In horology, a tourbillon (French: “whirlwind”) is an addition to the mechanics of a watch lever escapement to increase accuracy. It was developed around 1795 and patented by the French-Swiss watchmaker Abraham-Louis Breguet on June 26, 1801.

The Metaxas & Sins T-RX Analog Tape Reproducer is the first Tape Recorder to use the same concept to absolutely regulate the speed of the tape through the use of an ARM-CORTEX “controller” which synchronises the 4 Maxon motors [2 reel motors and 2 capstan motors] with the 2 linear ACTUONIX motors which control the “Dual-Capstan” rollers on a fully retractable bar.

It is an entirely newly designed professional reel to reel tape location recorder and playback machine that meets and exceeds the highest demands of recording engineers and the most serious audiophiles.

It is a tool to record and playback magnetic tape at the absolute highest levels.

The T-RX also combines the highest precision “milgauss” stainless steel mechanical parts mounted onto a chassis which is CNC’d from a solid block of aluminium.

The audio “SOUL” of the TRX electronics borrow from intensive recording work conducted over the past 35 years with Swiss Stellavox portable recorders which use single-ended transistor purist electronic paths developed in the 1960s.

The result is a machine that is capable of recording and playback with a level of realism that gives the listener the sense of being present at the live music performance in its original venue. Combining 2020’s technology with 1960’s “soul”
I’m not going to kid you: I am among the mechanically inept—high among them, I would say. If there were a merit (or demerit) badge forbastiness, clumsiness, and willful intransigence around machinery of any kind, I’d be wearing it (and would have royally earned it). And yet I very much doubt whether I would have gotten into this hobby when I did, which was as a teenager, or stuck with it as long as I have, which has been a lifetime, if it weren’t for the spell that complex, finely crafted mechanical objects have cast on me from youth to old age.

Now in the world of high-end audio, there is nothing as intrinsically or as spellbindingly crafted as a reel-to-reel tape deck. You can see this simply by looking at one. (Of course, if you’re like me, you will look at one at your peril for, once seen, that spell will be wound up.) Here is the ultimate in high-end audio mechanics—a confection of motorized reels, motorized capstans, motorized retractable capstan bars, tension arms, metal rollers, and rubber pinch rollers, with an electromagnet transducer (the record/playback bead assembly) at its center—that when fed a spool of pre-recorded tape comes closer to recreating “the absolute sound” than any other playback medium extant. Indeed, if the words “absolute sound” are something more than a catchphrase, if they mean what they say, then highest-fidelity playback of 15/30 ips, two-channel, reel-to-reel master tapes is what they mean.
Here is some simple information to help you “get started” with your TRX.

Attached, are photos of spare parts that will arrive with your TRX [apart from the separate Power Supply/Power supply cable].

The Parts are as follows:

1. 4 x EVA FOAM squares to put under your machine [so that the machine vibration isn’t amplified by your bench] Please put 2 squares underneath the two large reel motor “tubes” and the other 2 squares underneath the “Carry Handle”.

2. Artist Brush [to brush away tape shedding/dust]

3. 2 spare 2.5mm SKF bearings...just in case [we use these in most things, so it might be a good idea to find your local stockist]

4. A bag full of Alun keys - you should check that none of the bearings have become loose during transport - but NEVER overtighten.


6. LEMO/CAMAC 4 pin connector which plugs into the side of the machine. The Pin configuration is attached on next page.
I’ve never heard anything quite like it. To put the cart before the horse (or maybe the horse in the cart), this is, quite simply, the most neutral and complete presentation I’ve heard from any audio component. This is the absolute sound in the definition of those words that makes the best sense to me: the sound that was recorded in the studio or the concert venue.

The unusually natural and lifelike, virtually uncolored reproduction of the tapes therein discussed (Chet Baker Sings, A Tribute to Ella Fitzgerald, and Joan Baez), the many new things that I learned about the singers, the instrumentalists, and the recording techniques, and the old things I re-learned about myself and about the way music has shaped my life are owed equally to the Metaxas & Sins Tourbillon T-RX, which is to tape recorders what the original Quads were once claimed to be to other loudspeakers—a clearer window on the music, a window through which you can not only look at the performers as they were when they were originally recorded, in the light of a day long past, but at the you who once was when you first heard the music that they made, in the noontime of your life.
dynamics, which run like a ramp from soft to loud, just as they do in life. When you add uncompressed modulation, astonishing transient speed, and simply gorgeous tone color to the package you get playback that cannot be equaled by any other kind of source, save, perhaps, for highly select direct-to-disc LPs, though a steady diet of Lauma Mapani and Friends and I Get the Music in Me sure ain't JV's idea of fun listening.

