mode instead. The 420-480 MHz 1 watt analog 2-way radio has very good range, typically as good or even further than the telephone.

Q19: Can the DuraFon-UHF handset work with a repeater system?
A19: Yes. Download the programming software tool to manually program the channels. You can enter in desired frequencies and offsets (link available at the bottom of this document).

Q20: What type of headset will work with the DuraFon-UHF handset?
A20: The connector is 2.5mm and pin-out I the same as used by the Motorola MT-600. Although the headset jack port it is the same size as the DuraFon-PRO handset (2.5mm), it is not the same pin-out so the EnGenius branded headset (DuraFon-PTT) will not work with the DuraFon-UHF handset.

Q21: How do I disable the CTCSS/DCS tone or change it?
A21: Set "code" to "0", when in the "Mode" menu. To change a channels CTCSS or DCS tone, press and hold the "Mode" button while turning on the radio. Then press the mode button several times until you get to the desired screen to make changes.

Q22: Is the DuraFon-UHF compatible with RoIP systems?
A22: Yes. Because it's a UHF radio, it can be part of an RoIP system provided the handset is programmed to the same frequency and CTCSS/DCS tone as the system.

Q23: How do I transfer a call from an EnGenius handset to a different extension on my PBX?
A23: Most PBX transfers will require you to press FLASH (green button) + extension number, then press "END" (red button) to complete the transfer. An exception is Nortel, which requires you to press FLASH, star (*), 70 + extension number, then "END".

Q24: Which systems does the DuraFon-UHF handset work with?
A24: At this time the DuraFon-UHF handset is only compatible with the DuraFon-PRO base station/system.

Q25: Can the DuraFon-UHF handset be used without a base station?
A25: Registration to a base station is not required in order to use the UHF radio portion of the device.

Q26: The volume for 2-way radio seems low. What is the problem?
A26: Likely companding needs to be turned off. To turn it off, press and hold the "Mode" button while turning on the radio. Keep pressing the mode button until you get to the "compander on/off" screen and select "off".

Q27: Does the DuraFon-UHF work with digital 2-way radios such as Moto-Turbo/DMR or P25?
A27: No. The DuraFon-UHF is strictly a 420-480 MHz analog 2-way radio.

Q28: What is the receive sensitivity of the UHF radio?
A28: -122 dBm @ 12dB SINAD.

Q29: At what signal level does the carrier squelch kick in?
A29: 1 (default) = -127dBm, 2 = -124dBm, 3 = -121dBm etc. and continues in 3dB increments.

Q30: How do I put the handset in UHF RSSI test mode?
A30: Press "Mode" then press # # # # * to enter UHF RSSI test mode (firmware version 1.07 or higher).

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Product page for DuraFon-UHF: https://www.engeniustech.com/engenius-products/multi-line-phone-system-durafon-uhf/

User manual for DuraFon-UHF: https://www.engeniustech.com/resources/DuraFon_UHF_HC_User%20Manual_EN_May%20202016.pdf

Site Survey RSSI tool instruction doc for signal measuring (900MHz) between handset and base:
https://www.engeniustech.com/wp-content/uploads/2017/02/RSSI_HANDSET_INSTRUCTIONS_3_7_14-1.pdf

DuraFon training videos and additional info: https://www.engeniustech.com/durafon-uhf-users-and-resellers.html

Still having trouble? Email: *support@engeniustech.com*

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