Sony HDR-FX1 Consumer Camcorder
vs.
Sony HVR-Z1U HDV Professional Camcorder

	Sony HDR-FX1 Consumer	Sony HVR-Z1U Professional
60i / 50i switchable	NO	YES
White Balance	Outdoor Fix	Outdoor Variable
HyperGain	NO	YES
Setup Level Select	NO	YES
Date Record	NO	YES
CinemaTone Gamma	1	2
EVF Power	NO	YES
EVF B&W Display	NO	YES
All Display Off	NO	YES
Zoom Display	BAR	BAR / NUMBER
Peaking Level	NO	YES
Peaking Color	White	White / Red / Yellow
Expanded Focus Off	AUTO	AUTO / MANUAL
Safety Zone	NO	YES
Simple All Display (Under Scan)	NO	YES
Audio Noise Reduction	NO	YES
External MIC IN	STEREO MINI JACK	BALANCED XLR
MIC Power Supply	PLUG-IN POWER	YES (48V Phantom)
Audio REC Level	L / R LINKED	L / R INDEPENDENT
Audio Monitor	NO	YES
Audio Output Select	NO (1Vrms)	YES (1vRMS / 2Vrms)
Audio Input Select	NO	YES (Menu)
MIC / LINE Select	YES (Menu)	NO
XLR setting	NO	YES (menu)
Input Trim	NO	YES
Separate Audio AGC	NO	YES
Audio Limiter	NO	YES

	Sony HDR-FX1 Consumer	Sony HVR-Z1U Professional
Audio Lock Mode	NO	YES
DV LP REC / PLAY	YES	NO
DVCAM REC / PLAY	NO	YES
Quick REC	NO	YES
Zero Set Memory	YES	NO
Timecode Reset	NO	YES
Timecode DF / NDF Select	NO	YES
Timecode RECRUN / FREERUN	NO	YES
Timecode REGEN	NO	YES
Component Video Output	480i / 1080i	480i (576i) / 480i / 1080i
Battery Charge on Camcorder	YES	NO
i.LINK Downconvert	DV	DCCAM / DV
60i / 50i switchable	NO	YES
Hours Meter	NO	YES
Color Bar	1	2
Exposure Override	NO	YES
Assignale Buttons	3	6
Audio Level Dial	1	2
External REC Control	NO	YES (menu)
AC Adapter/ Charger	AC-L15	AC-VQ850

44 Professional Advantages of the HVR-Z1U over the HDR-FX1

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1. 60/50 SWITCHABLE

The HVR-Z1U is unique in its ability to record HDV and DVCAM™ images at 60i, 50i, 30, 25 or 24 frames per second—in either SD or HD. Switchable 60/50 capability is an advantage for anyone who needs to satisfy clients in both 60i/50i and NTSC/PAL HD and SD applications.

2. COLOR CORRECTION

The Color Correction function allows users to adjust the color of a target object without affecting the color of other objects. This feature can be used to create special effects, for example, showing the color of a red apple only on B&W picture. Up to two colors can be selected as target colors and each can be controlled in terms of color phase, color phase width and color gain as well as skin color.

3. DVCAM SUPPORT

The DVCAM and DV formats are supported by the HVR Series to offer full backward compatibility with the standard definition DV world. Users can also select 16:9 and 4:3 modes both for DVCAM and DV operation.

4. VERSATILE TIMECODE/USERBIT OPERATION

Timecode/Userbit Preset function allows any time to be selected as a starting timecode. Also, "DF" or "NDF," "Rec Run" or "Free Run" and "Regenerate" or "Preset" can be selected for the timecode operation.

5. MULTIPLE ASSIGN BUTTON FUNCTIONS

The HVR-Z1U has six assign buttons compared to three buttons on the HDR-FX1. Functions such as "AE Override," "White Balance Shift for Outdoor," "Hyper Gain," and "All Scan Mode" are also featured on the assignable menu. "Back Light," "Spot Light" and "Rec Review" are also on the assignable menu.

6. VIEWFINDER B/W AND COLOR SELECTABLE

The user can operate the viewfinder in color or in black-and-white.

