

General Suggestions for Use by George Cardas

The Cardas Frequency Sweep and Burn-In Record is a set of tools that audiophiles & turntable enthusiasts have requested over the years. The benefits and uses vary because turntables, tonearms, cartridges and systems differ, as does the knowledge and tools of the end user.

SIDE ONE:

The most important tools on this record are the frequency sweeps. These are tracks 1 and 2 on side one. Simply play them through your system at a low to normal level and it will degauss the cartridge and the rest of the system, plus clean the stylus ultrasonically.

The low frequencies in these sweeps will seem barely audible at first, which might tempt you to turn the volume up. However be careful not to play these sweeps at high volume levels, as they can potentially damage your speakers.

The tracks progress from low frequencies at a high relative amplitude, to high frequencies (35 k+ when played at 45 rpm) at a low level. This is a complete degaussing process and an ultrasonic cleaning of the stylus at the same time. You may hear clicks and pops in the high frequency section caused by the accumulation of junk which has fallen off the stylus during ultrasonic cleaning. Clean the record to remove the debris.

The sweeps are also useful as room tuning tools for setting up wall and ceiling treatments. Room reflection points, as well as other anomalies in the system, cause the image to shift with rising frequency. Simply sit in the listening position and play the sweep at a low level. The image should be centered and stable in a well focused room. You can ignore changes in volume which are

caused by comb filtering. Hard reflection points in the room can cause a shifting in focus, so padding these points will help stabilize the image. Hold a piece of foam rubber at arms length and block the sound from suspected reflecting points. When you think you have located the trouble spots, cover them with suitable damping materials.

A lockout following the frequency sweeps will prevent the stylus from progressing to the next track automatically.

Track 3, “I’ve Got A Feeling I’m Falling” by The Tom Loncaric Band is an example of a well recorded track with good separation between instruments, and is provided as a reference track for system tuning.

This track is followed by a lockout, preventing the stylus from progressing to the final track on side one.

Track 4 is a 1K tone, which ends side one.

SIDE TWO:

The voice announcements (tracks 1a, 1b, 1c and 1d at the beginning of side two) are for determining proper channels and centering the sound. They were recorded in a small booth and can be compared with the spatial qualities of Tracks 1f and 1g.

Tracks 1f (piano strikes) and 1g (hollow sticks in a spacious room) are useful reference tracks. The piano strikes of 1f will demonstrate your system’s ability to convey the impact of the hammer on the string, as well as the reflections of the room in which it was recorded. The impact, spatial qualities and directional cues of the hollow sticks (track 1g) will only sound natural if your system’s polarity is correct.

The continuous pink noise grooves at the end of Side 2 (Tracks 2, 3 and 4) are unique. They are concentric grooves, not normal spirals. The stylus will stay in the groove until lifted out. I use these continuous grooves with discretion, to break in a new cartridge, but only after it is properly set-up. Part of this break-in process is the adjustment of the final azimuth. I can't determine the length of break in time for your system, but I feel an hour would be close to the mark. Save your cartridge for music!

If all adjustments on the arm are correct and the table is perfectly level, the arm should track very slowly inward on the smooth sections of Side 2. This is an "after proper adjustment" test! It is not a way to adjust the tone arm.

If the system is out of relative phase, you will have to determine where one channel is reversed. It will often be one of the speaker connections or one of the cartridge connections. Usually the offending connection can be found by visual inspection. If the output of the out of phase, locked grooves (Side 2, Track 3) are combined, they should null. This can be used as an azimuth check.

The 1/2" wide, Unmodulated Plateaus on Side 2 are for checking cartridge alignment and tone arm bias. On level tables, properly adjusted arms will track slowly inward on the Plateau.

The Sync Label is used to determine the rotational speed of the platter. The label has four concentric rings of short, white lines to measure both 33.333 and 45 RPM. One set is for 60 cycle alternating current in the U.S. and the second set is for international, 50 cycle use. If you view the label under a standard incandescent or florescent lamp, the stroboscopic effect of the light will make the appropriate lines on the label appear to stand still when the speed is correct.