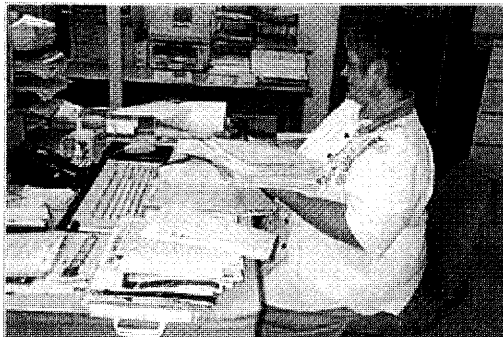


The ARRL Volunteer Examiner Coordinator office officially came into being July 21, 1984, when then ARRL President Larry Price, W4RA, signed the VEC agreement with the FCC at the ARRL National Convention in New York City. The first ARRL VEC exam session was held soon thereafter, on September 2, 1984, at the ARRL Pacific Division Convention in California.

How Does the VEC Program Work?

Although the ARRL/Volunteer Examiner Coordinator operation resides at ARRL HQ, it is separate from the League's other operations. Aside from overseeing the exam process, it's also responsible for the security of test designs and other confidential material. Exam supplies are stored in a locked cage accessible only to the seven-member staff that coordinates the work of the ARRL VEC's 30,000 member volunteer force.



VEC Assistant Nonie Madone smiles approvingly, indicating that another stack of test session registrations has passed her additional scrutiny for accuracy and completeness. They will be uploaded to ARRLWeb for future test date/location referrals.

SCRA had the second VE session in the Pacific Div. and I think second in the nation.

- MIAL

ARRL certified volunteer examiners, who could be located anywhere in the world, notify ARRL that they intend to hold an examination session. The exam date is then put into a database that is used internally for exam tracking, and externally for test date and location referrals. A couple of weeks prior to the appointed time, ARRL will ship materials necessary to conduct the exam to the examiners.

The questions and answers for all Amateur Radio exams are in the public domain. Anyone can review them and/or use them for any purpose--including the creation of their own study guides or tools to help people prepare for or give exams. From the pool of questions, ARRL creates its own exams, randomly selecting the questions from the appropriate question pool. A candidate for a license can rest assured that his exam is composed of only the exact questions, answers and distracters (wrong answers) that appear in the public domain.

At the end of the test, candidates find out almost immediately if they have passed or failed. If the successful examinee already holds a license and was seeking to upgrade, the examinee receives a Certificate of Successful Completion of Examination or CSCE. This certificate allows the examinee to operate immediately with the privileges of the new class. New licensees must wait until they are granted a call sign from the FCC, usually a matter of 10 days or so from the test date--as soon as the FCC-granted call sign appears in the FCC ULS database.



VEC Assistant Ann Brinius, working in the secure "cage" area, packs exam material for shipment to an ARRL VE team.

Upon completing their work, the VEs return all test materials--passed or failed--to the ARRL/VEC where it's immediately checked for completeness and accuracy. The test results are then transmitted electronically to FCC and the hard copy exam forms are archived at ARRL. Then, usually within a mere 90 minutes--on weekdays--the FCC computer has already processed the data sent to them by the VEC and has granted the new license or upgrade. The new license results are available via the FCC ULS Web page.

Results

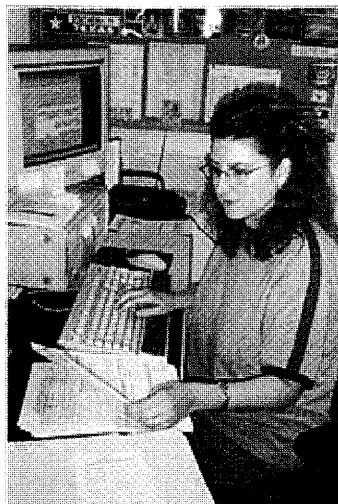
"Our emphasis is on service," said ARRL VEC Manager Maria Somma, KB1KJC. "Electronic filing means that hams will get their licenses in a matter of weeks or days instead of months," she said. Processing time at ARRL/VEC averages two to three days from receipt of material from the VE field team.



General view of the VEC Department, showing the secure area used for storing test material.

