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MODEL VSK-88 VARIABLE SPEED KIT

1. GENERAL DESCRIPTION

The VSK-88 Kit is designed to provide variable tape speed control of the TEAC Tascam Series 80-8 recorder.

The VSK-88 Kit is composed of the DC Capstan Motor Assembly and the VS-88 Variable Speed Control Unit.

2. SPECIFICATIONS

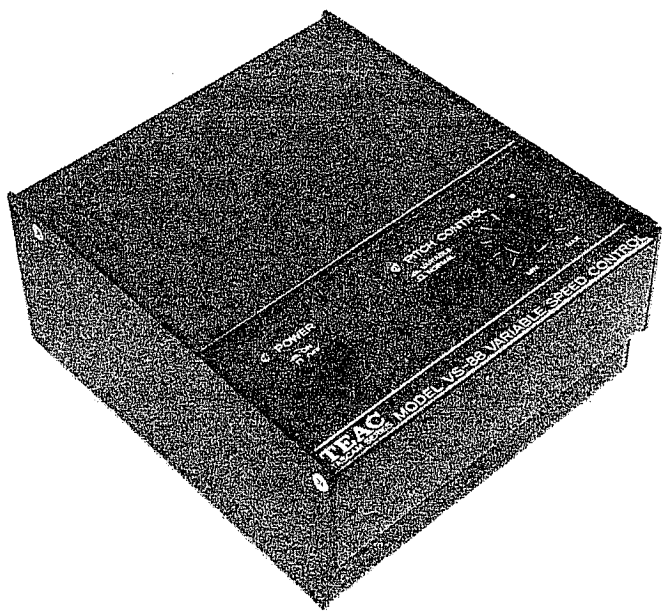
The values in the following specifications apply when the VSK-88 is combined with the Model 80-8.

All specifications for the 80-8 remain unchanged except those listed below.

PITCH CONTROL (Tape speed)	NORMAL ---------- 15 ips
	VARIABLE ---------- 15 ips ±20%
Speed accuracy	±0.7%
Power requirement (VSK-88)	117V (100V, 220 ∿ 240V), 50/60Hz, 12W

3. CONTENT OF KIT

3.1	DC Capstan Motor Assembly	1 unit
3.2	VS-88 Variable Speed Control Unit	1 "
3.3	Cable assembly (control unit to 80-8)	1 pc.
3.4	Cover Plate and Rubber Bushing	1 pc/each



VS-88 Variable Speed Control Unit

4. INSTALLING AND ADJUSTING THE VSK-88

4.1 Installing the capstan motor

1) The capstan motor of the Model 80-8 must be replaced with the DC motor included in the VSK-88 Kit.

   Unplug the Model 80-8 power plug from the AC outlet to be sure there is no AC power coming to the Model 80-8.

2) Take off the top-to-rear cover (6), Fig. 1, on the Model 80-8 by removing the 8 screws securing it. The Power Unit (4) is then swung down by removing the four screws (BM4X8). If there is difficulty in swinging down the Unit, first remove both side boards (8) by unscrewing the four screws (BM4X20 Black Ni) on each side, then loosening the screws (BM4X12) on both sides which serve as pivots of the hinges.