Metaxas & Sins Tourillon T-RX €35,000
Before he heard Metaxas & Sins' Tourillon T-RX—one of the first brand-new (i.e., non-refurbished) R2R tape decks in decades—JV would've bet big money that nothing else out there that could compete with Greg Beron's UHDecks. Turns out, however, Mr. V. would've lost his wager. This relatively petite, portable tape player from the fertile mind of Kostas Metaxas is not only an object of great physical beauty and Swiss-watch-like mechanical workmanship: it is also a sonic wonder. The 15 ips (it will also play at 7 1/2 and 30ips), two-track Tourillon with user-selectable (CCIR or NAB) equalization is Kostas' attempt to improve upon the build-quality, sonic, and ergonomics of Stelavox's celebrated SPs, which many professionals considered the best portable tape recorder ever made. Having had no experience with the SPs, JV cannot say whether Mr. M. has succeeded in outdoing his long-time reference. What he can say, with complete confidence, is that the T-RX is gorgeously made, performs flawlessly, and sounds fabulous. One of JV's R2R references. (forthcoming)

United Home Audio SuperDeck $89,995
This completely refurbished, three-box, 15ips, Tascam real-to-real tape deck, with bespoke enclosure, boards, parts, damping, and wiring, is the best effort yet from tape maven Greg Beron—and, along with the Metaxas & Sins Tourillon, the best (which is to say, the most likable) source component JV has yet heard in his home. Though the speed, color, resolution, and, above all else, vanishingly low noise of the DS Audio Grand Master optical cartridge and E0-tone have pushed vinyl playback considerably closer to the sound of tape, LPs still aren't as naturally full in tone, continuous in duration and intensity, or audiobally complete in their presentation as the UHDecks. Of course, two-track open-reel tape has several built-in sonic advantages—not the least of which is the sheer amount of information laid down in its wider tracks (and the higher resolution with which those tracks are scanned)—all of which you can hear, par excellence, with Greg's great new machine. If you have the dough and a bank account for the sound of the real thing, it will be tough to find a better source component. JV's other R2R reference. (319)

**HIGH-END AUDIO BUYER'S GUIDE 2022**

 ROOM CORRECTION

Legacy Audio Wavelet II DSP Room Correction System $79,990
Legacy designed the highly sophisticated Wavelet DSP speaker and room-correction processor (recently updated to the Wavelet II, review forthcoming) to bundle with its own speakers, but this version can be used with any system. Functionality, the Wavelet is a preamp with integral DAC, digital crossover, and multi-band digital equalizer, it will correct for speaker and room frequency-response variations, as well as change the time-domain behavior of the wavefront from the speaker to reduce the deleterious sonic effects of room reflections. (287)

**RECORD CLEANERS**

Spin-Clean Record Washer MKII $99
The Spin-Clean System is a purely manual design—nothing to plug in. A little elbow grease and fresh air do all the work. Fill the tan-colored basin with distilled water, add a capful of the cleaning solution, and spin the record between the brushes. Ambient air and a couple of twists of the supplied lint-free cotton cloths do the rest. It's also a truly green product, totally off the grid. And the results speak for themselves—clean surfaces mean less noise and more fully resolved music. For lighter duty it's tough to beat. (201)

Walker Audio Prelude Quartet Record-Cleaning System $1,115
There are many excellent record-cleaning solutions out there, but this one, developed by analog guru Lloyd Walker, is (in JV's opinion) supreme. The four-step, enzyme-based Prelude system really does reveal more details that have gone unheard beneath layers of dust and wear than any competition. Though the Prelude's hand-applied, brush-and-fluid cleaning procedure is time-consuming (a record-cleaning machine is only used to vacuum-dry the disc—not to wet or scrub it) and can only be applied to LPs one record-side at a time, for audiophiles the effort will be worth it, as no automatic disc-washing machine, conventional or ultrasonic, can achieve quite the same astounding results. (not reviewed)

Record Doctor VI $29
For those who love and care for their vinyl but don't want to break the bank on a cleaner, the Record Doctor VI (its latest iteration) offers a smart design compromise that keeps it—and your—costs down. Most of its functions are performed manually, as the system eases the complex mechanics and motor that upper-tier record-cleaning machines employ. But the Record Doctor still uses a powerful motor-driven vacuum to handle the final step of fluid, dust, and dirt extraction. Setup and operation are a snap. The new VI is significantly upgraded, with a more rigid chassis along with cooler and quieter operation. (Version V reviewed in 274)

