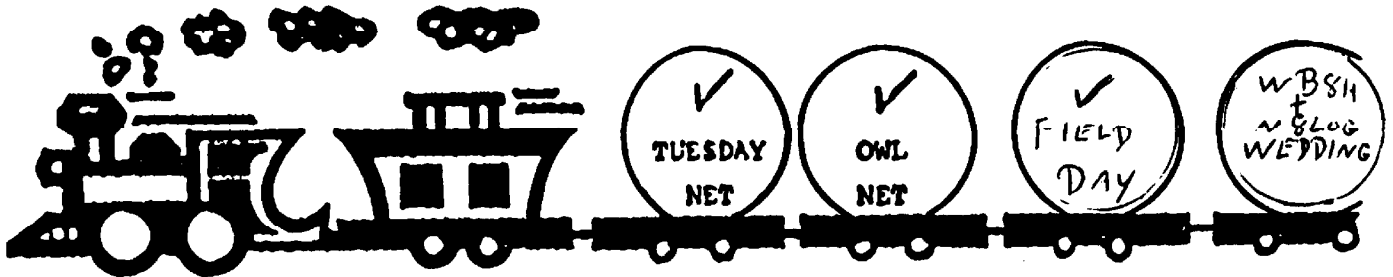


**"THE U.S.E.C.A. EXPRESS"  
 UTICA-SHELBY EMERGENCY  
 COMMUNICATIONS ASSN.  
 MACOMB COUNTY  
 147.181.78**



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# U.S.E.C.A. FACTS

volume 5 no.6

JUNE 1990

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OMBUDSMAN  
Club Historians  
Club Videographer  
50/50 (Mtgs)

### POINT NETS

Sun. 1800 UTC 147.78/147.18  
Tue. 0100 UTC 147.78/147.18  
Fri. 0459 UTC 147.78/147.18

### OTHER NETS

THU. 9:00 P.M. EST 1.903 SSB  
CANCELED FOR THE SUMMER

### CONTROL OPERATORS

N8FNO John Wuestwald  
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WB8QNI Vance Dupuis  
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WB8E Walt Gracey  
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WI8K Diane Scalzi  
WJ8Q Wesley Harrell  
WB8B Bob Karpinski  
WS8D Michael Domeier  
WQ4I Joe O'Connor  
WR8O Ron Gallo  
WS8I Ed Davis  
WX8L Sean McCarthy  
WV8I Greg Davis  
WY8K Charles Lupo

f Founder c Charter h Hon. Charter

KA8KTV f c SK N8HCT f c  
N8FNO f c KA8IZM f c SK  
WD8MFN f c WB8NHT f c  
K8QLM f c KA8BDG c  
WB8QNI c WA8VZZ c  
KA8WOT c N8FDN c  
N8BK h WA8OSF h  
KA8VYV h N8AWV h  
J.Haubner c G. Marquardt h

U.S.E.C.A. General Meeting May 8, 1990

WB8E Walt President called the meeting to order

N8MEF Barb New call  
New members KB8IQK Joe, KB8IQW Victor

KA1SPP Matt Minutes approved as printed in the U.S.E.C.A.  
N8KDL Doug Express.

WD8IWE Shirley Membership Report: 202 with 3 new members.

KE8VM Dan Announced Clinton River Clean-up June 2-3  
sign-up list provided.

WI8L John Technical Report: Repeater news- Approx 2 weeks -  
New transmitter, Crystals, 2 receive sites  
operating.

WF8I Scott Field Day Report: Tower donated by KB8FR0; Covered  
with enough rigs; Problem with insufficient power  
sources; Encouraged members to invite everyone!

WY8M Arpad Hamfest report: Dayton saturated with flyers;  
encouraged members to post more flyers.

N8MEF Barb Holiday Party Chairpersons.  
N8LXL Betty

KB4FX Y Ann Field Day T-Shirt sales.  
WB8E Walt

WB8F Don VE Testing 12 & 19 May .  
Meeting resumed after break, 2018 Hrs

KB8SW Mark Won 50/50.

KB8MA Jack Presented an excellent program on ATV  
KB8MB Mike (Amateur Television) which included slides,  
Video Recordings, and actual ATV transmission  
between two units.