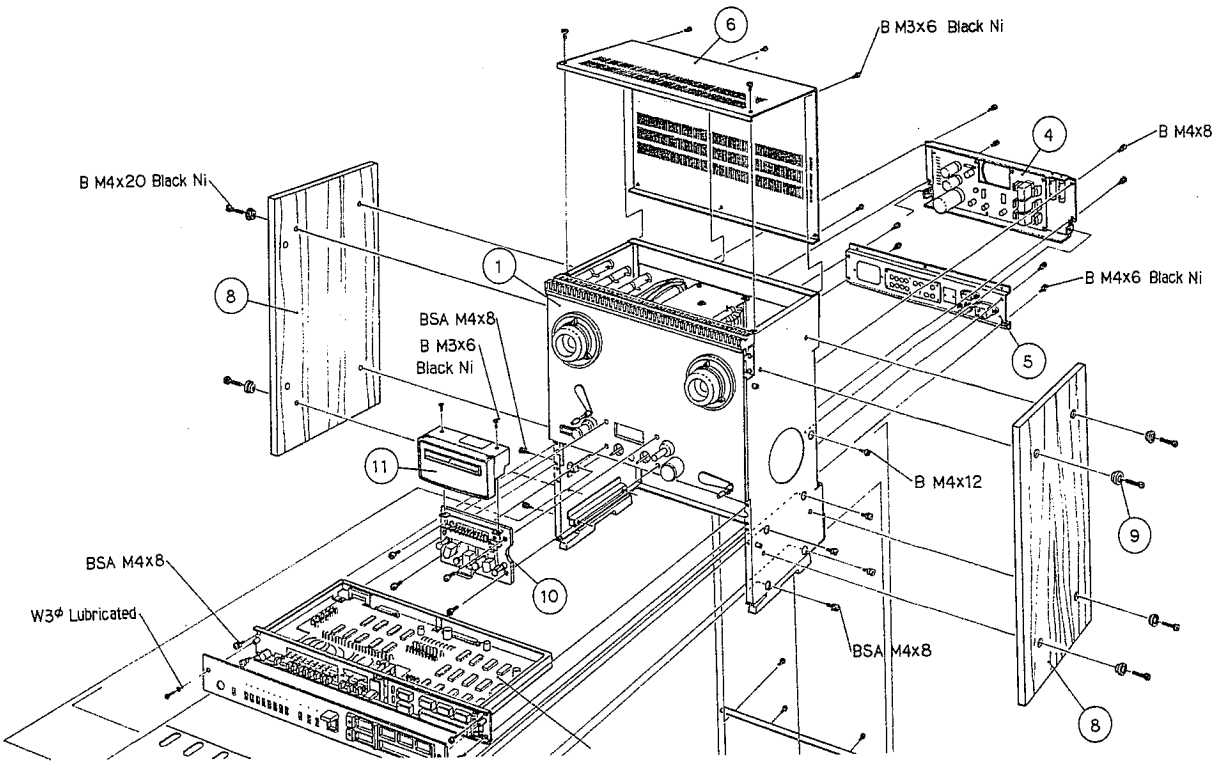


Figure 1

3) Cut off the lead wires (wht/grey, wht/blk) of the 80-8 capstan motor close to the terminals of the MP capacitor (Fig. 2), located near the capstan motor, and provide the wire ends with vinyl tubes and heat shrinkable tubing included in the Kit so that they will not touch the surrounding metal parts, then tie them to a wire harness nearby.

4) Take out the capstan motor assembly by removing the three screws (Fig. 2) securing it.

5) Install the VSK-88 DC Capstan Motor Assembly in the same location as the original motor. In doing so, hook the motor belt onto the motor pulley before screwing down tight to allow ease when installing the belt.

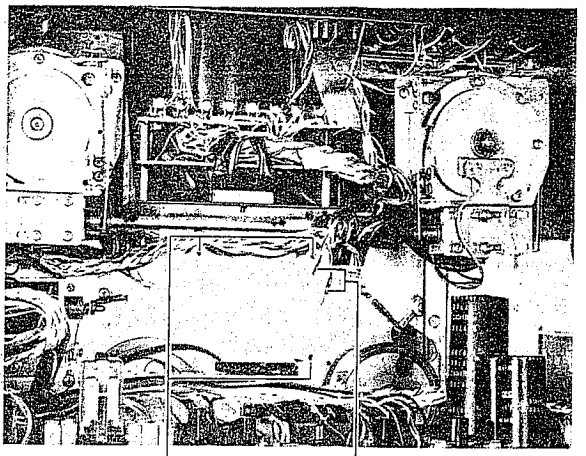


Figure 2

6) Remove the cover plate of the dbx connector hole located on the right of the rear panel, route the cable from the VSK-88 speed control box through this hole and plug the white connector to P1 (Fig. 3) on the PCB of the Capstan Motor Assembly. Then, clamp the cable to the right-hand brake solenoid mounting hole, looking at the 80-8 from the rear, with the cable clamp included in the Kit, in order to secure the cable.
7) Route the capstan motor cable through the hole of the cover plate included in the Kit, for covering the dbx connector hole, install the rubber bushing in the slot of the cover plate, then screw the cover plate onto the 80-8 rear panel.

