



Latest Review of Digital Field Recorders Feb 2011

If you are wanting quality recordings that have lasting integrity of sound, a good guide for selection of equipment is to buy the best you can afford rather than the cheapest available.

The speed of technological change in the digital age means that manufacturers are constantly upgrading their products. Oral History NSW's latest research (February 2011) has concentrated on new models for field recorders which are for those people at an introductory level as oral historians (rather than full time professionals). The testing particularly looked at functions important for the recording of oral histories at appropriate quality levels - ease of use and value for money.

Digital Recording Standards for Oral History: Record in uncompressed WAV. This will produce high quality recorded sound which can be archived and transferred to other formats as required. Do not use compressed file formats for recording (MP3). A compressed file cannot adequately be converted to WAV because the conversion process will not reinstate the qualities of the voice recording lost through the original compression process. Based on the guidelines of the International Association of Sound and Audio Visual Archives and the standards of the National Library, Oral History NSW recommends the **use a 24-bit 48 kHz resolution** and the importance of using two external microphones. Oral Historians are encouraged to use headphones particularly to make sound checks prior to recording.

In Oral History NSW 2008 review the Roland Edirol R09HR was the best available at the time. In this latest review (2011) the ZOOM H4n with its many excellent features offers better quality and value than the Edirol. The ZOOM H4n has two robust 6.5 mm sockets for external microphones and addresses the widely held view that Edirol R09HR's weak point is its one 3.5 mm socket for an external microphone though two mics can still be used by using a split cable adaptor.

For those on a very limited budget and wishing to have their own recorder to record oral histories, our current survey currently recommends the ZOOM H1 for its simplicity and ease of use. However, like the Edirol R09HR, it has only one microphone socket for external microphones and therefore needs a split cable adaptor to enable two microphones to be used.

SD and SDHC (Secure Digital High-Capacity) cards are flash memory cards. They provide removable memory for compatible digital devices including digital recorders, cameras, camcorders, PDAs, MP3 players, and more. SDHC cards are a later development of SD cards, with much bigger storage capacity. Recorders designed for the earlier SD cards may not be able to utilise SDHC cards. It is important to note that you always format the SDHC card (standard or micro) in the actual recorder you are using.

For further information on the three recorders in this comparison test go to Google, type in either www.eHow.com (How to do just about everything) or www.youtube.com - type in the name of recorder and you will find information plus video downloads of other people's experience using the different devices. This is a great way to learn how to use your chosen equipment as well.

Specification	Zoom H1	Zoom H4n	Roland Edirol R09HR
Approx. retail prices. 10% discount is currently being offered on floor prices to OHAA members at Mall Music, Brookvale.	\$149 Easy to use introductory solid state field recorder.	\$449 - High quality. Solid State Field Recorder- more steps in using this, but many advantages. Comes with Easy Recording Guide in first few pages of manual.	\$549 Solid State Field Recorder - more steps in using this one, but it has many advantages over Zoom H1. Comes with Practical Guide Booklet. Also OHAA has \$5 simple to use booklets for members.
Quality	WAV up to 24-bit/ 96kHz, + MP3, + Broadcast Wave Format(BWF)	WAV up to 24-bit /96kHz + MP3 + Broadcast Wave Format (BWF)	WAV up to 24-bit/96kHz + MP3.
Recording medium (all record up to 110 mins on 2gig card) at 24/48kHz levels	Micro SDHC cards up to 32GB (At the end of 110 min. the recorder will start a new file automatically)	SDHC card up to 32GB - (At the end of 110 min. the recorder will start a new file automatically)	SDHC cards up to 8GB (At the end of 110 min. the recorder will start a new file automatically)
Built in speaker	Yes	Yes	Yes
Recording Battery life WAV format 24/48 kHz	1xAA = 9.5 hours	2x AA = 6 hours normal mode and 11 hours stamina mode in 16-bit/44.1-kHz.	2 x AA = 4.5 hours when using internal microphone
Number of inbuilt mics	2 Stereo Unidirectional Condenser X/Y Pattern	2 in X/Y Stereo Condenser Pattern 90 -120deg. 2 mic. pre-amps for external microphone power	2 Stereo Omni directional Left/Right mics.
Inclusions	2GB microSD card, 1x AA battery 1 page instruction manual very easy to learn how to use.	Cubase LE4 editing software, 1GB SD memory card, Wind Screen, Mic Clip Adaptor, AC Adaptor, USB cable, Protective Case	512Mb SD card, Remote Control, AC Adaptor, USB cable, Stand.
Options - things NOT included in the price of the recorder.	Optional accessory pack \$39 for essential tripod, windshield, AC adaptor (USB type), soft case, USB cable, mic. clip adaptor	Remote control (RC4)	Microphone Cover/Stand Adaptor; External Stereo Microphone; Carrying Case; Headphones.
Other features and comments	Very easy to learn to use. Weakest features: Doors on micro SDHC card holder and battery holder very flimsy.	Can be used as a USB mic for recording to computer. Has Recording Standby/ Pause to set pre-record levels. Heavy=280g without batteries & larger than Zoom H1, & Edirol HR09HR.	Has switch on back for 'hold' switch to prevent accidental setting change.
Using built in Internal Mics. on 70% input level record in .wav 24/48	7 out of 10	7 out of 10	7 out of 10
Using External Rode M3 Microphone	9 out of 10 - 70% input level. Recorded in WAV 24/48	9 out of 10 - 70% input level. Recorded in WAV24/48	9 out of 10 - 70% input level. Recorded in WAV24/48

