

## **T-122/D3W**

The Daniel Technology model **T-122/D3W** is a specially adapted cassette recorder designed for audio enhancement laboratory use. It has wide range playback capabilities which allow the user to select a fixed speed at half, double, or standard cassette speed of 4.8 cm/sec. Variable speed playback can be selected instantly covering the entire range of -70% to +120% in one continuous sweep. By using a custom made reverse logarithmic taper control, the center position is standard speed and adjustment is very even and precise over the entire range. This is essential when recovering a tape which was recorded on a defective recorder which had rapid or widely varying speed.

In record mode the **T-122/D3W** is automatically locked at precisely the standard speed so that it is impossible to accidentally make an off-speed recording.

This product is manufactured and distributed exclusively by Daniel Technology, Inc.

## PRODUCT OVERVIEW

When only the best will do, call on TASCAM's 122mkIII. The 122mkIII is the de-facto standard for cassette mastering and playback in studios, broadcast, and live applications, and with good reason. Few products receive this much attention to detail during every aspect of the production. The advanced direct drive motor, Cobalt Amorphous heads, built in test tones and front panel bias and gear/clutch coupled record level controls combine to make the 122mkIII the industry standard recorder that professionals depend on.



- Three Head Design
- Cobalt Amorphous Record and Play Heads
- Advanced FG Servo Direct Drive Capstan Motor
- Gear/Clutch Coupled Input Level Controls
- Dolby B and C with HX Pro Headroom Extension
- $\pm 12\%$  Pitch Control with Clear On/Off Switch
- Two Locate Points and Return To Zero Functions
- Headphone Output with Level Control
- Balanced XLR and Unbalanced RCA Analog I/O
- Precision VU Meters with Peak LEDs
- Auto-Input Monitor Selector
- Front Panel Line Inputs
- Convenient Front Panel BIAS Calibration Controls
- Built-in Tone Oscillators
- Parallel Control Port
- Fader Start Function
- MPX Filter
- Optional RC-134 Remote Control

## APPLICATIONS

The 122mkIII is designed to offer convenience and reliability to those who need it all when working in demanding environments. If your facility has a need for high quality recording to cassette, there is nothing better than the 122mkIII.

### Recording Studio Mixdown Deck

Cassettes produced on the 122mkIII will absolutely be reference quality. The advanced FG servo direct drive capstan motor provides very stable recordings, with almost no wow and flutter effects. The three head design allows the user to listen to the recording from tape. You won't have to listen to the tape in another pass to make sure the tape didn't oversaturate. The built in tone generators and front panel bias controls make adjusting the machine to suit the specific tape a breeze.

### Live Theater

Sound quality is important, but in live productions, there is no take two. Everything has to work right the first time. TASCAM's legendary reputation didn't develop overnight; it was the result of consistent delivery of robust products that never let the user down.

### Broadcast Applications - Radio Studios

Let's face it, we aren't always polite when we press PLAY. Radio stations work 24 hours a day. Three seconds of dead air can cost you a substantial listener base, with ten seconds losing almost all of it. The 122mkIII is designed to withstand the beating given by engineers under pressure. Solid controls with status LEDs offer immediate intuitive readout of exactly what is going on. Plus, the parallel in control enables the user to directly interface the 122mkIII with broadcast consoles for event starts or "recording" warning lights outside the studio.

