Video Tape Storage

Short of destroying them by means or events too horrible to imagine, water and moisture are probably a videotape's worst enemy..... (though young children armed - "locked and loaded" with a jelly sandwich, can do unimaginable damage - far beyond what any hostile invading Army bent on complete & total annihilation could possibly ever hope to achieve !

Above all, keep them dry (referring here to the tapes and not the kids - though coming to think of it; the following would equally apply.....) and store them in low humidity environments if possible. Do not store them against an outside wall, particularly in the northern climates. If possible, avoid storing them in a damp basement for extended periods. (parents - also take note)... Never leave them in the trunk of a car on a sunny warm day where they can be quickly baked into oblivion. It doesn't take much heat to slightly distort the plastic shell or ruin the tape contained within (anything over 140 deg will suffice)..... Also keep in mind that flood waters have a nasty habit of ruining video tape if not properly cleaned and properly dried shortly after exposure... Thus, keep them high !.

For the maximum longevity, place the tape in a zip lock bag along with a small pouch of silica gel (a desiccant), which will absorb any moisture. Silica gel is available in some hardware stores and in most craft shops (used to dry flowers) but you can always find them in quantity for much less money on eBay. Quantities of 50 usually run around $9.00 or so but you can purchase silica gel in bulk and make your own bags for much less. 4 lbs is about $15 and will do several hundred tapes at least. 1/2 teaspoon into a small sealed plastic bag punctured with tiny air holes will do nicely... This won't make your video tape "immortal" but will greatly extend it's shelf life - especially in humid climates.

Keep in mind that silica gel does have a limited capacity. (Don't expect a tablespoon of Silica Gel to hold a gallon of water)... Every year or so, the packet should be removed and baked separately in an oven at 300 deg for an hour. This will bake the accumulated moisture out the silica gel and make it effective as new !

Note: A penetrating glimpse of the obvious perhaps, but Bake ONLY the packet of silica gel and NOT the valuable tape ! ..... 300 degrees will well exceed the Curie Point of the tape (erase it) plus melt the tape/reel, and turn most of what remains into an instant pile of goo ! (our technical term for melted plastic)

Tapes should always be stored either fully rewound or "tails out". Damage and the effects of aging (especially on reel to reel tapes) is most evident towards the very beginning and very end of the tapes. The tape in the middle is protected somewhat more by the outer wraps of tape surrounding it.

1. **Tapes should be stored at 60 to 65 deg f. at 35 to 40% relative humidity.**
2. **Never store tapes flat. Store them on end as you would a book. This reduces edge stresses on the tape which can lead to tracking errors later on.**
3. **Always store tapes either fully rewound or "tails out"**
4. **Keep away from magnetic fields (Do not store in Steel cabinets)**
5. **Store in an opaque storage case and keep out of sunlight**
6. **If the tape is wrapped in plastic, be sure to use a silica gel desiccant inside the plastic bag.**
7. **If you do not use a desiccant such as silica gel, then it's best to unwrap the tape from the plastic and just store it in its' storage box.**
   Without desiccant, all the bag will do is trap the moisture.

8. **Remove any sticky tape such as that used to secure the end of the tape. Over the years, the solvents in the adhesive can migrate throughout the tape**
9. **As long as the tape is not sticky or exhibits any mold growth, then every 3 years at most, the tape should be removed & fully fast forwarded to the end and then rewound on a known good deck.**
   This re-packs the tape and relieves any built up internal stresses due to uneven moisture absorption. Failure to do so sometimes
   results in stretched or unevenly warped tape, making stable playback without tracking errors unlikely.

Videotape Life Expectancy

Ever since the 1970s, the electronics industry has been trying to persuade everyone to throw out their old cumbersome movie film cameras and buy "state of the art" camcorders to preserve family histories. Compared to film, videotape is cheap, relatively easy to edit, no projector bulbs to burn out..... no problem to set up and watch. The industry claimed that the new video technology would allow them to share with their descendants, priceless documentary footage of births, bar mitzvahs, marriages, and other memories, say 30 or 40 years down the road. Salespeople of the era often claimed they'd last indefinitely !

Wow !

Here it is coming up on 35 years later, and if you're still heeding that advice, you'll be better advised to start keeping a written diary instead of a video record. It's now widely known and accepted, that the life expectancy of videotapes is much shorter than originally estimated -- All reputable manufacturers rate the life expectancy of video tape from 10 to 12 years. Not one we're aware of claims - much less guarantees a life expectancy greater than 12 years. Recent technical reports by Sony ®, Ampex ®, and Agfa ® corporations and the Institute of Electrical and Electronics Engineers ® suggest that their lives are but a fleeting thing.

In general, just about any high quality branded tape will last at least 5 years while retaining acceptable image quality if properly stored, not too badly abused or simply worn out due to repeated use. Shortly thereafter, image quality degradation becomes more noticeable, as the tape slowly demagnetizes and physically degrades. By 10 years, the image quality becomes "noisy - with lack of detail". By 20 years (if you're lucky), the binder begins to show the effects of hydrolysis and the tape is now on borrowed time. Some tapes go 35 years or more if stored in a controlled low humidity environment, and others breakdown in less than ten before they become completely unplayable. There's no exact way of telling, as there are too many variables. Generally we've found that the wider broadcast tape formats hold up better over time than do the narrower formats. 2 inch quad tapes from the 60's amazingly will usually play with but few problems (after baking & cleaning) while VHS tapes typically give up the ghost much earlier - especially if recorded in any extended play mode. (Any tape recorded in an extended play mode suffers the greatest no matter what the format). Metal particle tape seems to hold up the best, though it's too early to tell the long term outcome, as they are a relatively new product. At least that's been our observation.

Lately, we've been noticing an unusually high number of MiniDV tapes exhibiting pixilation of the image. There is a LOT of information crammed onto a small area of tape. The least amount of tape deformation caused by a misaligned machine or improper tape tensions can easily spell disaster. The small tape plus high data densities, results in these formats operating on the "thin edge of

success". Another 10 years will tell the tale, but based on our observations so far, the prognosis for long term reliability of the small digital consumer tape formats is questionable.

Unbranded or "bargain" tape is usually no bargain at all. Life expectancy of inexpensive tape is unpredictable at best. Consider yourself lucky each time a bargain tape manages to play at all - no matter what it's age..... as for that moment, the video Gods have been merciful. Tomorrow, things may get back to "normal" and the Gods may not be in such a benevolent mood.

Thus so many variables such as quality of the tape to start with, the precision of the cassette shell, how it was stored, the equipment it was recorded on, how many times it was played, how gently the VTR handled the tape, whether the VTR needed de-magnetization etc etc etc, all greatly affect it's life expectancy. But the outcome is always the same. Videotapes are mortal and generally have a pretty short life.

No matter what the tape, always record in the highest quality mode available. You'll consume more tape, but the information density per square millimeter of tape is much less and thus tolerances are much less critical. Put another way: Material recorded in any extended play mode will always be the "first to go".....

Generally , if a tape over 15 years old plays like the day it was recorded (or in some instances, at all) without employing recovery techniques, then consider yourself "Lucky"