WB8F Don Offered General Class study guides.

WB8E Walt Called to close the meeting.  
KA1SPP Matt Moved to close meeting.  
N8KDL Doug seconded motion.

KF8CT Dave Minutes respectfully submitted.

# U.S.E.C.A

## JUNE

SUN

MON

TUE

WED

THU

FRI

SAT

						<b>1</b> SEMARA MEETING 7:30 PM	<b>2</b> HAPPY BIRTHDAY! KB8JCB JIM
<b>3</b> HAPPY BIRTHDAY! WV8I GREGORY  CHELSEA SWAP NET 1 PM 147.18	<b>4</b> OAK PARK ARC MEETING 7:30 PM	<b>5</b> THEORY AT TOMS WBNSF  NET 9 PM 147.18 CW 10 PM 147.18	<b>6</b> L'ANSE CREUSE MEETING 7:30 PM	<b>7</b> HAPPY BIRTHDAY! KC8BW STEVE WB8UVW BILL  OCARS MEETING NET 9 PM 1.903	<b>8</b>   NET 11:59 147.18 NCS=HOOTOWL	<b>9</b> HAPPY BIRTHDAY! WZ8G DAVE  MIDLAND MICH CENTRAL MICH AMATEUR RPTR ASSN HAMFEST	
<b>10</b> HAPPY BIRTHDAY! KE8RE JIM  NET 1 PM 147.18	<b>11</b>	<b>12</b> MEETING 7:30 PM	<b>13</b> HAPPY BIRTHDAY! KB8CHV RICHARD  HAZEL PARK MEETING 7:30 PM	<b>14</b> HAPPY BIRTHDAY! WB8F DON  HPARC VE TESTS NET 9 PM 1.903	<b>15</b>   NET 11:59 147.18 NCS=HOOTOWL	<b>16</b>	
<b>17</b> HAPPY BIRTHDAY! KE8LT HANK KE8XW ELLEN  NET 1 PM 147.18	<b>18</b>	<b>19</b>   NET 9 PM 147.18 CW 10 PM 147.18	<b>20</b> HAPPY BIRTHDAY! N8LDL JOSEPH	<b>21</b> BOARD MEETING 7:30 PM  NET 9 PM 1.903	<b>22</b> HAPPY BIRTHDAY! N8KKG JAMES  NET 11:59 147.18 NCS=HOOTOWL	<b>23</b> FIELD DAY  WB8H & N8LOC WEDDING 1:00 PM FREQ. 147.18	
<b>24</b> FIELD DAY  NET 1 PM 147.18	<b>25</b> HAPPY BIRTHDAY! KB8SW MARK N8GLC GLORIA	<b>26</b> HAPPY BIRTHDAY! N8KND DOUGLAS  NET 9 PM 147.18 CW 10 PM 147.18	<b>27</b> HAPPY BIRTHDAY! JACK SEARS N8KRR BOB	<b>28</b> HAPPY BIRTHDAY! KD8NZ KEN  NET 9 PM 1.903	<b>29</b> HAPPY BIRTHDAY! N8ENS RALPH  NET 11:59 147.18 NCS=HOOTOWL	<b>30</b> HAPPY BIRTHDAY! KB8LM RICHARD	



## HEY WHERE'S THE DX

DX and Dayton. Now that Dayton is past and everyone has installed or otherwise utilized their purchases, and hopefully to their full expectations (HI HI).

For those that did not attend the HamVention, you missed out on more than the largest swap in America, with every major manufacturer present with all their handouts and technical information, the free hats, and the ever present plastic logo clad bags. and seeing V31BB sitting on his butt in the 10 acre flea market with his thinning hair looking like an unkempt wino.

The HamVention offers a plethora of information for the DXer. There are several unofficial functions that are well advertised such as the DX dinner with guest speakers. Which is attended by several well known DXers from around the world. The Western New York DX Association, offers a Hospitality suite, with slide shows. Attended by the writers of most DX articles and publications. The Society of Midwest Contesters offers a hospitality suite with refreshments and entertainment. Plus several workshops are available for just about any aspect of ham radio.