Pro-Ject VC-E $499
A clean record not only sounds better, with less surface noise; a clean record also makes your cartridge last longer since there are fewer abrasive elements left in the grooves after a proper cleaning. JV's intensive stands to reason that every vinyl enthusiast should own a
This LEMO connector carries either the “Playback output” when the machine is in “PLAY” mode, or Line-in “REC outputs” [before equalization] when the machine is in TEST or REC mode. This allows you to monitor the incoming signal [in REC mode] or Playback Out. The signal is EXACTLY the same signal that is fed into the VU meter amplifier inside the machine. So you can also use it for precision VU monitoring with an external VU meter.

Here is a QUICKSTART video to help you use the machine:

https://www.metaxas.com

Please be mindful that the T-RX is run by an “ARM CORTEX” computer so if it doesn’t respond to the commands on the keyboard, simply turn it off, wait 20 seconds and turn it on again.

VERY IMPORTANT: There is no relay on the output, so the “Single-ended” amplifiers on the outputs will make a “pop” sound when turned on or off until they settle [-30seconds], so when you have your TRX connected to your system for PLAYBACK, Please make sure your amplifier volume is set to ZERO.
"At $36,000 (equipped with record and playback heads), the Metaxas & Sins Tourbillon T-RX tape deck is scarcely cheap. And yet it is considerably less money than other top-line tape decks ($50,000 less, for instance, that Greg Beron’s playback-only SuperDeck). It is also a brand-new item—innovatively constructed from the best parts in the world and warranted for two years (parts and labor). And, oh yes, it is also (and for one last time) the most realistic-sounding, highest-fidelity source component I’ve ever heard, as well as one of the coolest-looking pieces of stereo gear I’ve ever seen. It will surely be my nominee for TAS’s Overall Product of the Year Award in 2022. You simply don’t come across something that is this sonically flawless, functionally innovative and ingenious, and aesthetically breathtaking every day. In fact, I haven’t come across anything like it in nearly sixty years of looking. That should tell you something.

I’m going to finish by saying something I probably shouldn’t say (and have never said in TAS before), but...if you’ve got the dough and the access to R2R tapes—and you aren’t wedded to the idea of owning a full-sized machine like the SuperDeck—then don’t even think about it: Just buy the T-RX. I did.”
IMPORTANT NOTES
The first thing you must always do before using your TRX, is check that the two Tensiometers are able to move freely. Then, simply check that the rollers are spinning freely. Any problems with the tape path will adversely affect the operation of the machine.
Please follow this diagram when threading the tape from the left to right reels. When turning on the TRX, the Reel Motor Brakes are not engaged so you can thread the tape. They will engage as soon as you press any of the front keyboard operations [PLAY/STOP etc].
PLEASE REFER TO THE VIDEO ON THE USB DRIVE THAT COMES WITH THE MACHINE TO GIVE YOU A QUICKSTART GUIDE.
The TRX is operated very simply from its 6 key keyboard. From left to right, the basic functions are:
REWIND, FAST FORWARD, STOP, PLAY, TEST and RECORD. [NOTE: There is a RECORD SAFETY switch to prevent accidental recording over your precious recordings.]
Once you switch the power on at the external power supply, a welcome screen will appear on the NORITAKE LCD display. After the screen has settled, you can engage the individual keypad functions.
PLEASE REFER TO THE VIDEO ON THE USB DRIVE THAT COMES WITH THE MACHINE TO GIVE YOU A QUICKSTART GUIDE.
There is no doubt that the absolute best “source” for reproduced music is analogue tape recorded on 10” reels at 15ips. The same analogue tape reel-to-reel recorders are also the absolute best way to record and capture music [concert recording].

This is a fact not open for discussion and is responsible for the incredible resurgence in interest in Open Reel Analogue Tape Recorders. The High End Audio industry has embraced and acknowledged this over the past 20 years.

Artist and Recording Engineer Kostas Metaxas has not only been aware of this since the mid 1980s, but in fact been using two portable heavily modified Swiss “Stellavox” portable tape recorders, manufactured in the mid 1980s to record over 300 concerts on analogue tape [www.metaxas.com/recordings.html]. He is probably the most prolific recording engineer using analogue tape of the past 20 years.

