

## Section 2

### Introduction and Specifications

#### Introduction

This manual contains complete operating, maintenance and calibration instructions for the Compliance West USA MegaPulse series Impulse Tester.

- In case of trouble, the test can be immediately terminated at any time by turning the rear-panel power switch to the OFF position.
- Before the test can commence, the unit must be armed by pressing the **CHARGE** Button. The test will not begin until the **TRIGGER** Button is pushed.
- Operator instructions are printed on the rear panel for quick reference.
- Voltage is discharged by a resistor bank within the MegaPulse tester upon test completion. Discharge progress is shown on the front panel meter.

#### Specifications

Specifications for each individual model in the MegaPulse series are listed in Table 1. Component designations referenced in Table 1 are as shown in Figure 1.

Your Tester is warranted for a period of one year upon shipment of the instrument to the original purchaser.

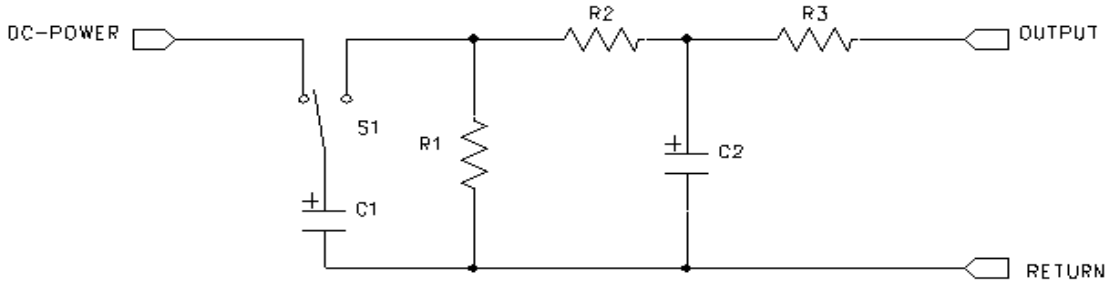


Figure 1.

Model	Waveform*	Max. Voltage	C1	R1	R2	C2	R3
10x700-2.5	10 x 700/6 x 300 uS	2500V	20 uF	50 Ohms	15 Ohms	0.2 uF	25 Ohms
10x700-7	10 x 700/6 x 300 uS	7000V	20 uF	50 Ohms	15 Ohms	0.2 uF	25 Ohms
1.2x50-2.5	1.2 x 50/1 x 20 uS	2500V	1 uF	76 Ohms	13 Ohms	0.033 uF	25 Ohms
1.2x50-7	1.2 x 50/1 x 20 uS	7000V	1 uF	76 Ohms	13 Ohms	0.033 uF	25 Ohms
1.2x50-12 12 Ω Fast Charge ∂	1.2 x 50/1 x 20uS	12300V	2.75 uF	40 Ohms	7 Ohms	0.05uF	0 Ohms
10x1000s-1	10 x 1000/10 x 1000 uS	1000V					
10x360s-1	10 x 360/10 x 0360 uS	1000V					
2x10s-2.5	2 x 10/2 x 10uS	2500V					
Defib-5	20 x 2200/50 x 800 uS	5000V	32 uF (1)	100 Ohms	50 Ohms	None (open)	0 Ohms
Antenna Surge	Not defined	10000V	1 nF	-	1 kOhm	-	-
AXVI1-2.5, -7	1.2 x 50/0 x 7 uS	2500V, 7000V	0.25 uF	234 Ohms	62 Ohms	7800 pF	0 Ohms
AXVI2-2.5, -7	1.2 x 50/0 x 7 uS	2500V, 7000V	0.25 uF	234 Ohms	45 Ohms	7800 pF	0 Ohms
AXVI3-2.5, -7	.7 x 40/0 x 4 uS	2500V, 7000V	0.25 uF	234 Ohms	27 Ohms	7800 pF	0 Ohms
AXVI4-2.5, -7	0 x 40/0 x 4 uS	2500V, 7000V	0.25 uF	234 Ohms	27 Ohms	None (open)	0 Ohms
AXVI5-2.5, -7	0 x 40/4 x 40 uS	2500V, 7000V	20 uF	3 Ohms	25 Ohms	3300 pF	0 Ohms
AXVI6-2.5, -7	.2 x 40/ 0 x 35 uS	2500V, 7000V	20 uF	3 Ohms	13 Ohms	3300 pF	0 Ohms
AXVI7-2.5, -7	.2 x 40/0 x 30 uS	2500V, 7000V	20 uF	3 Ohms	9 Ohms	3300 pF	0 Ohms
AXVI8-2.5, -7	.2 x 40/0 x 30 uS	2500V, 7000V	20 uF	3 Ohms	7 Ohms	3300 pF	0 Ohms
AXVI9-2.5, -7	.1 x 40/0 x 25 uS	2500V, 7000V	20 uF	3 Ohms	5 Ohms	3300 pF	0 Ohms
AXVI10-2.5, -7	.08 x 40/0 x 20 uS	2500V, 7000V	20 uF	3 Ohms	3 Ohms	3300 pF	0 Ohms

\* Legend: A x B/C x D A= Voltage rise time B= Voltage duration C= Current rise time D= Current duration

Voltage rise time (A) is defined as follows (per ANSI/IEEE C62.41 and other standards):  $trise = 1.67(t_{90} - t_{30})$ , where  $t_{90}$  and  $t_{30}$  = the times of the 90% and 30% amplitude points on the leading edge of the waveform.

Voltage duration (B) is defined (per ANSI/IEEE C62.41 and other standards) as the time between virtual origin and the time of the 50% pint on the tail. The virtual origin is the point where a straight line between the 30% and 90% points on the leading edge of the waveform intersects the V = 0 line.

Current rise time (C) is defined as follows (per ANSI/IEEE C62.41 and other standards):  $trise = 1.25(t_{90} - t_{10})$ , where  $t_{90}$  and  $t_{10}$  = the times of the 90% and 10% amplitude points on the leading edge of the waveform.

Current duration (D) is defined (per ANSI/IEEE C62.41 and other standards) as the time between virtual origin and the time of the 50% pint on the tail. The virtual origin is the point where a straight line between the 10% and 90% points on the leading edge of the waveform intersects the I = 0 line.

∂ Indicates Models using Compliance West USA IEC 65 Switch.

Note 1: 32 uF capacitor in series with a 500uH inductor having a DC resistance no greater than 10 Ohms.

Common specifications:			
Meter Accuracy: 2500V output versions: $\pm 20$ V 5000V, 7000V versions: $\pm 40$ V All models: better than 1% of full-scale reading	Environmental: 15-40°C operating temperature 0-90% Relative Humidity, non-condensing	Electrical: Input Voltage: 120 V, 50-60 Hz Input Current: 1 -7 A (model specific)	Mechanical: Weight: Approx. 16-85 lbs. Dimensions: 11.25"W x 12"D x 5"H To 24"W x 20"D x 36"H

**Table 1. MegaPulse series specifications**