The official forums sponsored by the HamVention are to numerous to list and cover everything from ATV-World Radio Sport, but those that would have particular interest to the DXer are:

### Antennas:

- Effective HF antennas
- The Wind in the Yagis
- Modification and Improvements
- Design and Construction
- Building your Tower

### DX Forum:

- Advisory Council
- DXCC Desk
- The Yasme Expedition
- Bouvet Island
- Packet Cluster
- SE Asia DXpedition

There are several other forums that also might appeal to the DXer: Packet Radio, County Hunters, SWL, and the contest forum (5hrs). Dayton is more than just a big swap with 35,000 hams walking around in T-shirts, hats, and HT's needing a shave and a shower. There is some real Good Stuff out there. Hope to see you at Dayton next year.

THE CONSTANT DXer

5.

# Amateur impressively makes his point

In last month's Publisher's Microphone, Armond promised that we'd reprint an excellent letter written by Patrick Whittle, AK6T, of Danville, CA, in response to an article in the San Ramon Times, which discussed the problems a Dublin City Amateur was having with neighbors complaining of RFI. This letter appeared in a section of the Times called Valley Viewpoint, and was printed under the title, "How to minimize radio headaches." Should the need ever arise, you might like to refer to it as an example of how to write a letter to your local newspaper editor.

A news story that appeared in the Nov. 5 Times about people in Dublin who say they have telephone interference from John Markey's, WX6G, Amateur Radio operation points up a serious and growing problem.

Millions of electronic gadgets are flooding the marketplace, and nearly all of them are susceptible to RFI. The inability to reject unwanted signals is nothing less than a design defect. Manufacturers are aware of the problem, and they know they could eliminate most RFI by adding simple filters in their circuits.

Such filters consist of two or three miniature parts — capacitors, wire coils or ferrite beads — costing a few cents. Yet manufacturers are dragging their feet because the FCC merely recommends, but does not insist upon, filtering.

This policy is understandable in today's atmosphere of deregulation, but industry's failure to respond is leading to chaos on the airwaves and rank injustice to the radio Amateur.

The FCC treats Amateur Radio transmitting rigs quite differently. Manufacturers are required to shield and filter them so thoroughly that only energy on the desired operating frequency is emitted. That is why Tom Hora, of the FCC's Livermore office, was quoted in the previous article as saying that the cause of the Dublin problems might not lie in the Amateur operator's equipment, but rather in that of his neighbors.

Many radio Amateurs have enough skill to retrofit telephones and stereo sets with filters, but modifying their neighbor's electronic gadgets can easily backfire. Anything that goes wrong with the equipment thereafter will be blamed on them.

Plug-in radio filters, available from AT&T stores at a cost of \$17.95 plus tax, are often effective in clearing up telephone interference. Ferrite beads slipped over speaker leads can eliminate RFI problems on stereo sets.

Other simple filters on power cords and coaxial cables usually work well with TV problems. As the saying goes, where there's a will, there's a way.

None of these Band-Aid measures would be needed if the FCC required proper filters to be installed at the manufacturing stage.

Another problem mentioned in the previous article was how the radio Amateur's antenna affects the appearance of the neighborhood. Beauty or ugliness is in the eye of the beholder. Ramshackle fences, weedy front lawns, peeling paintwork, oily driveways and festoons of overhead power lines could be regarded as more serious blights, all of them unnecessary.

For a radio Amateur who wishes to contact distant places, a good antenna is necessary. Restrictive covenants in planned unit developments oblige many an Amateur to make do with wires in the attic, but a rotatable beam antenna at a height of 40 to 70 ft. puts the world at his or her fingertips.

A further benefit of antennas on towers is that the energy reaching houses below them decreases geometrically with height. Thus, the possibility of RFI and health hazards is minimized.

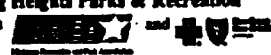
If the Dublin City Council wants to restrict antennas, they would be well-advised to consult the FCC as soon as possible. The FCC issued a memorandum opinion and order, known as PRB-1, in 1985 that directed cities to reach a reasonable accommodation between the legitimate needs of the local government and those of the radio Amateur.