“When I purchased my Stellavox SM8 and TD9 in 1985, they cost ~ $50K - the price of a suburban house in Melbourne, Australia. The same house today is ~ $1million. “

Kostas’ work with Stellavox including some of his recordings on a DVD have been featured in a book on Stellavox by German writer Roland Schellin.

Fueled by this recent interest, Kostas has decided to produce an entirely new tape machine based heavily on the portable Stellavox SM8 recorder which has even received the blessing of Stellavox founder Georges Quellet.
Thank you for your kind interest in my work.

The TRX is a result of my almost 40 year fascination with the art of music reproduction from concert recording, electrical engineering and ultimately, artistic design to produce a recorder that allows you to capture music similar to the best recorders produced in the 1950-1970’s.

Each TRX is totally handcrafted by either myself or one of my sons.

I consider them all objects of art.
Kostas Metaxas is an articulate and forceful champion of audio without compromise. He is a connoisseur of fine music, a man for whom second best isn’t good enough. In September of 1981, Kostas formed the company which bears his name. Known all over the world today simply by its initials, M&S, Metaxas & Sins was founded for several reasons.

The most immediate of these was to begin producing, his first product, the CP-1 preamplifier in commercial quantities. Whilst studying in Heidelberg, West Germany having transferred from the University of Melbourne, Kostas showed several of his prototype amplifiers to an important German Hi Fi Dealer. He was sufficiently impressed with what he heard to give him a little capital in the form of deposits to reserve the finished products. Thus M&S was born. And the rest as the saying goes, is audiophile history.

Back in Australia, new designs flowed from Kostas’ workshop. The PP-1, a moving coil preamplifier appeared early in 1982. Reviewed by Klaus Renner in Das Ohr, the German audiophile publication, it was praised as the finest preamplifier available at the time. Accordingly, a flood of orders from the German audiophile who are known to purchase only the number 1 product in its class, firmly established M&S as a manufacturer of only the highest quality audio equipment.

In February 1988, the GERMAN ‘Stereoplay’ magazine rated the OPULENCE [Opus] PREAMPLIFIER its absolute reference against amplifiers from the US, Japan and Europe.

The OPUS preamplifier is a unique audio product. Apart from its outstanding musicality it combines the state-of-the-art in high-technology with an incredible array of options which would excite a Recording Engineer.

Kostas is also a familiar sight at local jazz and classical concerts with his prized Stellavox tape recorders in tow. Built with the exacting precision of a PATEK watch, these state-of-the-art models are indeed rarities and are normally the exclusive province of the professional recording studio. The recordings Kostas makes using Stellavox serve as reference for the design of future M&S systems.

M&S products embody not simply audio excellence but a stylistic design sense that would not be out of place in the Museum of Modern Art. M&S products are not meant to be hidden away like traditional sound systems. They are meant to be appreciated both stylistically as well as musically. Science approaches art for the sheer love of music and for that M&S make no apology.

Similarly, Kostas is unapologetic about the market he serves. He aims, quite simply, to provide the “finest objects money can buy.” And what sort of people are M & S customers? Generally they view audio as a well-deserved indulgence. But no matter what their occupation, their preoccupation is to know and appreciate the difference between better and best, to listen with their heart and ears and blissfully “get lost in the music”.

Each amplifier is entirely handmade by the Master and his sons [sins] in a similar manner to the meticulous assembly of historic Bugatti automobiles.

To put it mildly, Metaxas & Sins is unlike any other audio business.

“Flagwaving? Why Not?” wrote Ralph Neill reviewing the MAS PP1 in Australian Hi-Fi in the early eighties. “Australia II proved in a big way that Australian technology can take on the world and win. M&S is doing just the same – on a smaller scale, to be sure, but it’s doing it!”
IMPORTANT NOTES

There are no user serviceable parts inside the machine. It should therefore only be opened by qualified service personnel.

The TRX is configured in the factory for use with a single AC line voltage. Check the voltage rating on the separate power supply panel to ensure it is configured for the correct AC line voltage.

Applying the wrong AC line voltage increases the risk of fire and can cause permanent damage to the TRX.

North America: 120VAC
Europe: 230VAC
Japan: 100VAC

Other areas: Contact us to check for compatibility.

WARRANTY

The TRX is covered by a two year limited warranty on parts and labor from the day of delivery.
Excessive wear and tear is not covered.

