



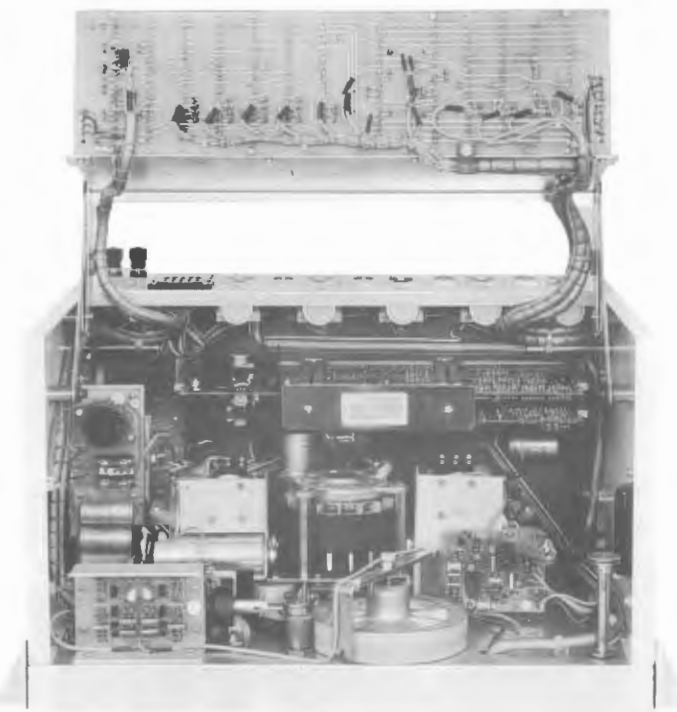
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EMT 803

Four track logging tape recorder for 1/4" tape



**for documentation of communications with tape speeds
of 2.38 or 1.19 cm/s (15/16 or 15/32 ips)**



Four Track, 24 Hour Recorder for Communications Logging

The continuous recording of telecommunication transmissions is increasingly becoming more and more important as documentation for authoritative evidence-after-the-fact and for judicial proceedings. This type of documentation is collected from the recording of radio programs, telephone conversations, radio-relay links and similar important channels for communications. Some applications for 24 hour recorders are: documentation of transmissions from radio & TV stations, Air Traffic Control at airports, emergency call traffic for police and fire departments, mobile hospitals, cardiac-assist units on wheels, and for recording the radio traffic of ships at sea.

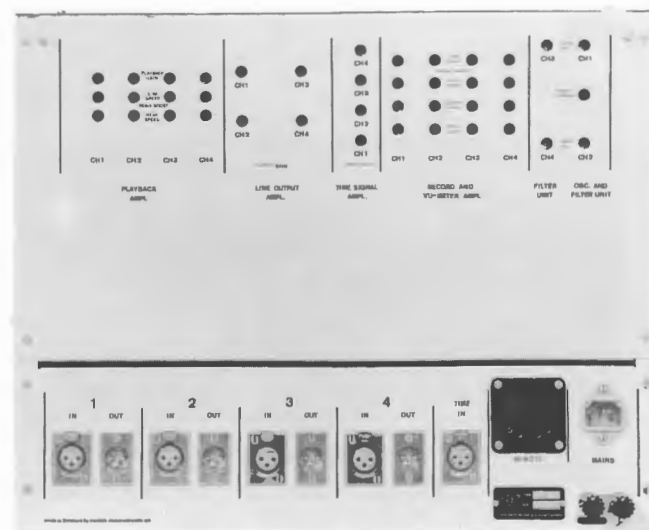
This essential traffic levies special requirements on the recorder, such as:

- Recording time of 24 hours on one spool of tape.
- High reliability.
- Easy fast access to any part of the recorded material.

The new extra Long Time Recorder EMT 803 fulfills not only the preceding requirements but also offers some additional interesting technical features especially when taking into account the extremely slow tape speed of 15/32 ips (1.2 cm/s). The recorder may be operated by remote control, completely and the switched condition at any time of operation can be indicated over remote lines. Four programs plus a time signal can be recorded on the EMT 803, and this is done for 24 hours on an 7" (18 cm) spool with 3600 feet (1080 m) of tape.

