

# TALK

**SOUND**

FROM THE MAKERS OF "SCOTCH" BRAND MAGNETIC TAPE

## BULLETIN NUMBER 19

(REVISED)

### HANDLING AND STORAGE OF MAGNETIC RECORDING TAPE

With each passing year since magnetic recording tape became a reality, recording engineers and home recordists have become increasingly aware of the importance of proper handling and storage of this relatively youthful medium. They have learned that while tape is capable of being recorded and played thousands of times without deterioration, it does require reasonable care to insure optimum performance—especially if it is to be stored for several years. Here are some suggestions for best results in preserving the physical and magnetic properties of recording tape.

#### DO NOT STORE UNPROTECTED TAPE

Storing tape in the original box protects it from dust and from physical damage to its edges. Reels of tape should be stored "on edge" or lying flat individually on shelves. Stacking many reels one on top of the other should be avoided since the accumulated weight may distort the reels or damage the edges of the tape. Normally, cleaning is not necessary. If dust contamination is excessive, reels may be vacuumed and the tape may be cleaned by wiping with a clean dry cloth while rewinding. To get rid of contamination that does not brush off easily, clean the tape with a cloth lightly moistened with Freon TF\*.

#### AVOID STRAY MAGNETIC FIELDS

While the magnetic properties of tape are very stable over long periods, care should be taken to avoid accidental exposure to magnetic fields.

\*Freon TF, a Du Pont product, is available in quart, gallon, and 5 gallon quantities from John B. Moore Corporation, Peerless Building, P. O. Box 3, Nutley, N. J.

Weak magnetic fields will increase print signal. Permanent magnets and strong electromagnets very likely will cause erasure if placed within a few inches of the tape. (This is the principal utilized in the bulk erasing process in which a whole reel of tape is demagnetized without unwinding.) For this same reason, tape should not be stored in cabinets with magnetic door latches if the tape is likely to come in close proximity to the magnetic field of the latch mechanism.

#### PLAY TAPE PERIODICALLY

Occasional use of recorded tapes improves their resistance to storage conditions. Running tape through a recorder is a simple way of relieving strains and adhesions before they seriously affect the tape.

#### WIND TAPE LOOSELY ON REELS

Most cases of tape distortion can be traced to excessive winding tension, uneven winding, or both. While the tension on the tape as it is being wound may seem small, a thousand-odd layers, each contributing a minute stress, can add up to tremendous pressure on the tape nearest the hub. There is least likelihood of physical distortion if tape is prepared for storage by an even winding at rather low tension in order to produce a relatively soft but stable roll. These conditions are best realized when the tape is last wound at playing speed on the

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take-up reel of a professional machine which has been set for the proper take-up tension. A high speed wind is usually soft enough because of entrapped air, but it is likely to be uneven. The "weaving" which can result from an uneven wind may lead to serious physical distortion if the tape meets with adverse handling and storage conditions. This is particularly true if the tape has an acetate base.

#### CHOOSE TAPE BACKINGS WITH AN EYE TO STORAGE CONDITIONS

Low humidity, such as exists in heated areas during cold winter months, and high temperature over extended periods may cause the plasticizing agents in cellulose acetate tapes to evaporate, leaving the tape brittle. There are no plasticizers in polyester, so, if it is known in advance that a recording will be stored for several years, it is advisable to use a polyester-backed tape. Temperature and humidity changes cause reversible dimensional changes. Polyester has 50 per cent better resistance to temperature change and about 15 times better resistance to humidity change than acetate.

#### CONTROL TEMPERATURE, HUMIDITY

Ideally, magnetic tape should be stored at room temperature (60 - 80° F.) with relative humidity controlled between 40 and 60 per cent.

The use of drying or humidifying agents is not recommended because of the difficulty in controlling the results.

Tape which has become brittle due to storage without temperature or humidity control can usually be returned to a condition which will allow playing back the information recorded on it. The guiding rule is: permit the tape to return to equilibrium before it is played. Storing a brittle tape (out of its container) at proper environmental conditions for 24 hours should bring it to equilibrium. In the absence of proper environmental conditions, a simple way to restore moisture which has evaporated is to leave a moistened sponge with the reel of tape in a closed vessel for 24 hours, being careful to keep the moisture from coming in direct contact with the tape. Similarly, a tape which has been exposed to extreme cold should be allowed to return to normal room temperature before it is played.

#### CLEAN RECORDER PERIODICALLY

Occasional cleaning of recording head, capstan, tape guides, and other parts will help to assure utmost wearing life for your tapes. See your recorder operating manual for information on cleaning solvents and procedures.