The order made it clear that prohibiting outdoor Amateur antennas was out of the question. With regard to RFI, the order preempts local regulations. In other words, radio interference problems fall entirely within the province of the FCC.

Amateur Radio is not only a fascinating hobby strictly regulated by international agreement, it is an invaluable disaster communications resource.

As recently as the morning after the big earthquake, Bay Area Amateurs were handling hundreds of health and welfare messages from around the nation and the world when the telephone system was useless. (WORLD RADIO)

One nice thing about being imperfect is the joy it gives to others.  
Midland ARC Inc., MI

Sterling Heights Parks & Recreation  
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## WALK MICHIGAN

1990 Schedule

May 17 (Thu) - 8:00 pm  
- Opening ceremony and walk

May 19 (Sat) - 5:30 pm & 8:00 pm

May 22 (Tue) - 5:30 pm & 8:00 pm

May 25 (Fri) - 11:30 am & 5:30 pm

May 30 (Wed) - 11:30 am & 8:00 pm

Jun 1 (Fri) - 5:30 pm

Jun 7 (Thu) - 5:30 pm & 8:00 pm

Jun 9 (Sat) - 11:30 am

Jun 12 (Tue) - 8:00 pm  
- Closing ceremony & grand prize drawing

Participation is FREE!  
All walkers are eligible for raffle prizes donated by local-area businesses.

All 1, 2 & 3 mile walks are held in  
**Dodge Park**  
(Union Road just south of 18 Mile Road)

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Somewhere,  
behind  
all the noise,  
if you listen  
carefully,  
you can  
hear  
the  
silence.



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"You have the choice of the American Plan, the European Plan, or for the bargain-minded, you can brown-bag it."

**Q  
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**THE**

# **S O R R Y, . . . N O N E S U B M I T T E D**

*Either no one wishes to support this feature column - - or else everyone is afraid of possibly losing their QSL card by submitting it. I assure you all cards submitted will be returned. However, you may also easily submit a xerox copy of your card. ----- Editor, K8CFY*

**M  
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## **MARKET PLACE (CONTINUED)**

MFJ 2KW 945 TUNER.....	\$200.00
DRAKE TR3 with power supply and digital readout.....	150.00
REALISTIC Base CB unit.....	Make offer
2 Co-ax switches: (1) Dow-key, 110v; (1) Manual, rotory.....	Make an offer
BILL, K8VDA.....	689-6524.....WILL NEGOTIATE

## **EVENTS SCHEDULE**

### **VEC EXAMS:**

June 14	HPARC HOOVER SCHOOL	Hazel Park, Mi.....	398-6552
July 14	HENRY FORD COLLEGE	Dearborn, Mi. ....	MCRG.....676-6248
Last Sat/Mo.	USECA VE TEAM	WB8F- MT.CLEMENS.....	465-3781

### **SWAPS:**

June 3	CHELSEA	\$3.00	Talk-in:146.98/R
June 9	MIDLAND	\$3.00	147.00/R
JUNE 17	MONROE	\$4.00(\$3 Adv.)	146.72 & 223.18/ 224.78
JULY 8	BOWLING GREEN, OHIO		



# U.S.E.C.A.

## MINI-TECH NOTES

# 2.

### SCR CONTROL CIRCUIT

The ac voltage applied to transformer T1 in the control circuit in Figure 4 is the standard 120 volts, 60 HZ sine wave. Two complete cycles of this waveform are shown in Figure 5A. On each negative alternation of the input voltage, Capacitor C1 charges through resistor R1, but diode D1 is reverse-biased and will not allow gate current to flow through the SCR. During each positive alternation the SCR is forward-biased so that it can conduct forward current through the lamp if its gate current is high enough to turn it on. However, the SCR's gate current is controlled by resistor R1 and capacitor C1. This capacitor will discharge and then recharge through R1 during the positive and negative alternations of the incoming ac sine wave. The rate at which capacitor C1 charges can be controlled by adjusting the resistor R1. If the resistance of R1 is set to Zero, capacitor C1 will charge almost immediately and the voltage across capacitor C1 (Which is connected to the SCR's gate Through D1) will quickly rise to a level which will cause diode D1 to conduct causing the SCR to turn on and light the lamp to full brilliance. When R1 is zero the SCR will turn on almost at the beginning of each positive alternation and apply power to the lamp for the entire alternation. Once the SCR turns on it will not turn off until the ac input voltage drops to zero. When R1 is zero the SCR simply acts like an ordinary junction diode. The voltage across the lamp appears as shown in figure 5B.