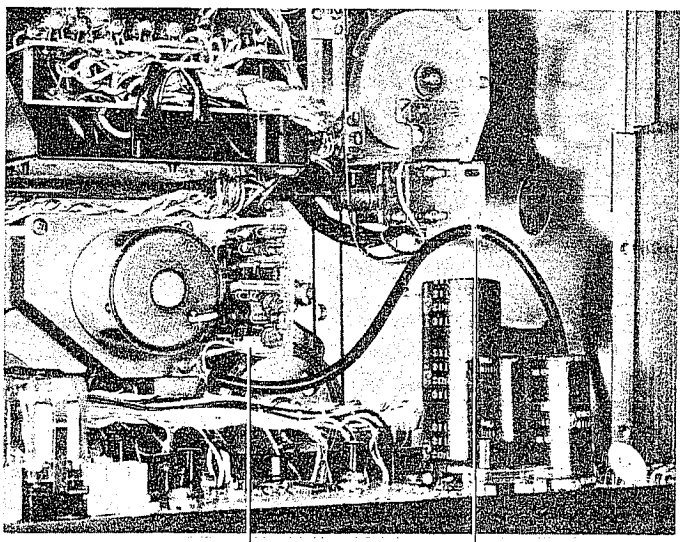


Figure 3

For installation into the 80-8 already equipped with the dbx unit, the connector on the 80-8 side of the remote cable from the DX-8 is temporarily unsoldered, and the plate in use is replaced with the double slotted plate included in the VSK-88 Kit, the capstan motor cable secured to this plate with the rubber bushing and re-mounted onto the rear panel of the 80-8 (Fig. 4).

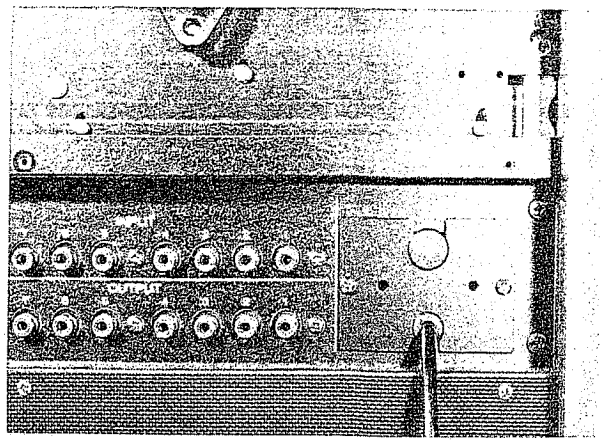


Figure 4

4.2 Adjusting

A digital frequency counter is required for tape speed adjustment.

1) Connect the power plug from the VSK-88 control box to an AC outlet and switch on POWER (the POWER LED will be lighted). Be sure the capstan motor starts rotating and let it run for about 30 minutes.
2) Connect the 80-8 power plug to an AC outlet and switch on the 80-8 POWER.
3) Reproduce a wow & flutter tape (3,150Hz or 3,000Hz) with the digital frequency counter plugged into the 80-8 OUTPUT jack (any channel will do).
4) Set the control box selector button to NORMAL, and adjust the pot marked NORM (R25) on the capstan motor assembly PCB so that the frequency will be between 3,155Hz and 3,160Hz for the 3,150Hz tape; and 3,005Hz and 3,010Hz for a 3,000Hz tape when the beginning of the tape (Wow & Flutter test tape) is reproduced.
5) Set pointer of the control box panel PITCH CONTROL knob at center of scale and with the selector button at VARIABLE (PITCH CONTROL LED will be lighted), adjust the pot marked VARI (R26) so that the frequency will be the same as indicated in above Item 4).
6) After adjusting the VARI pot (R26), sweep the PITCH CONTROL knob from min. through max. and check the reproduced frequency to see that the range of variation is more than ±20%.
7) This completes all adjustments. Close the power unit panel of the 80-8 as before and reinstall the top-to-rear cover with the eight screws.