## SPECIFICATIONS

### Performance Specifications:

Track System:	4 track, 2 channel stereo
Heads:	(1) Erase, (1) Record, (1) Reproduce
Type of Tape:	Cassette C-60, C-90
Tape Speed:	1 7/8 ips, 4.76 cm/sec
Pitch Control:	Approx $\pm 12\%$
Motors:	1 FG DC servo direct-drive capstan motor 1 DC reel motor 1 DC ancillary motor
Frequency Response:	25Hz-20kHz $\pm 3\text{dB}$ Metal 25Hz-19kHz $\pm 3\text{dB}$ CrO2 25Hz-17kHz $\pm 3\text{dB}$ Normal
Total Harmonic Distortion:	<1% (1kHz, 160nWb/m)
Signal to Noise Ratio:	>80dB Dolby C, 1kHz, 3% THD wtd >70dB Dolby B, 5kHz, 3% THD wtd >60dB Dolby off
Wow and Flutter:	<0.04% (W RMS) $\pm 0.065$ peak (DIN/IEC/ANSI wtd)
Bias/Erase Frequency:	150kHz
Input RCA & 1/4":	-10dBu, 20kOhm
Input XLR:	+4dBu, 600 Ohm, balanced
Line Output RCA:	-10dBu, 100 Ohm
Line Output XLR:	+4dBu, 600 Ohm, balanced
Headphone Output:	100mW + 100mW, 8 Ohm

### General Specifications:

Power Requirements:	120V AC, 60Hz (US/Canada Model) 230V AC, 50Hz (Europe Model) 240V AC, 50Hz (Australia Model)
Power Consumption:	23W
Dimensions:	482 x 132 x 356 mm 19" x 5 1/4" x 14"
Weight:	8.4Kg, 18.5 lbs.
Optional Accessories:	Wired Remote (RC-134)

## PRODUCT HISTORY

The 122mkIII has long been revered as the standard for cassette mastering, with few changes made to the original product design.

The original 122 cassette deck was introduced in 1980. The 122 was TASCAM's first professional, rack mounted, 3 head cassette deck with 2 speeds (1 7/8 and 3 3/4). A year after the product was first introduced, NBC standardized their entire operation using the TASCAM 122. The reason NBC made the change was because the 122 had all the capabilities for adjustments, and spectacular performance characteristics. Aided by NBC's practical endorsement of the TASCAM 122, ABC and CBS followed, and before long the 122 became the industry standard.

In 1987 the 122MKII continued TASCAM's leadership in the professional cassette market. The new features included Dolby HX PRO, the ability to find locate points, a zero return function, and pitch control.

The 122mkIII was introduced in 1993 incorporating a new and improved transport assembly utilizing the Hysteresis Tension Servo Control System, further improving the reliability and stability of the legendary 122 heritage.

## THE 122mkIII ADVANTAGE

Not all cassette decks are created equal. While most cassette decks offer Dolby Noise Reduction of some sort, here are some features you won't find on most run-of-the-mill cassette decks:

**Balanced, Unbalanced, and Front Panel Line Connectors** - Integrate into any studio, anytime. The rear panel I/O accepts both balanced and unbalanced signals, and a front panel Line In provides simple patching of ancillary gear for reference copies, submixes, or spontaneous dubs.

**2 Locate Points and Return To Zero** - Locate points can be used for comparing multiple mixes in quick sequential order, or for marking cues. Return To Zero is always handy when recording multiple passes.

**Dolby HX Pro** - HX Pro algorithms help maintain true printing of high frequency content. HX Pro recordings do not require any decoding on playback, so the user can freely apply this system to their recordings.

**MPX Filter** - When recording from FM broadcast, Dolby Noise Reduction can sometimes be compromised by information around the pilot tone at 19kHz, or the sub carrier note at 38kHz. The MPX Filter removes these troublesome frequencies.

**Oscillators, Front Panel Bias & Recording Level Controls** - Each brand of tape responds to recordings differently. Adjusting the bias controls on the recorder can help compensate for this. The 122mkIII's three head design allows for real time monitoring of the test tones as they are adjusted. For additional convenience, the test tone oscillators are built right in, so there's no extra test equipment to track down. Front panel bias and recording level controls make biasing the 122mkIII effortless. Proper bias settings will result in more reliable sonic characteristics in most situations.

## ARCHITECT'S SPECIFICATIONS

The cassette player/recorder shall utilize a three head cassette mechanism, using separate heads for erase, record, and reproduce. The transport shall be a direct drive mechanism and employ the Hysteresis Tension Servo Control System for increased stability.

