Function	Description	Radio State	Key	Bands	Mode	Instructions
Additional Features	Enables Muting Threshold & DNR features for MW, LW & SW	On	4	AM, LW, SW	LSB, USB	Press and hold the 'USB/NORM' or 'LSB/NORM' key until 'SYNC' appears.     Press the key again once to change back.
Bandwidth	Scroll BW	On	AM BW			<ol> <li>Press the AM BW button.</li> <li>Immediately turn either the main or fine tuning control.</li> </ol>
Battery low voltage shutdown level	Sets the Li-ion battery low voltage shutdown level to 3.4v, 3.5v, 3.6v or 3.7v	Off	4			<ol> <li>Press and hold key '4' and adjust with either tuning knob.</li> <li>Press key '4' to save the setting.</li> </ol>
Calibrate LSB/USB	Allows calibration of each sideband	On	Snooze	AM, LW, SW	LSB, USB	Hint: Although this may calibrate USB & LSB for the displayed band, you may find that on a different frequency band you have to recalibrate. You can carry out this procedure on USB or LSB as each sideband has its own calibration value.  1. Tune in a strong AM (MW, LW) or SW station. 2. Press 'USB/NORM' to switch to upper sideband. 3. Adjust the fine-tuning until it's zero-beated and the pitch matches AM. 4. Press and hold the 'SNOOZE' key until the '00' correction value appears, calibration is now complete.
Display Light	Toggles the display light ON (AUTO) or OFF	Off	5			Hint: This is an alternative to switch the display light ON or OFF, rather than using the slider switch on the right hand side of the radio, although 'OFF' in this mode is permanently off and 'ON' is the same as 'AUTO OFF' using the slider switch.  1. Press key '5' to toggle the display light ON or OFF.

Dynamic Noise Reduction	Enables Dynamic Noise Reduction	On	6	AM, LW, SW	AM, LSB, USB, SYNC	Hint: The Additional Features key '4' MUST be enabled before this will work. DNR auto adjusts bandwidth.  1. Press and hold key '6' to toggle DNR 'ON' and 'OFF.
External antenna on MW or LW	Switch from the internal MW & LW ferrite antenna to the external 'SW ANT' antenna socket	On		AM, LW	AM, LSB, USB, SYNC	Hint: In most cases a 'RESET' was required to get this feature to work correctly on firmware 8820. You can only tune upwards with the tuning knob or it will jump to 29999kHz, so set the frequency correctly before proceeding. You may also notice a leading '0' is added to the frequency if it's below 1000kHz and 'SW' appears on the display. This looks like it's actually extending the SW band below 1711kHz. Only the main tuning knob will tune upwards if in USB/LSB/SYNC modes. Use the main tuning knob in AM mode for 5kHz steps or the fine-tuning knob for 1kHz steps (same step sizes as SW).  1. Switch to MW or LW (AM) and tune to a frequency of your choice. 2. Press 'USB/NORM' (USB mode on). 3. Press the 'AM' key ONCE (or TWICE if the LW feature is enabled, or you will end up on the wrong band). 4. Press 'USB/NORM' key (USB mode off). 5. Press the 'FM' key (Don't worry about the frequency). 6. Press the 'USB/NORM' key (USB mode on). 7. Press the 'USB/NORM' key again (USB mode off).  You can now toggle between the internal and external antenna by pressing 'AM' and either of the 'SW' keys. To return to normal operation tune down on either tuning knobs.
Firmware version & date	Display the radio firmware version & date	Off	AM BW			<ol> <li>Press and hold 'AM BW' until the display turns on all of the LCD segments.</li> <li>Press and hold 'AM BW' again to get the firmware version.</li> <li>Press and hold 'AM BW' one more time for the firmware date.</li> </ol>

FM De-emphasis	Alters the time setting for FM De-emphasis	On	5	FM	FM	Press and hold key '5' to toggle between '75.US' (USA Setting) and '50.US' (European Setting).
Line Output Level	Adjusts the audio level on the line output socket	On	7	FM, AM, LW	AM, LSB, USB, SYNC	Hint: This setting does not work on SW, only FM, MW & LW. You will notice FM & AM (MW, LW) have independent line output level settings. This setting also affects the current volume level setting.  1. Press and hold key '7' until the current level flashes in the main display area. 2. Adjust this setting with either tuning knob. 3. Press key '7' to save.
Muting Threshold	Allows adjustment of the squelch threshold, reducing the muting of weak stations	On	9	FM, AM, LW, SW	FM, AM, LSB, USB, SYNC	Hint: The Additional Features key '4' MUST be enabled before this will work on MW, LW or SW.  1. Select a band/mode (FM, AM, SW, USB/LSB or SYNC), each band/mode has its own setting. 2. Press and hold key '9' until the current level flashes in the main display area. 3. Adjust with either tuning knob (the best setting should be '00'). 4. Press key '9' to save.
Radio Runtime	Displays how long the radio has been on	Off	VF/VM			<ol> <li>Hold 'VF/VM' for approx. 2 seconds.</li> <li>You will now see how long the radio has been running since the last battery charge or reset, shows hours &amp; minutes.</li> </ol>
Seconds on clock	Add seconds to the clock	Off	8			Press and hold key '8' to toggle the seconds ON and OFF.
Synchronous Detection	Enables the Synchronous Detector	On	LSB/NORM USB/NORM	AM, LW, SW	LSB, USB	<ol> <li>Press and hold the 'USB/NORM' or 'LSB/NORM' key until 'SYNC' appears.</li> <li>Press the key again once to change back.</li> </ol>