All details and specifications included in the manual are subject to change without notice.
1. Left Reel
2. Right Reel
3. Left Reel Roller
4. Right Reel Roller
5. Left Tensiometer Assembly
6. Right Tensiometer Assembly
7. 4 pin external VU Meter/Hphones
8. Left Capstan Roller
9. Right Capstan Roller
10. Left Capstan Rubber
11. Right Capstan Rubber
12. Retractable Capstan Assembly
13. Left Capstan Motor
14. Right Capstan Motor
15. Erase Head
16. Record Head
17. Playback Head [Repro]
18. Noritake LCD Screen
19. Functions Keyboard
20. Record Input Level Pots
21. Playback Output Level Pots
22. Left VU Meter
23. Right VU Meter
24. 30/15/7.5 speed switch
25. REC safety switch
26. Spare Roller
18. Noritake LCD Screen
19. Functions Keyboard
20. Record Input Level Pots
21. Playback Output Level Pots
30. Left NAB Reel Hub Adapter
31. Right NAB Reel Hub Adapter
32. Left Reel Motor Cover
33. Right Reel Motor Cover
34. Left Capstan Motor Cover
35. Right Capstan Motor Cover
36. Carry Handle
37. Playback Electronics
38. Record Electronics
39. Computer Controller PCB
40. Relays/VU/Bias Oscillator PCB
41. Headblock 15pin connector
42. VU circuit
43. Oscillator Coil
44. Right Tensiometer Pot Assembly
45. Left Tensiometer Pot Assembly
The T-RX comes adjusted as “standard” for 15ips speed using 468 formulation tape. To adjust the EQ, you will require an MRL [or other] calibration tape with test tones from 32Hz to 20kHz. The procedure is very simple. You trim R1 for level gain at ~ 8-10kHz, R2 for best linear gain at ~250Hz. C1 is adjusted depending on the inductance of the Playback head.

For playback at 15ips [and 7.5ips], there is no need to adjust the EQ when using any other tape formulations. The only time you will need to make adjustments would be if you wanted to playback at 30ips. If you playback 30ips tapes on the machine, it will have too much HF energy. You will need to use an MRL calibration tape and adjust rotary trimmer pots R1 and R1a.
calibrating the playback equalization
1. R1 - REC Tape EQ adjustment 5K
2. R2 - Bias Frequency level adjustment 5K
3. C1 - REC Tape EQ adjustment
4. RG - gain

The T-RX comes adjusted as “standard” for 15ips speed using 468 formulation tape. Our experience with using other tapes [such as SM900 or SM911] is that you can also use them to record with little difference in EQ - but only at 15ips.
46. Bias Oscillator RELAY
This relay connects the GND to allow the oscillator to work only when TEST or REC is selected on the keyboard.

47. REC Relay
This relay shorts the REC output unless TEST or REC is selected on the keyboard.

48. VU selector Relay [REC or PB]
This relay switches between the Playback output and before EQ of the REC output amplifier. This allows you to monitor the record input or tape output.

49. Playback 9pin DIN connection
This connects the PLAYBACK HEAD to the playback electronics.

50. Record 9pin DIN connection
This connects the REC head to the record electronics.

51. Headblock [15pin Din] Connector

52. VU meter circuits [2 channels] These are calibrated for PEAK VU.

53. Bias Oscillator Circuit.

54. Right Actuonix Linear Motor Controller

55. Left Actuonix Linear Motor Controller.
calibrating the VU meters
calibrating bias voltage and frequency
Hubba-hubba nab hub adapter
external ac and battery power supply
The heart of the TRX is an ARM-CORTEX computer [similar to a mobile phone]. This takes full control of the 6 motors to control tape tension and ultimately the effortless passage of tape across the tape “heads”.
Adding the “firmware” to the controller.
The DUAL-CAPSTANS retractable bar is controlled by 2 Actuonix linear motors [from Canada]. These powerful and precise motors position the rubber CAPSTAN rollers carefully on the Capstan Motor Shaft to ensure absolutely perfect “NO WOW” speed in the TRX.
keyboard switches
The rotating motors used in the TRX in the very critical REEL and CAPSTAN operation are all “NASA” standard Swiss Maxon [4 motors, 2 reel and 2 capstan]. MAXON motors were selected as they are currently the most sophisticated motor/encoder/controller system that money can buy. They have developed their own “system” including software to tune and control the PID of their motors well beyond any of their competitors. Pictured below are some of their motors which have a built-in 1024 position digital encoder embedded into the motor. The separate controller modules - ESCON 36/2 and 50/5 provide ultra-precision control when used with our ARM-CORTEX controller. The biggest difference between recorders made in the 1960-1980s and today is the use of software-driven motors with controllers. Things like braking and speed accuracy to 0.001% are the reason the TRX is well ahead of any machine manufactured in the past.
It’s not enough to simply use the motor mounting holes to support the motors to the CNC chassis.