When the resistance R1 is increased slightly, capacitor C1 cannot discharge and then recharge as quickly during each positive alternation. This means that it will take slightly longer for the voltage across capacitor C1 to rise to a level which will cause diode D1 to conduct and the SCR to turn on. The SCR will only remain on for the remainder of each positive alternation. This means that the SCR turns on shortly after each positive alternation has started and not at the beginning of each alternation as it did before. This causes the voltage across the lamp to appear as shown in Figure 5C. Causing the lamp brilliance to decrease.

The resistance of R1 can be further increased to further extend the time required for the SCR to turn on during each positive alternation. Figure 5D shows the voltage across the lamp when R1 is increased to the point where the SCR conducts for only half of each positive alternation and Figure 5E shows the voltage across the lamp when R1 is made even larger. If the value of R1 is increased further, the SCR will not conduct at all and no power will be applied to the lamp. Causing the lamp not to light at all.

As Shown in Figure 5 the half-wave phase control circuit is capable of controlling the amount of power applied to the load. With this circuit, the power applied to the load can be varied from zero to approximately 50 percent of the input ac power.

Figure 4  
SCR Control Circuit

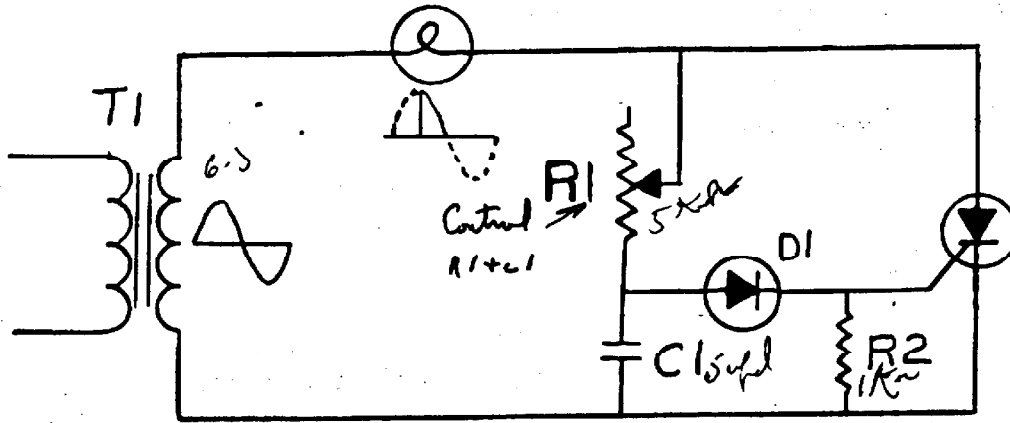
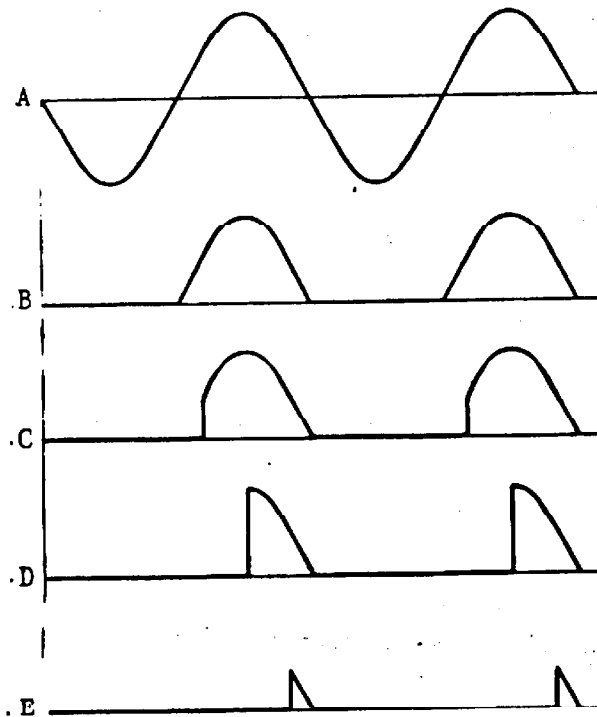