7. SIMULTANEOUS OPERATION OF LCD PANEL AND VIEWFINDER

The camcorder's LCD panel and viewfinder can be operated simultaneously. "LCD panel" or "VF turn on" can be selected through the "VF Power" menu. If "Auto" is selected, the viewfinder will turn on only when the LCD panel is closed, and if "On" is selected, both LCD panel and Viewfinder will be operating.

8. ALL SCAN MODE

"All Scan Mode" is similar to the "Under Scan Mode" of other camcorders. This feature is useful when checking image quality for Web applications. However, unlike the "Under Scan Mode" the HV blanking area is not displayed.

9. AUTO EXPOSURE OVERRIDE

While in the Auto Iris mode, AE can be shifted by using Iris dial. This allows the user to adjust Iris easily (or Gain if Gain is set to Auto).

10. BLACK STRETCH

Black Stretch function raises only the black portion of an image to broaden dynamic range.

11. 4:3 OUTPUT

The HVR-Z1U offers several features useful for videographers who also need to output 4:3 images. The converted SD output (i.LINK® Output, S-Video Output or Composite Output) can be connected to compatible SD devices. If the monitor is 4:3, "Letter Box" can be selected and if the monitor is 16:9, "Squeeze" can be selected.

12. EDGE CROP AT 4:3

Unique to the HVR-Z1U is the "Edge Crop" mode. This mode is ideal for 16:9 shooting and unlike "Letter Box" or "Squeeze," "Edge Crop" can provide a normal picture that will fill a 4:3 screen. For supporting this function, a viewfinder/LCD panel 4:3 safety marker is added by selection in the Marker Select Menu.

13. SETUP LEVEL SELECT

Setup level can be selected between 0% and 7.5% when the camcorder is operated in SD mode. This function is available only in NTSC mode.

14. AF ASSIST

Auto Focus Assist function allows the user to control the focus while in auto focus mode. This function is very useful for "touching up" the focus if needed.

15. EXTERNAL RECORD CONTROL

External devices such as VTRs or HDD recorders can be controlled via i.LINK. "Rec Control Mode" menu and "Standby Command" menu are in the "External Rec Control" menu. "Rec Control Mode" menu can control "Synchronous" or "Relay." "Synchronous" starts the recording process in both the external device and the camcorder. And "Relay" starts the external device when the camcorder is stopped. "Stand-by Command" menu can be selected as "Rec Pause" or "Stop." "Rec Pause" can trigger to the external device when Rec Pause button is pushed.

16. WHITE BALANCE OUTDOOR LEVEL SHIFT

When the white balance is selected in "Outdoor" mode, it can be shifted (-7~0-+7) either through the menu or Assign Button. This feature allows the user to adjust the white balance with fixed color temperature.

17. HYPER GAIN

Hyper gain (more than 18 dB) enables image acquisition in extreme low-light conditions, even less than 3 lux.

18. ALL DISPLAY OFF

Display mode can be selected if the "Display" function is assigned. In the "All Display Off" mode, only mode status on the LCD panel or viewfinder is shown.

19. ZOOM DISPLAY SELECTABLE

Zoom display type can be selected by "Bar" or "Number." When "Number" is selected, it will be displayed from "0" to "99" following the zoom position. This is useful for remembering the zoom position with an actual number.

20. SELECTABLE PEAKING LEVEL AND COLOR

Peaking color and level can be selected. Color can be selected from "White," "Red" and "Yellow," and "Level" can be selected from "High," "Middle" and "Low." On the HDR-FX1, it is fixed as White and Middle.

21. EXPANDED FOCUS OFF MODE

Expand focus can be changed to normal with two selections: "Auto Off" and "Manual Off." In addition to the "Auto Off" mode provided on the HDV consumer camcorder, "Manual Off" mode is added for the HVR-Z1U. When "Manual Off" is selected, the expanded focus will change to normal when the Expand Focus button is pushed again.

22. SAFETY ZONE AND 4:3 MARKER

"Safety Zone" and "4:3 Marker" are added in the Marker menu, in addition to the "Center Marker" on the HDV consumer camcorder. "Safety zone" displays the inner area of the screen and "4:3 Marker" displays the 4:3 area in order to define picture width when the shot is used both for 16:9 and 4:3 display. All markers can be displayed simultaneously.

23. DATE AND TIME STAMP

Date and Time can be recorded on the tape, useful for applications such as surveillance or legal documentation where time and date notation need to be permanently shown on the image.