The TRX also has a proprietary “clamp” system to make sure the body of the motor is also well supported during the enormous torque forces generated when a reel is being rewinded or fast forwarded.
The ERASE, RECORD and PLAYBACK heads currently used in the TRX are PHOTOVOX [Italy] designed by Andrea Barbuto. These were also used by STELLAVOX in their Studio TD9 machine [when they weren’t using BOGEN for RECORD/PLAYBACK and WOELKE for ERASE - sadly, BOGEN and WOELKE are no longer in business as well]. These heads can also be easily changed to other heads [of similar size] quite easily - but you need to consult us as the inductance of the heads is critical for playback levels and equalization.
Butterfly or linear 1/4 inch tape heads
1/2 inch tape heads
At the time [early 1980s], the reference for most designers was a Linn Sondek or SOTA turntable...Harry Pearson of TAS had just discovered the Goldmund Studio - so I purchased one from Michel Reverchon in Paris, then a Goldmund Reference. My Swiss distributor at the time introduced me to Stellavox - and that was when I had my “Tape Epiphany”. When I purchased my Stellavox SM8 and TD9 ~ 1985, they cost ~ $50K - the price of a suburban house in Melbourne, Australia. The same house today is ~ $1 million.
**Gli ampli con la valigia**

SANDRO FUGGERI

I quanti da un’inassunibile barriera di filosofia di progetto, e caratterizzati da un grado di fabbricazione a da una distanza sensibile e uguali, i pre e finali Meraxx, con l’oro massimo buono di produzione, entrano insensibilmente e in grandissima sui noti della high-end.

*The 1980s*
“The original goal of the TRX was to exceed my current references which include Stellavox machines from the 70’s, 80’s and even a heavily modified SI8 transport in terms of record and playback sound quality.”
“The SI8 was the perfect transport to marry the actual TRX REC/Playback/Bias Oscillator electronics so I could compare directly the sound of my heavily modified Stellavox electronics to the modifications I already carried out to my other Stellavox machines.”
MY REFERENCES FROM 1985 - 2016
AMI48 mixer and Sma recorder - 1986
testing and machining - 1986
inductor coils
One of the lost “arts” in tape recorder production is the winding of coils [bias traps, bias oscillator] and transformers. Luckily, we can do this in-house.
bias traps
Another lost “arts” is the use of springs...the heart of a R2R tape path is the “suspension” provided by the springs. Absolutely critical and totally misunderstood.
The “LOCATION” part of Location Recorder means that it will need to travel. So a sensible flight case is necessary.
Swiss millgous steel rollers and other parts
over 500 concerts recorded, more than 200 on analog tape
With over 35 years of concert recording experience we have learnt a few things about “recording”.

Reference Recordings [with videos]:
http://metaxas.com/recordings.html

Seminal recordings [downloadable wavs]
http://metaxas.com/concerts.html

Munich Hi End in 2012 about recording concerts:
https://vimeo.com/144719554
some highlights

nigel kennedy

charles dutoit, jean yves thibaudet

takacs
some highlights

melbourne chamber orchestra

konstantin lifschitz
some highlights

k.d. lang

il giardino armonico

paul lewis
some highlights

royal melbourne philharmonic orchestra and choir
some highlights

streetcar named desire

orchestra victoria
Audio Recording and Playback
Nominal recording level: 0dB @ 514nWb/m
Maximal peak rec level +4dBm
Erase efficiency at 1 kHz >65dB
Recording / Playback: 38cm/s [15ips]
Frequency response [+/- 2dB] 30Hz -20,000 Hz
Distortion 1 kHz 514 nWb /m: <2%
Crosstalk: > 55 dB
Signal to noise ratio: 38cm/s ASA flter 514nWb/m: -67db
Wow & Flutter: <0.25%

INPUTS/OUTPUTS
Line level inputs 10K input impedance,
Outputs: Line level 560 Ohms output impedance

As we are constantly striving to improve the sound quality of the T-RX, these specifications are subject to change without notice.