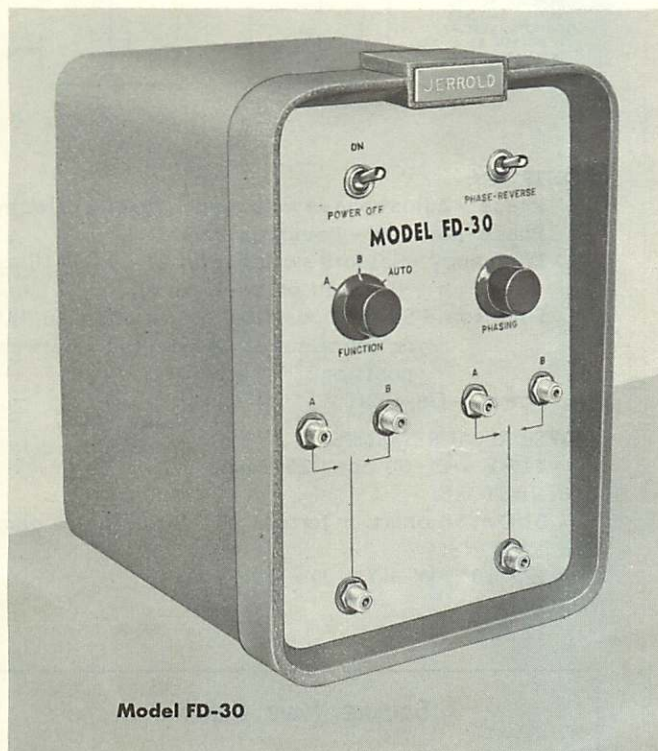


A HIGH SPEED COAXIAL SWITCH



Model FD-30

FEATURES

- ☆ LONG LIFE S.P.D.T. SWITCHES
- ☆ "MERCURY-WETTED" SWITCH CONTACTS
- ☆ LOW V.S.W.R.
- ☆ ADJUSTABLE SWITCH RATE
- ☆ ADJUSTABLE PHASING
- ☆ FULLY SHIELDED, COAXIAL CIRCUITRY

DESCRIPTION

The JERROLD Model FD-30 is a high speed, electronically controlled switch used for the simultaneous display of two channels or voltages on an oscilloscope. The high speed switch unit utilizes two Clare "Mercury-Wetted" switch elements mounted in a coaxial circuit. The switching unit has a maximum current rating of 5 amperes at 500 volts and can be supplied for either 50 or 75 ohms with a V.S.W.R. of less than 1.08 from 0 to 250 MC. The switching functions are controllable by circuitry at a 30 - 15 or 10 cps rate, locked with the 60 cycle line. A phase reverse switch and a phasing control are provided for adjusting phase in respect to the line.

Numerous advantages are offered through the use of "mercury-wetted" contacts in the switching unit. The contacts are sealed in a high-pressure hydrogen atmosphere—free from dust and moisture—and exhibit extremely long life since each time the contacts close, they close on a renewed surface. The contacts do not chatter, arc or pit and have a very low capacity (less than 1 uuf) between the open and closed circuit. The total capacity of the switch to ground is less than 20 uuf.

APPLICATIONS

- ☆ MEASUREMENT OF ATTENUATION
—0 to 250 MC
- ☆ MEASUREMENT OF AMPLIFIER GAIN
—0 to 250 MC
- ☆ MEASUREMENT OF RETURN LOSS
(V.S.W.R.)
- ☆ COMPARISON OF PRODUCTION UNIT WITH STANDARD
—up to 250 MC
- ☆ GENERAL PURPOSE OSCILLOSCOPE SWITCH
- ☆ DISPLAY OF DIODE OR TRANSISTOR CHARACTERISTICS
- ☆ SQUARE WAVE GENERATOR

SPECIFICATIONS

IMPEDANCE:

50 or 75 ohms impedance, VSWR less than 1.08 from 0 to 250 MC.

SWITCH CONTACTS:

"Mercury-Wetted"

MAXIMUM OUTPUT CURRENT:

5 Amperes

VOLTAGE RATING:

500 Volts

FREQUENCY CHARACTERISTICS OF COAXIAL CIRCUIT:

From 0 to 250 MC.

SWITCH RATE:

Locked to the 60 cycle line at 30 - 15 or 10 cps.

PHASING:

Adjustable with respect of the 60 cycle line.

DUTY FACTOR:

Equal time (approx. 50%) in each position.

CAPACITIVE COUPLING BETWEEN OPEN AND CLOSED CIRCUIT:

Less than 1 uuf.

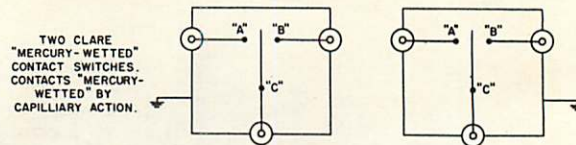
CAPACITY FROM SWITCH TO GROUND:

Less than 20 uuf.

TUBE COMPLEMENT:

- 1 - 12AT7...Blocking oscillator
- 1 - 12AT7...Frequency divider
- 1 - 6AQ5...Relay driver
- 1 - OA2....Voltage Regulator

CIRCUIT DIAGRAM:



CONTROLS:

Phase - Adjust phase with respect to 60 cycle line

Phase-Reverse - Reverses Phase

Frequency - Selects switch rate: 30 - 15 or 10 cps (located on back panel).

Function - Selects position "A" or position "B", or continuous switching between positions "A" and "B".

Power - On - Off

POWER REQUIREMENTS:

117 V a-c, 60 cps, 25 Watts

CONNECTORS:

BNC at 50 ohms or Jerrold "F" series at 75 ohms

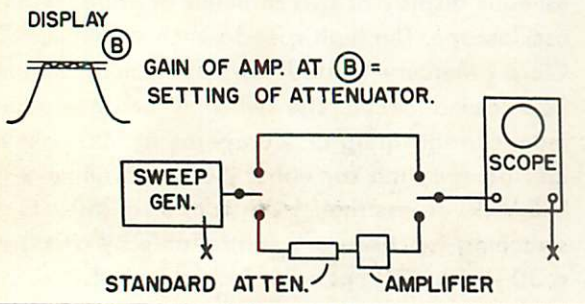
DIMENSIONS:

H - 10", W - 7", D - 8"

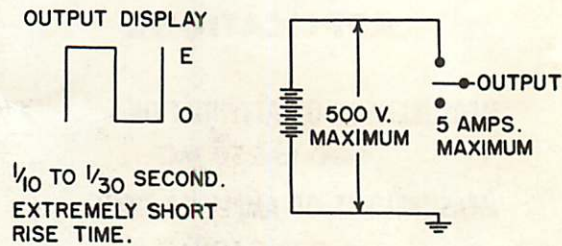
WEIGHT:

12 lbs.

MEASUREMENT OF AMPLIFIER GAIN



SQUARE WAVE GENERATOR



CALIBRATING SCOPE DISPLAY OF DIODE OR TRANSISTOR CHARACTERISTICS