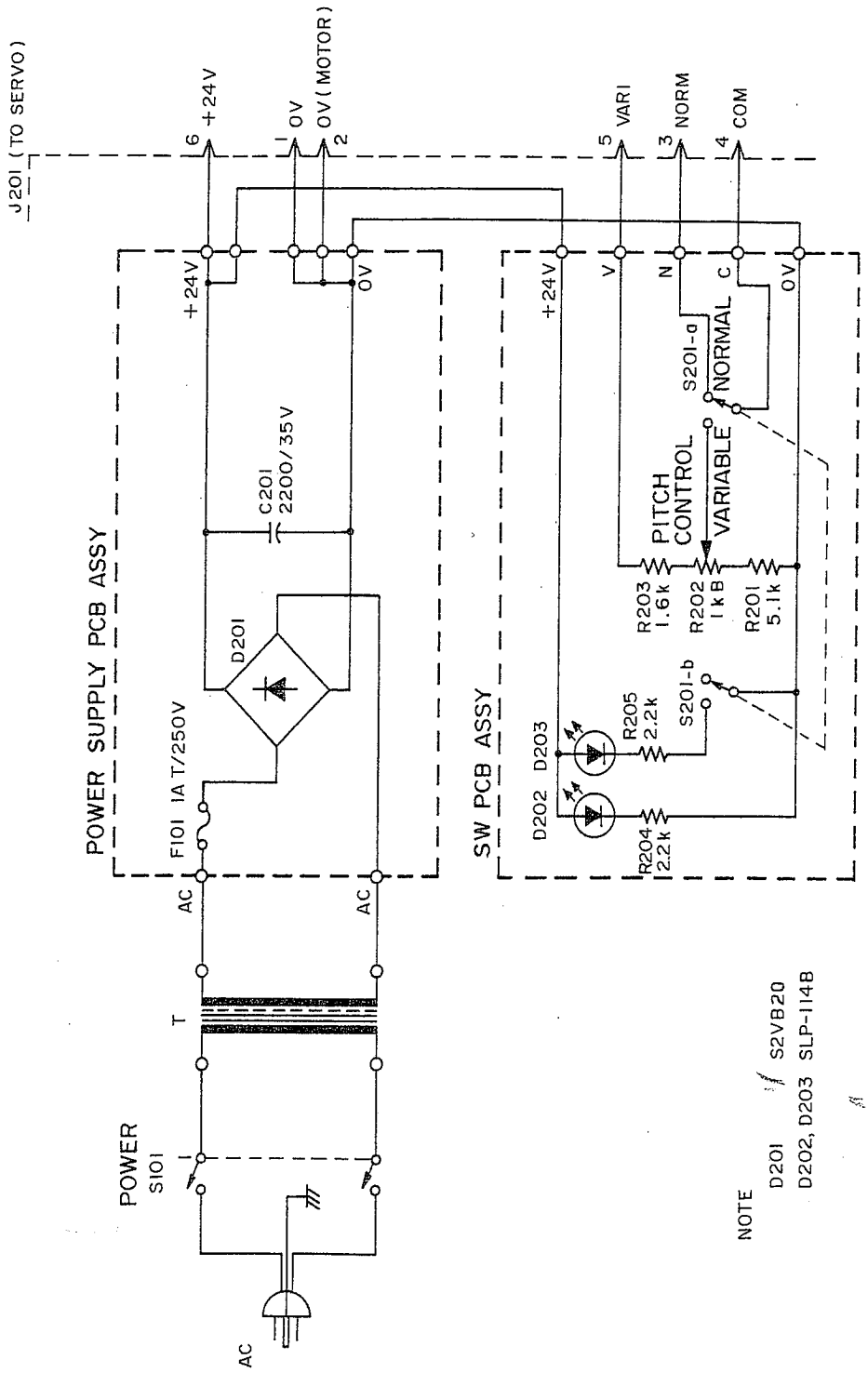
IMPORTANT

When using the dbx system, please note that optimum dbx performance cannot be expected if the tape speed between "record" and "playback" is not the same.