Figure 5



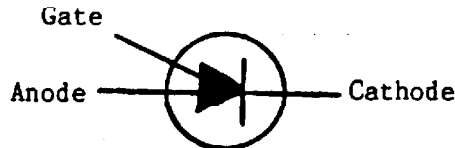
CHECKING THE SCR

1. With your ohmmeter on the R X 1 scale connect the positive lead to the anode and the negative lead to the cathode. your meter should show an infinite reading at this time.

2. Touch the gate lead to the positive lead (anode) and the meter should read about mid scale.

## PROGRAMMABLE UNIJUNCTION TRANSISTORS PUT

*small Current Device  
or Voltage*



The programmable unijunction transistor (put) can be termed as a "complementary SCR". Its symbol is that of a diode with the gate attached to the anode. (Remember in an SCR the gate lead was on the the cathode side of the symbol).

Because PUT's are well suited to operate as "relaxation oscillators" they can be used as "pulping devices" for the control of SCR's in regulated power supplies. PUT's find their greatest use in circuits requiring small amounts of current.

Their operation is similiar to an SCR with the exception that the gate is on the anode and must be less positive than the anode for conduction to take place. Current must flow from gate to anode to start conduction. Once conduction takes place the gate loses its control over the device. The PUT remains in a conductive state until the holding current falls below a certain level or the polarity is reversed on its anode and cathode.

### CHECKING THE PUT

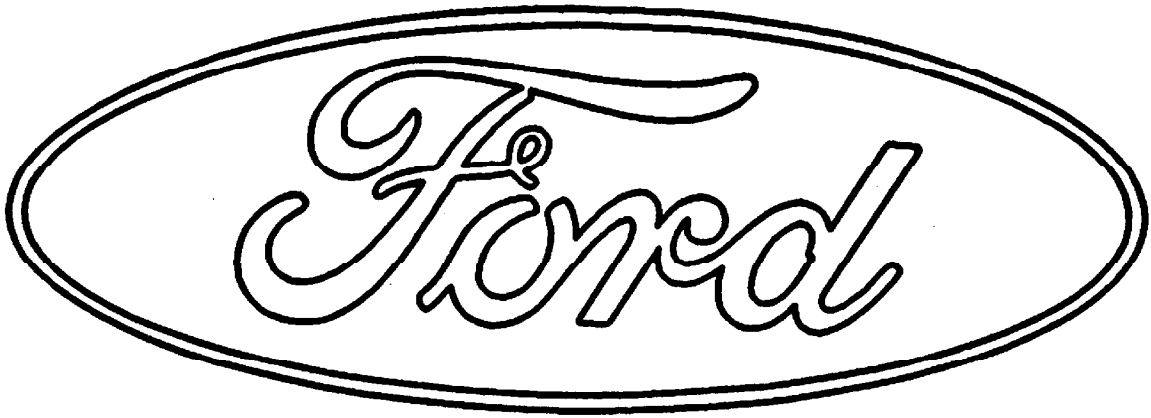
1. Place your meter on The R X 1 scale and connect the positive lead to the anode and the negative to the cathode. An infinite reading should occur.
2. Touch the gate to the negative lead or cathode of the PUT and the meter should read about mid-scale.

A tall, slender aluminum tower stands in a wooded area. At the very top of the tower, a person is visible, appearing to be working on the structure. The tower is supported by several diagonal bracing cables. The background consists of a dense forest of trees, some of which are bare, suggesting a winter or late autumn setting. The overall image has a high-contrast, black and white aesthetic.

# UNIVERSAL TOWERS

Universal Manufacturing Co. 43900 Groesbeck Hwy. Mt. Clemens, MI 48043 (313) 463-2560 FAX (313) 463-2964

## ALUMINUM TOWER



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