


Dick Kapigast
Charlie Rhodes
Chuck Nolan ✓

February 21, 1963

George Edens

Automatic Readout of SCR Waveforms

The requirement described in this call report appears to be one that could be satisfied with a system of electrical readout from a storage CRT.



George

GEM:jlb
Att.

FIVE - SEMI COND
TEST UNIT
(575A)

MAJOR TOPIC	CUSTOMER	FIELD ENGINEER	
567 faster clock wanted.	General Electric Co.	K. E. Fleck	
	CITY AND STATE	1963 14 JAN	MONTH-DAY-YEAR 12/21/62
	Auburn, New York	CALL # 1	
ENGRG - FUT. PROD - RSCH	GROUP	GROUP FUNCTION	
Sam John Kolbe Chuck Edgar	SCR Products Dept. - Rating and Evaluation		PAGE 1 of 2
MARKETING	NAMES		
Isord	Don Bisson, Mgr.		
	Jim Read, Engr.		
	Bill Comstock, Engr.		
	Bob Shawl, Engr.		
INSTRUMENT MFG	<p>Don is member of the JETEC Committee and these folks are presently trying to arrive at a standard test circuit for silicon controlled rectifiers. They have tried several test circuit arrangements and all SCR manufacturers have duplicated these test circuits but still no one can come up with close correlation as far as reverse recovery time and turn-on time of SCR's is concerned. Don had asked for a demo of the 567/76/77 in order that he might come up with more accurate answers as far as repeatability between different operators is concerned. Unfortunately all of the repetition rate are 60 cycles for these tests, and it makes the readout time rather slow. The testing could be enhanced greatly if we could resolve μsec switching times on the 567 with real time plug-in units, at least with enough resolving power to readout fractional μsec answers on a real time basis. It appears that if we had a 10 megacycle clock for real time digital readout, this would be answers as far as these folks are concerned. They have decided against purchasing a 567, at least at this time.</p>		
ELECTRON DEVICES			
F AND M			
QUALITY ASSURANCE			
OTHER			
INSTRUMENT MFG			
ELECTRON DEVICES			
F AND M			

WANTED

K. E. NO. 1-246

PROPOSED CURVE TRACER
(Tentative Specs)

COLLECTOR SWEEP

	RANGES	WAVEFORM
1.	0 - 25v 20A	Full-wave
2.	0 - 100v 5A	Full-wave
3.	0 - 500v 1A	Full-wave and AC
4.	0 - 2000v 10ma	AC

BASE DRIVE

RANGE	WAVEFORM
.1 micro amp to .5a. .01v to 1v	+ and - step; + and - variable width pulse 2% to 10% variable in relation to collector voltage waveform.

Automatically or manually (push button) stepped family, or continuously variable amplitude drive.

DEFLECTION SENSITIVITY

Vertical	.1 micro amp/cm to 2 amp. collector current .01v/div to 1v/div. base volts
Horizontal	.01v/div to 200v/div. collector volts .01v/div to 1v/div. base volts

OTHER FEATURES

1. Direct Beta readout, either Nixie tube or terminals for external voltmeter.
2. Voltage sensing at terminals of device being tested thru separate terminals.
3. D.C. offset voltages available at front panel for testing zeners.

Special Products Dept.
John Durecka
1-24-63

Returned by: _____

Phone No. _____



MEMO

To Please see below Department _____ Date January 25, 1963

Subject Replacement for the 575

Enclosed is a quantity of tentative specs on the proposed replacement for the 575. We would appreciate it if you would distribute them to all of your people that you feel wish to contribute. We would like them returned by February 11. If you need more copies, call Marcelyn Jandreau, #284-S.

Thank you for your efforts.

c.c. Norm Winningstad
Jack Rogers
Russ Fillinger
Oz Svehaug
Charles Rhodes
Jess Gard
John Gates
Lang Hedrick
Deane Kidd
John Kobbe
Sam McCutcheon
Bill Polits
Bob Poulin
Marlow Butler
Dick Rhiger
Bob Rullman

Chuck Nolan
Special Products Dept.
CN/mj



MEMO

To _____ Department _____ Date January 25, 1963

Subject Replacement for the 575

After sorting through the requested additions to 575 performance characteristics, we have come up with the following as tentative specs on a replacement 575. (If you wish an extra copy for your files, call Marcelyn Jandreau, #284-S.)