5. ELECTRONICS SCHEMATICS

5.1 Model VS-88 Variable Speed Control Unit

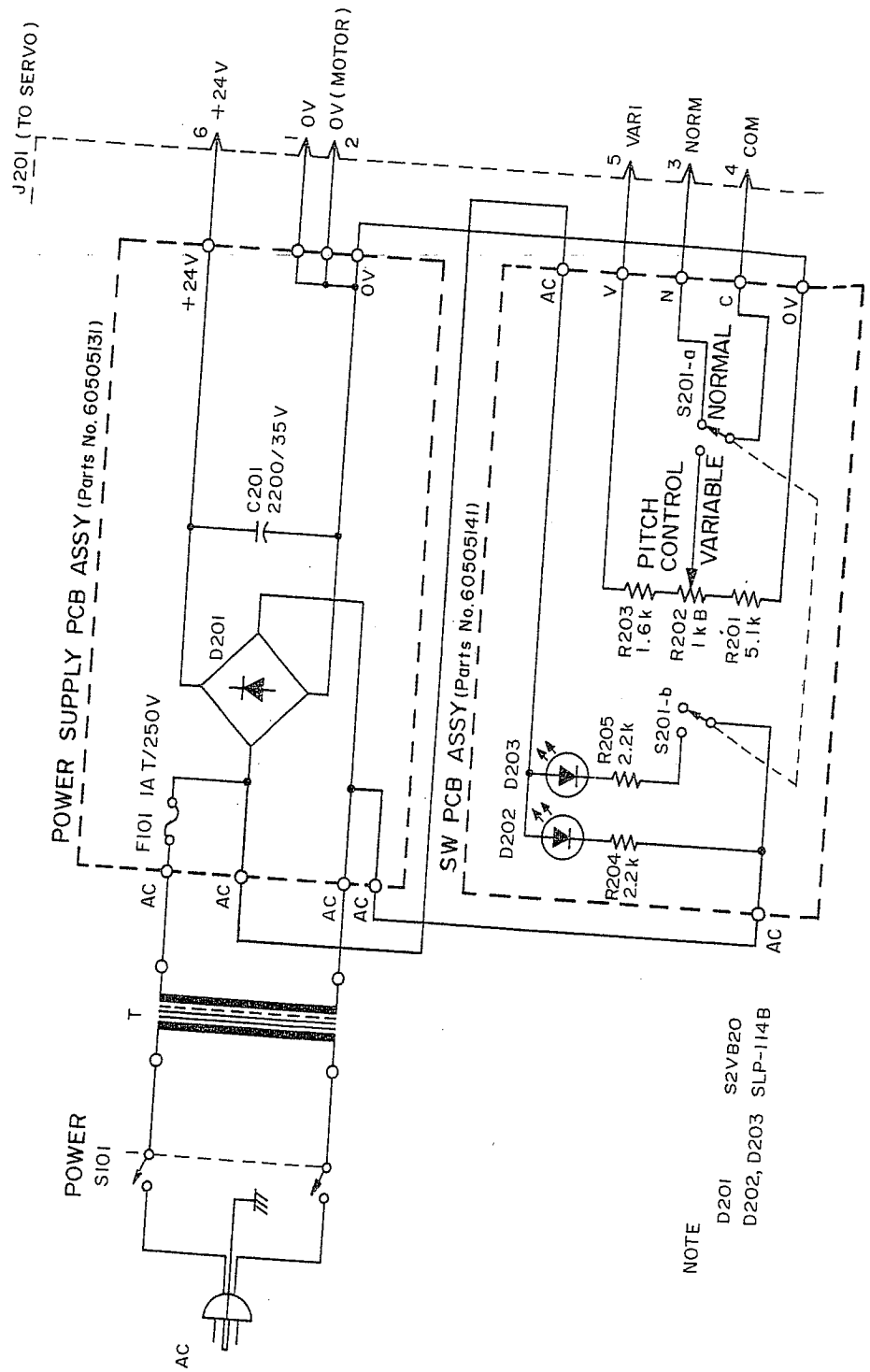
NOTE: This schematic applies to units with serial #01001 thru #01150.