Inputs and outputs shall be provided on unbalanced RCA and balanced XLR plugs on the rear panel. An additional pair of 1/4" inputs shall be located on the front panel. Levels shall be displayed on large VU meters with peak LEDs for accurate display of levels. The input level shall be controlled by large gear/clutched controls on the front panel. Stereo output level shall also be provided on the front panel for convenience. Headphone output with level control shall be provided on the front panel.

Monitor selection switch shall be provided on the front panel for selection between input monitor mode and automatic monitor mode. Dolby™ B and C noise reduction shall be implemented and switched from the front panel. An MPX filter shall be switchable from the front panel.

A pitch control will provide approximately  $\pm 12\%$  range of pitch control, with a dedicated on/off control.

Individual bias and level fine tune controls shall be accessible on the front panel, as well as 400Hz and 10kHz oscillators for convenient biasing of the machine.

The cassette deck shall have dedicated buttons to access the RTZ function (Return to Zero) and two locate points. An additional separate button shall trigger the repeat function which will loop between locate 1 and locate 2.

A digital counter shall be used to display precise tape location with a readout displaying minutes and seconds.

A parallel control shall be provided which can be used for remote control and tallies, and it shall be compatible with the TASCAM RC-134 remote control.

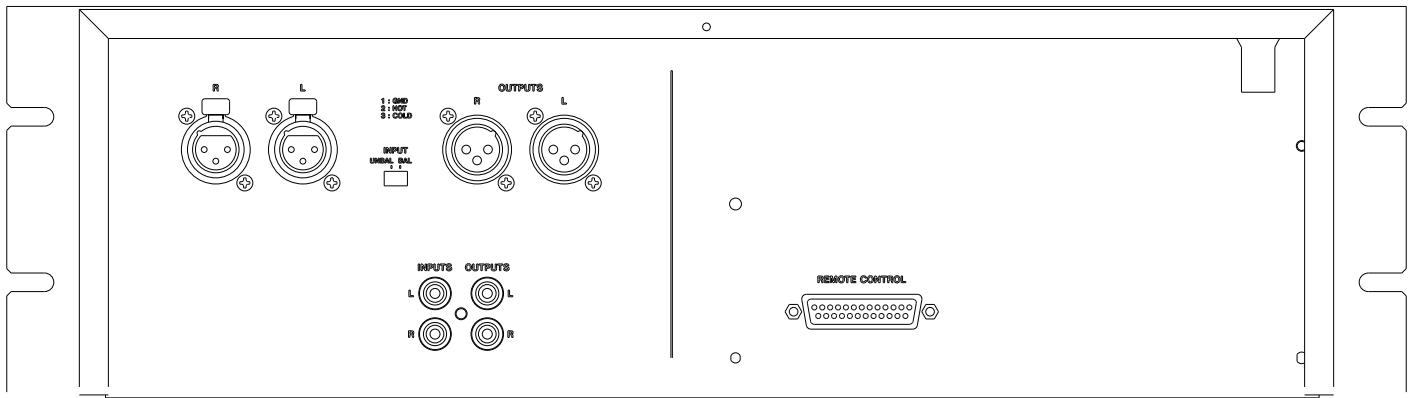
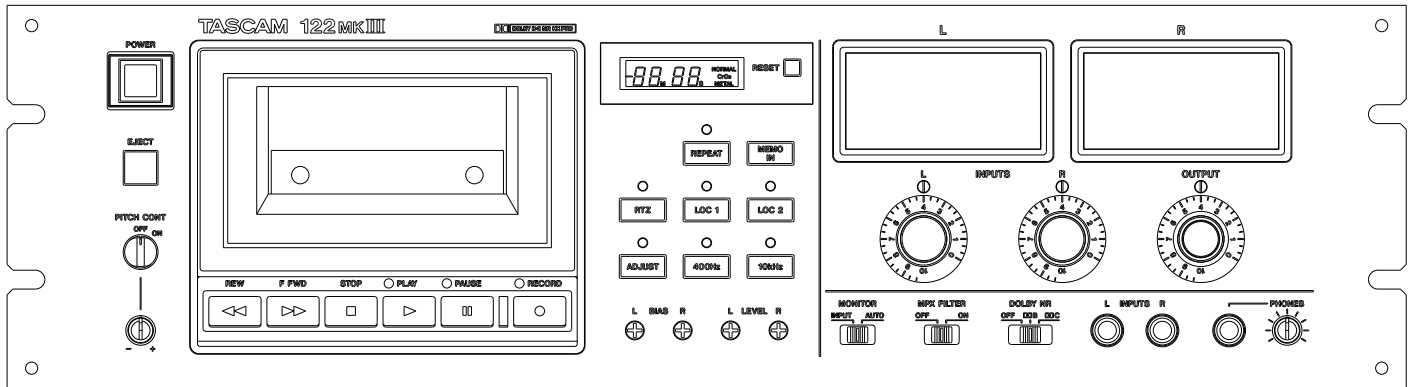
The cassette deck shall mount in a standard 19" rack mount form, taking three rack spaces. The cassette mechanism shall have dimensions of 19" x 5 1/4" x 14" (W x H x D).