We would like the tentative specs returned along with your additions, deletions, or encouragement. Please sign it so that we may contact you for further discussion and return to John Durecka, #81-212.

Chuck Nolan
Special Products Dept.
CN/mj

Name: _____

Phone: _____

PRELIMINARY TO 575A CURVE TRACER
(Collective suggestions -- so far)

We are thinking of building a replacement instrument for the Type 575 Curve Tracer. Field reports indicate the present instrument falls short of meeting customer requirements in testing new and expanding families of semi-conductor devices.

A list of requested features follows: (excerpts from Call Reports)

DESIRED CURVE TRACER CAPABILITIES

GENERAL

1. View reverse and forward diode characteristics simultaneously. Forward capability: 0 - 1v, 1 micro amp to 1 amp. Reverse: 0 - 1000v, .1 micro amp to 10 ma.
2. Test adapter to compare 10 transistors
3. Safety feature for both hands to be away from front panel when 2000v, 1ma sweep is on
4. Baird - Atomic MW-1 (Implied that we match these)
Collector Supply - 0 - 300v, 3A
Base Drive - 1 micro v to 5 mili v/step
Full Scale Deflection - .1 to 1000v
5. Tetrode Adapter
6. Base current drive better than 7% accuracy now available (Customer figures)
7. Increase accuracy by one order of magnitude
8. Eliminate S/B switch contact resistance errors
9. View both collector and base characteristics at same time
10. Pulsed Beta testing
11. Test 100 to 200 amp SCR's
12. Measure LV
CEO
13. Pushbuttons to switch from one type test to another

VERTICAL

1. 10 ma instead of present 100 ma/cm external sensitivity
2. .1 micro amp/div (two requests)
3. Looping of traces on 10 micro amp position (eliminate this problem)
4. Increase sensitivity to .1 micro amp/div
5. Increase sensitivity to .01 micro amp/div

HORIZONTAL

1. More collector volts/cm positions
2. .1X press switch

BASE DRIVE

1. Series resistor accuracy greater than 8%
2. .1 micro amp current drive
3. 1v/step for field effect transistors
4. Provisions for measuring I_{cer} with built in resistor decade
5. Pulsed drive variable duty cycle (four requests)
6. Pulsed drive 300 micro sec. wide
7. Nano-amp drive to test Betas of 16000
8. Pulsed drive 3KC 1% duty cycle

COLLECTOR SWEEP

- | 1. | E | I | COMMENTS |
|----|-----|-----|--------------------------------|
| | 3KV | 10A | 10-20 micro sec. Test thyrites |
| | 400 | 1A | 10-20 micro sec. 80% of needs |
-
2. Sine wave (AC) capability on all sweep ranges
 3. 200v 10A Higher sweep rate than present
 4. 40v 200ma 2% duty cycle 60 cps. rep. rate
 5. Pulsed sweep variable duty cycle (two requests)
 6. 1000v 20 ma.
 7. 3KV 1 ma
 8. 1.5KV 10 ma to 50 ma
 9. Zero offset for measuring zeners
 10. D.C. offset for zeners



Inter-Office Communication

6690

RECEIVED

APR 25 AM

TEKTRONIX, INC.

To: Stan Foss - Field Information

Date: April 23, 1963

From: Bob Coultas

PHILADELPHIA

Subject: 575 Modification

Dear Stan,

In the past you had Bernie, from Field Technical Support, make up a base step volt amplifier for modifying a 575 to increase the base step voltage output capability.

I have had quite a few customers who are working on metal edge amplifiers or field effect transistors, that can use this feature. It might be something we should build into the 575A. Normally they need approximately 25V total swing into the base, 2V/step would probably do fine. Might be something to look at.

Best regards,

Bob

~~Bob~~

RAC:nb

CC: Bill Ewin
Fred Lenczynski

5-20 cc *Chuck Nolan* ✓
John Durek

NI 575 ✓
575



MEMO

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c.c. Jean DeLord
Bill Myers
Warren Collier
Jerry Shannon
Bill Walker
Dick Ropiequet
Stan Foss

Chuck Nolan
Special Products Dept.
CN/mj