SCHEMATIC
Model VS-88
Variable Speed
Control Unit
REV. _____

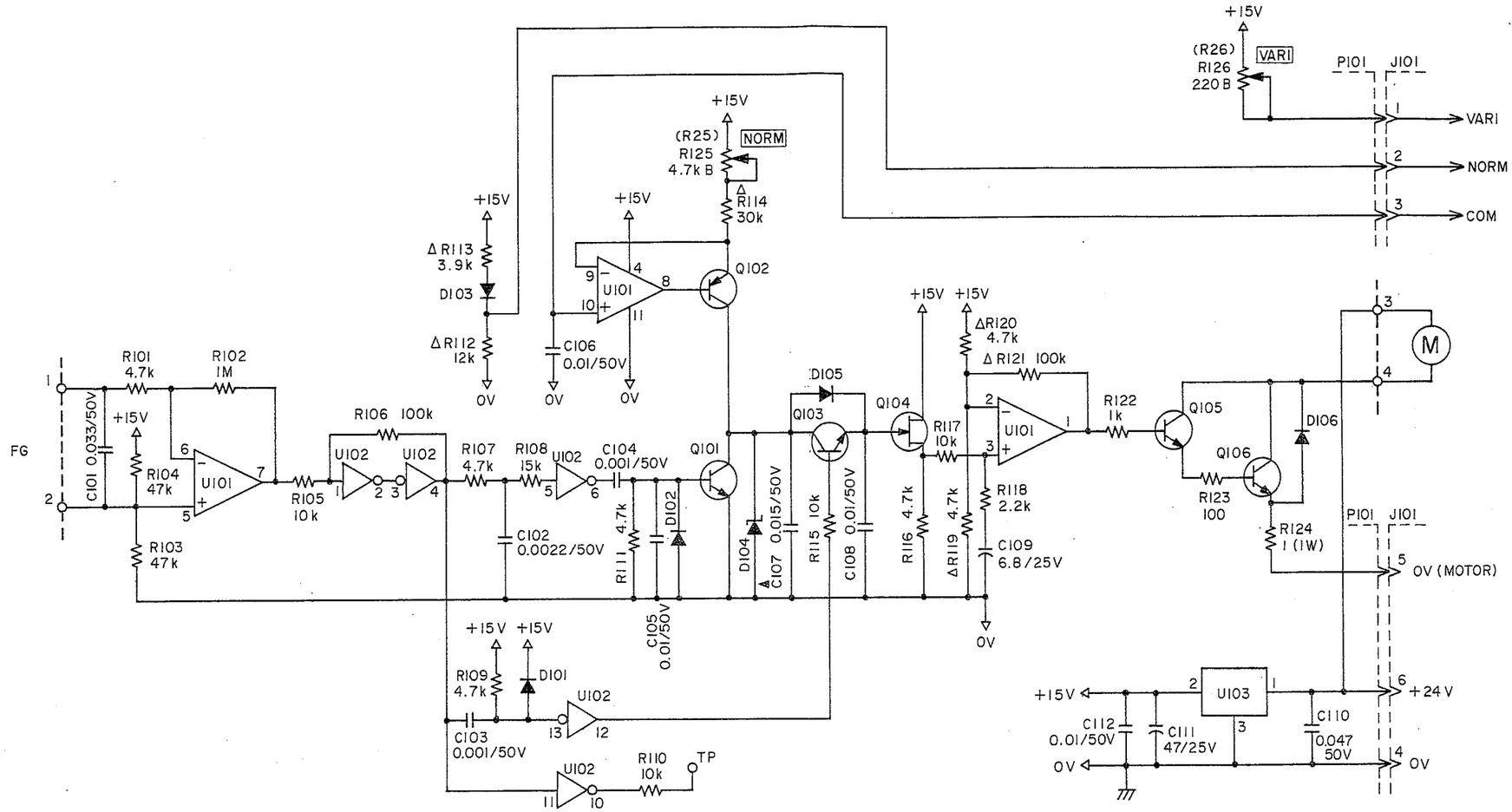
5.1 Model VS-88 Variable Speed Control Unit

NOTE: This schematic applies to units with serial #02001 and after.



SCHEMATIC
Model VS-88
Variable Speed
Control Unit
REV. ____

5.2 Capstan Servo Amplifier PCB
(on Capstan Motor Assembly)



NOTE

U101	LM2902N
U102	MC14069BCP
U103	μAI4315
Q101, Q103	2SC711A
Q102	2SA725
Q104	2SK68
Q105	2SC1211
Q106	2SD234

D101~D103, D105	IS2473VR
D104	RD-9A
D106	1N4002

Δ R METAL OXIDE FILM
▲C POLYSTYRENE
UNLESS OTHERWISE MARKED
R····· CARBON
C····· MYLAR

SCHEMATIC
Capstan servo amp. PCB
REV. _____