24. XLR CONNECTORS AND MIC POWER SUPPLY

Two XLR connectors are provided and a built-in stereo microphone is standard. Mic Phantom power is supplied via XLR connectors.

25. INDEPENDENT AUDIO RECORD LEVEL SET

Each channel of audio record level can be controlled independently. Two audio record level volume controls are at the back of the camcorder, compared with one volume control on the consumer camcorder.

26. AUDIO MONITORING

Various modes are available for audio monitoring, such as Ch1 and Ch2, Ch1 only, Ch2 only and Ch1+Ch2 (Mixed).

27. MICROPHONE SETTING

Wind noise reduction can be selected independently for the built-in stereo microphones also on either XLR input. The sensitivity of the internal stereo microphone can be selected as "Normal" and "High." XLRs can be selected as independent channels (XLR1 to Ch1 and XLR2 to Ch2) or monaural (XLR1 to Ch1+Ch2). XLR also has a setting of "AGC Link" On and Off, and it can select linked AGC for XLR1 and XLR2. Each XLR input allows the selection of input level as Mic or Line, as well as Trim level in order to adjust input to the audio circuit and prevent overload (-18, -12, -6, 0, +6, +12dB can be selected).

28. AUDIO MODE

32 KHz and 48 KHz can be selected when the Rec Mode is set to either DVCAM or DV SP. When HDV is selected, audio is always 48 KHz and it is compressed with MPEG1 Layer2.

29. AUDIO LOCK

Audio Lock mode or Unlock mode can be selected when the Rec mode is set to DV SP. When HDV is selected, Audio is unlocked. When DVCAM is selected, audio is locked.

30. AUDIO LIMITER

Audio Limiter On and Off can be selected. With the HDV consumer camcorder, the audio limiter is always on.

31. MIC NOISE REDUCTION

Mic noise reduction can be selected On or Off. When it is On, a reversed wave of mechanical noise is generated and cancels the mechanical noise.

32. WIND NOISE REDUCTION

Wind Noise Reduction is available for internal microphones, and also independently for each XLR input.

33. MIC SELECT

The built-in standard stereo microphone allows users to select "Internal Mic" or External Mic with XLR.

34. INTERNAL MIC SENSITIVITY

Internal stereo mic sensitivity can be selected as "Normal" or "High." "Normal" is commonly used for professional applications. Only the "High" level is supported for the HDV consumer camcorder.

35. CINEFRAME MODE
The HVR-Z1U offers several options for "cine-like" shooting in three modes: 30 frames, 25 frames and 24 frames.

36. ADDITIONAL CINEMATONE™ AND GAMMA SETTINGS
Two types of CinemaTone™ Gamma can be selected both for 50i and 60i in HDV, DVCAM and DV.

37. SHOT TRANSITION™ START TIMER
This sets the delay time for the start of Shot Transition™. Shot Transition™ can be started simply by pushing the start button. The start timer has a selectable 5-, 10- or 20-second delay to prevent camcorder movement during shots.

38. SKIN TONE DETAIL LEVEL CONTROL
Skin tone level can be selected as "High," "Middle" and "Low," in addition to the skin tone Type. Skin tone level can change the "Detail" level of skin tone.

39. 480P OUTPUT FOR SD COMPONENT OUTPUT
"480i," "480p/480i" or "1080i/480i" can be selected as the analog component output. "480p/480i" is also available with the HVR series.

40. SMOOTH HANDLE ZOOM
Smooth Start and Smooth Stop are provided on the handle zoom, to enable manual zooming for professionals.

41. AUDIO OUTPUT SELECT
Audio output can be selected as "1Vrms" or "2Vrms." "2Vrms" is usually used as the professional output level.

42. SELECT AUDIO MODE AT I.LINK DOWN CONVERT
"Lock mode" or "Unlock mode" can be selected as the output of the i.LINK when it is down-converted to a DV stream.

43. SELECTABLE SMPTE COLOR BARS
Two types of color bars are provided. Color bar menu can be assigned on the assign button and selected color bar can be displayed when the assign button is pushed.

44. HOURS METER
Hours Meter for Operation, Drum Run, Tape Run and Threading time are provided.

For more information on Sony HDV products, contact your EAR Professional A/V salesperson at 1-800-473-6914

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