

NTSC Versus PAL Countries

A growing number of today's digital cameras, from the point-and-shoot cameras to the large professional DSLRs, are capable of recording movies. A major consideration before you start recording is what video standards are used in the country or territory in which the movie will be viewed.

Because the audience for the Olympus books is primarily North American (Canada, USA, and Mexico), these books focus on the NTSC standards. But for world travelers and for those with family, friends, or clients in other countries, this section may help...

Throughout the world, there are three major video standards:

- NTSC (**National Television System Committee**)
- PAL (**Phase Alternating Line**)
- SECAM (**Séquentiel Couleur à Mémoire** [French for "Sequential Color with Memory"])

Being able to display your recorded movie on a television set, or a device that emulates a television set, requires that the movie be recorded using the same number of scan lines and frames per second as the television systems in the country in which the movie is to be viewed. This is why you may need to set the Video Out option to PAL if your movie is going to be viewed by people in certain European countries.

The basis for the NTSC system is a scan-line count of 525, and a frame rate of 30 frames per second or 60 fields per second. The basis for both PAL and SECAM is a scan-line count of 625 and a frame rate of 25 frames per second or 50 fields per second. Note that the fields-per-second values match the frequency of the AC power generation used in that country.

Most cameras will not set the frame rate to a value consistent with the selected video standard. Though you may have set Video Out to PAL, you will still need to select a frame rate of 25 or 50 when choosing the video image quality.

These standards were created for the analog systems of the 20th century. However, their new digital high-definition versions still have the original terms, even if they are no longer completely accurate.

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The Countries and Territories that use the NTSC Video Standard		
American Samoa	Dominican Republic	Neth. Antilles
Antigua	Ecuador	Nicaragua
Antilles (Dutch)	El Salvador	North Mariana Island
Aruba	Fiji	Okinawa
Bahamas	Grenada	Palau
Barbados	Guam	Panama
Barbuda	Guatemala	Peru
Belize	Guyana	Philippines
Bermuda	Haiti	Puerto Rico
Bolivia	Honduras	Saipan
British Virgin Islands	Jamaica	St Kitts and Nevis
Burma	Japan	Samoa
Cambodia	Johnston Islands	St Lucia
Canada	Korea South	St Vincent
Cayman Islands	Leeward Islands	Surinam
Chile	Mariana Islands	Taiwan
Columbia	Marshall Islands	Tobago
Costa Rica	Mexico	Trinidad
Cuba	Micronesia	United States of America
Curacao	Midway Islands	Venezuela
Diego Garcia	Montserrat	Vietnam
Dominica	Myanmar	Virgin Islands

Table 1: The NTSC Countries and Territories

The Countries and Territories that use the PAL Video Standard		
Abu Dhabi	Guadeloupe	Pakistan
Afghanistan	Guinea	Papua New Guinea
Albania	Guyana (French)	Paraguay
Algeria	Guinea-Bissau	Poland
Angola	Holland	Portugal
Argentina	Hong Kong	Qatar
Ascension Island	Hungary	Reunion
Australia	Iceland	Rumania
Austria	India	Russia
Azores	Indonesia	Rwanda
Bahrain	Iran	Sabah/Sawara
Bangladesh	Iraq	Samoa
Belgium	Ireland	Saudi Arabia
Bosnia Herzegovina	Israel	Sardinia
Botswana	Italy	Scotland
Brazil *	Ivory Coast	Senegal
Britain	Jordan	Serbia
Brunei	Kenya	Seychelles
Bulgaria	North Korea	Sierra Leone
Burkina Faso	Kuwait	Singapore
Burundi	Laos	Slovenia
Cameroon	Latvia	Slovak Republic
Canary Islands	Lebanon	Solomon Islands
Cape Verde	Lesotho	Somalia
Cayman Islands	Liberia	South Africa
Chad		S. W. Africa
China	Liechtenstein	Spain
Christmas Island	Lithuania	Sri Lanka
Cook Island	Luxembourg	Sudan
Croatia	Macao	Swaziland
Cyprus	Macedonia	Sweden
Czech Republic	Madagascar	Switzerland
Dahomey	Madeira	Syria
Denmark	Malagasy	Tahiti
Djibouti	Malawi	Tanzania
Dubai	Malaysia	Thailand
Easter Island	Maldives	Togo
Egypt	Mali	Tonga
England	Malta	Tristan Da Cunah
Equat. Guinea	Martinique	Tunisia

The Countries and Territories that use the PAL Video Standard		
Eritrea	Mauritania	Turkey
Estonia	Mauritius	Uganda
Ethiopia	Monoco	Ukraine
Falkland Islands	Mongolia	United Arab Emirates
Faroe Islands	Montenegro	United Kingdom
Fiji	Morocco	Upper Volta
Finland	Mozambique	Uruguay
France	Namibia	Vanuatu
French Polynesia	Nepal	Vatican
Gabon	Netherlands	Yemen
Gambia	New Caledonia	Vietnam
Gaza & West Bank	New Guinea	Yugoslavia
Germany	New Zealand	West Germany
Ghana	Niger	Zaire
Gibraltar	Nigeria	Zambia
Great Britain	Norfolk Island	Zanzibar
Greece	Norway	Zimbabwe
Greenland	Oman	

Table 2: The PAL and SECAM Countries and Territories

*Though Brazil uses the PAL video specifications (specifically, the PAL-M specifications), its scan-lines count and frame rate are those of the NTSC standard. I'm not sure which Video Out setting you should use, but I have seen reports that both work for most TVs or similar devices in Brazil.

To viewing movies in the countries and territories listed in Table 2, you should use the PAL Video Out setting when recording. The countries and territories listed in red actually use SECAM, but the scan-line count and the frame-rate for SECAM is the same as for PAL.

In truth, this data is always in a state of change. Several of the countries that use SECAM have recently converted to some form of PAL. Others, in an effort to be able to re-broadcast television from neighboring countries, are converting to, or from, NTSC. This list serves as a starting point; you should confirm what video standards are currently in use for a given country before making a video.