Special Advantages

- High stability and reliability in operation due to modular element type of construction and transistorized electronics on plug-in cards.
- All operating functions controlled by micro switch push buttons.
- Remote control by means of low voltage wiring for all functions of tape transport.
- Possibility of remote indicators prewarning 20 ft. (7 m) before the end of tape, and alarm signal if tape splice opened or if tape comes to the end.
- Assurance against errors, foolproof operating logic.
- Additional time signal recording input; cue or time signal can be mixed into any track.
- Monitoring capability during fast wind.
- May be mounted in console or 19" rack.
- Built-in level indicator.
- Easy access to all components because of hinged front panel from swing-out amplifier magazine.
- Smoothly applied braking force due to constant torque coupling. Over 250,000 braking cycles without brake wear or adjustment. Also no stretch caused by tape tension peaks, even with triple play tape.



Operation

1 Switching ON

Either of the LOW or HIGH push buttons at the left side of the lower operating control panel are used to switch ON the EMT 803 RECORDER. Simultaneously the corresponding speed is selected: LOW = 1.19 cm/s (15/32 ips); HIGH = 2.38 cm/s (15/16 ips).

2 Remote Control

The RECORDER can be remotely controlled. When the push button REM is depressed, the remote control facility is activated. At the same time, this condition is indicated by means of the red indicator illuminating.

3 Manual Control

If the front panel push buttons are to be used, then the push button MAN should be depressed; thus preventing simultaneous operation both through the RECORDER push buttons and the remote control.

4 PLAY

The EMT 803 operates in the playback mode with the selected tape speed. If the push buttons REC and PLAY are depressed simultaneously, then the EMT 803 operates in the record mode. The push button PLAY can be depressed even during fast wind. First, the EMT 803 stops and then immediately goes into the function PLAY.

5 STOP

The transport mechanism is stopped.

6 WIND

The RECORDER operates in the mode "fast forward run". About 7 m (24 feet) before the end of the tape, corresponding to approx. 10 minutes playing time, the tape spooling speed is automatically and greatly reduced; thereby preventing tape damage caused by the tape-end coming off the spool at high speed. A transparent window present in the tape assures a perfect halt without overshooting the end. If, in this end-of-tape-mode, the push button WIND is depressed, then this stopping function is inhibited, and the tape is accelerated again to its winding speed.

7 REW

This push button enables the function "fast rewind" to be activated. Also in this function, the preceding description of slowing the tape speed is accordingly valid.

8 EDIT

When this push button is depressed during the fast wind, the speed is reduced as described previously under WIND. In fact, the speed reduction is maintained as long as the push button EDIT is depressed. Simultaneously the playback amplifier is activated in the off-tape head position.

9 Checking

The playback output of the EMT 803 is applied to the input when the push button DIRECT is depressed; and when push button TAPE is depressed, the playback output is applied to the output of the playback amplifier. Thereby, a before and after check of the recording is possible.

10 Automatic

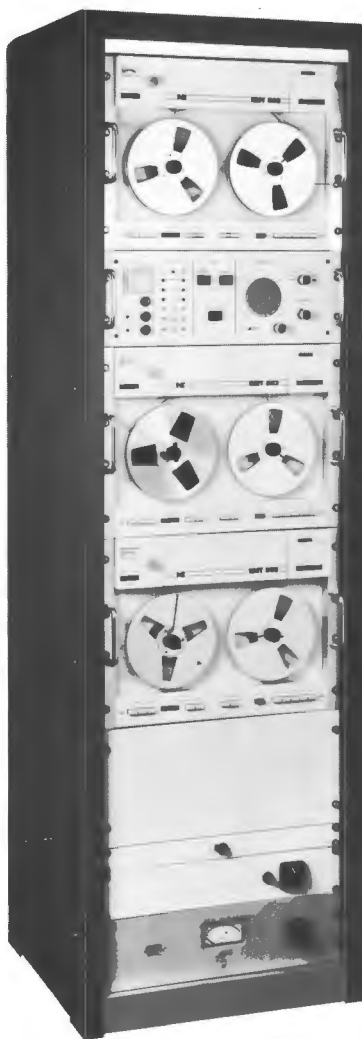
By means of connecting a pair of pins together in the remote control plug, a special automatic operation can be programmed. Transparent windows must be present at the beginning and end of the tape. Due to being released by means of the transparent window at the end of the tape, or else after the rewind button is depressed, the following automatic sequence takes place:

1. fast rewind
2. slowing rewind speed
3. slow respooling up to the transparent window
4. short pause
5. playback up to the end position of transparent window
6. halt at exact starting position

This automatic facility permits for example an uninterrupted recording of 48 hours duration without need for changing tapes. Thus, at least the events of the last 24 hours are always available for verification at any time after being recorded.

Time Signal

A spoken or pulse-coded time signal can be recorded as selected onto one or more tracks. Level adjustments of the time signal are made with four fine-adjust potentiometers each of which correlates with one of the four tracks.



NE 2100 Control and Monitor Facility

The NE 2100 Control and Monitor Facility enables two EMT 803 Four-Track Logging Tape Recorders to be coupled and controlled for continuous or intermittent operation.

A built-in amplifier/loudspeaker combination permits both simultaneous and playback monitoring of the recorded signal.

Control monitor functions are provided not only for the running mechanism but of all audio channels as well. A subsonic pilot tone is added to the recorded information; should it not be detected, the Control and Monitor Facility will issue a fault signal that can trigger an internal lamp, buzzer, or bell. External alarm devices may be connected to the unit. At the same time, a second or, if available, a third Logging Tape Recorder is started.

The photograph illustrates the use of three EMT 803 Four-Track Logging Tape Recorders combined with an NE 2100 Control and Monitor Facility (second unit from the top).

Technical Data

Tape Speeds:	2.38 and 1.19 cm/s (15/16 and 15/32 ips)		Outputs:	balanced, floating and impedance 30 Ω
Flutter:	$\leq \pm 0.5\%$ at 2.4 cm/s $\leq \pm 0.5\%$ at 1.2 cm/s	Weighted measurement with EMT 424 Flutter Analyzer	Output level:	0,5 V to 2 V (adjustable) across $Z_{out} = 200 \Omega$ or 2 V to 6 V across $Z_{out} \geq 600 \Omega$
Variation with frequency: (via prerecorded tape)	$\leq +0, -4$ dB from 300 Hz to 3 kHz } at 2.4 cm/s (15/16 ips) $\leq +0, -6$ dB from 100 Hz to 4.5 kHz } $\leq +0, -4$ dB from 300 Hz to 1.6 kHz } at 1.2 cm/s (15/32 ips) $\leq +0, -6$ dB from 100 Hz to 2.2 kHz }			Time signal input:
Signal-to-noise ratio (weighted noise):	≥ 34 dB at 2.4 cm/s } ≥ 34 dB at 1.2 cm/s }	peak weighting with 5% third harmonic distortion	Tape reels:	EIA standard reels, 7" dia., 3 600 feet (1 080 m) triple play tape
Signal-to-noise ratio (unweighted noise):	≥ 40 dB at 2.4 cm/s } ≥ 40 dB at 1.2 cm/s }	rms linearly scaled with 5% third harmonic distortion	Maximum playing time:	≥ 24 hours (triple play tape)
Channel separation:	≥ 26 dB (measured at 1 kHz)		Respooling time	approx. 140 s for 3 600 feet triple play tape
Third harmonic distortion (k3 at 333 Hz):	$\leq 5\%$ (BASF triple play tape; type LH)		Tracks	4 - each, 1 mm track width
Inputs:	balanced, floating and impedance 10 k Ω		Start time	0.2 s (1 s to attain stated values)
Input level:	0,5 V to 5 V (adjustable)		Stop time:	≤ 2 sec from fastest respooling
			Tape tension peaks:	≤ 500 p
			Power requirements:	110/130/220/240 V $\pm 10\%$, 50 Hz; 90 VA
			Dimensions and weight:	483 x 354 x 276 mm (19" x 14" x 11") 27 kg (60 lbs)

Subject to change without notice



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