*Metric measurements : 482 x 132 x 356mm (W x H x D).*

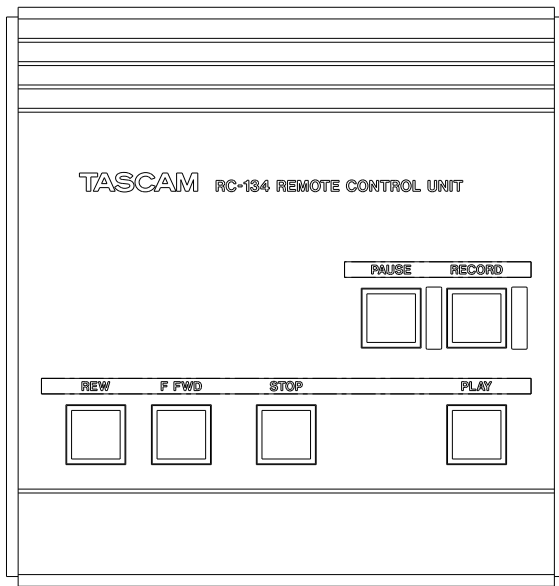
**The unit shall be a TASCAM 122mkIII cassette deck.**

*NOTE: This text is available in a standard text file on TASCAM's Sound Contractor CD-ROM. Contact TASCAM for details.*

### FRONT AND BACK PANEL



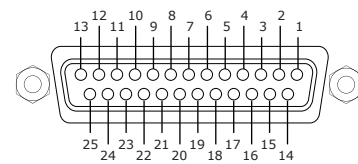
### OPTIONAL REMOTE (RC-134)



### PARALLEL I/O

Pin	Signal
1	PLAY In
2	FFWD In
3	REW In
4	PAUSE In
5	STOP In
6	REC In
7	NOT USED
8	NOT USED
9	TAPE DIRECTION Tally
10	NOT USED
11	PLAY Tally
12	FF Tally
13	REW Tally
14	PAUSE Tally
15	STOP Tally
16	REC Tally
17	NOT USED
18	NOT USED
19	REEL PULSE
20	NOT USED
21	RTZ In
22	FADER START In
23	NOT USED
24	GROUND
25	+5V (Max 50mA)

### Control I/O Legend



### Parallel Control Notes:

All command controls are labeled as "in" on the chart at left. The commands are active when brought to ground for more than 50 milliseconds or longer.

FADER START pin (22) operates as a latched function. Playback begins when the pin is brought to ground for more than 50 msec, and stops when the ground is released for more than 50 msec.

Tally outputs indicates the corresponding transport function when the pin is brought to ground.