Using external microphones gives opportunity to balance the input and output on recorder for improved sound pick-up and ease of balancing sound when editing.

Specification	Zoom H1	Zoom H4n	Roland Edirol R09HR
Ease of Use: Recording; finding files, play back, Transferring to computer	Has one button record on front and dedicated buttons to get to vital info rather than scrolling through menus. Clear screen shows amount of SD card and battery remaining.	Has a 2 page quick start guide to cover most needs. Plus 140 page manual to teach the additional great features this machine offers.	Brightly lit screen shows recording levels, amount of SD card remaining, recording No. and time at a glance. Learning approx. same as Zoom H4N.
Screen: brightness - easy to see & understand	Very easy to understand screen	1.9 inches LCD Screen, very easy to see screen shows battery life remaining.	Best feature: High visibility OLED screen shows when pre-recording and recording.
Instruction Booklets	Quick Start Guide (1 fold out page) - Manual not necessary	2 page simple recording guide + 140 page manual	Practical Guide plus 120 page manual. Oral History NSW has a simple illustrated instruction booklet \$5
Rode M3 microphone \$149 current retail price	Recommended by OHAA for a better level of recording than internal mics.	See H1 comment.	Same as H1.
Further comments on recorders.	Great price, best introductory recorder, 1 page of instructions. Flimsy battery and SD doors problem - Overcome this by using large capacity micro SD cards (then no need to remove) and use AC power & download via USB cable in accessory kit.	Phantom power-therefore no battery needed for external mic. On board edit to convert WAV to mp3. Has pre-amp also robust 2 x 6.5mm sockets for external mics . Supports Broadcast Wave Format (BWF). Large clear screen. Recommended in OHA Oral History Handbook 2010.	Has 3.5mm socket for external microphone. 174 gm. Including batteries - lighter and smaller than the Zoom H4N.
Auto level function to set auto level of voice volume before recording	Yes	Yes	Yes
Microphone sockets for external microphone(s)	1 - 3.5mm socket – not robust	2 x 6.5mm socket – very robust	1 - 3.5mm socket – not robust
Includes low-cut filter to alleviate wind and/or background noise	Yes	Yes	Yes
Ability to vary onboard playback speed for logging and transcribing of oral histories.	No	Yes	Yes
Ability to pause recording.	No	Yes	Yes
Sizes of micro/standard SD and SDHC card accepted	Up to 32 gig MICRO SDHC card	Up to 32 gig SD/SDHC card	Up to 32 gig SD/SDHC card
Guarantee	1 year warranty	2 years Warranty.	1 year warranty

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