A few statistics underscore the success of the VEC program. From late 1983 to date, more than 2000 Volunteer Examiner teams have been formed, 30,000 VEs accredited, and more than 320,000 license

applications processed. More than 662,000 persons have been served. Remarkably, ARRL VEs have administered more than a million exam elements at more than 70,000 ARRL/VEC-coordinated test sessions.



**ARRL VEC Manager
Maria Somma, KB1JKC,
electronically transmits
test results directly to
FCC.**

Additional VEC Services

And that's not all the ARRL/VEC staff is responsible for. In addition, the Department:

- Coordinates the mailing of special FCC-License Renewal notices sent to ARRL Members 90 days before their FCC license is set to expire. This is an ARRL Members-Only service;
- Administers the International Amateur Radio Permit (IARP) program for US radio amateurs. This is a permit allowing US amateurs to operate in some Central and South American countries without first requesting a special visitor's license from that government.
- Serves as one of five Special Event 1x1 Call Sign coordinators, processing applications for one-time use of calls signs such as W0W, K6B, N9W.





**The front door says it
all. VEs enjoy serving
their local amateur
community.**

- Serves as one of the three Club Station Call Sign Administrators. With the exception of Vanity requests, all new, renewal and modification applications for Club, Military Recreation and RACES station licenses must go through a CSCSA. Vanity applications must continue to go through the FCC.
- Assists in maintaining the question pools. Representatives from ARRL, together with those of other VECs, perform the nearly annual task of reviewing and updating the public-domain Technician, General and Amateur Extra Class question pools.

Summing up, ARRL VEC Manager Maria Somma, KB1KJC, said: "The ARRL VEC is the leading VEC because of the excellent work of thousands of volunteer examiners who have given so generously of their time, energy and skill so that many thousands more amateurs could advance through the amateur ranks."

The ARRL/VEC Department is open Monday through Friday, except holidays, from 8 AM-5 PM Eastern time. ARRL/VEC is on the Web and by telephone at: 860-594-0300. If you are interested in becoming an ARRL Volunteer Examiner, e-mail vec@ARRL.org and request *The Prospective VE packet*. Be sure to include your name and postal address. The PVE packet includes a current *Volunteer Examiners Manual* and other information to get you started as an ARRL Volunteer Examiner.

Page last modified: 02:30 PM, 29 Jun 2005 ET

Page author: awextra@arrl.org

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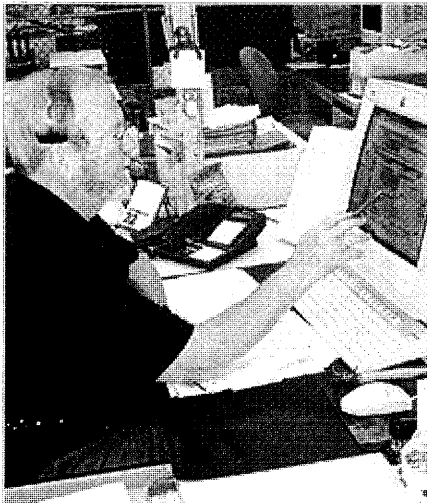
Inside Your League: The Volunteer Examiner Program

Are you ready to upgrade? Do you know someone who is ready to take his Amateur Radio exam? No problem. ARRL has more than 30,000 volunteer examiners worldwide, ready to help. Let's take a look at how the ARRL VEC staff helps hams and prospective hams upgrade or earn a first FCC Amateur Radio license.

Back in the Dark Ages, FCC personnel administered all Amateur Radio exams beyond the Novice level at FCC offices (in large cities) or at other test sites (in smaller cities). If you lived outside of a major city, your opportunity to take an exam locally was limited to the FCC's scheduled visits to your area.

In late 1982, Congress passed the Goldwater-Wirth law, which permitted the FCC to accept the voluntary services of radio amateurs to assist in administering examinations. The League immediately set to work laying the groundwork that would eventually allow amateurs to make exams available to their peers. Headquarters staff spent thousands of hours working with the FCC to develop the basic rules that would be needed before this new testing system could begin.

To get their feet wet, volunteer examiners--under the supervision of the FCC--administered tests to more than 600 applicants at the 1983 Dayton Hamvention. Later that year Congress authorized VEs to charge a nominal fee to recoup the costs of performing their services. With cost reimbursement no longer an issue, the League was able to take on the task of coordinating exams on a national scale without having the cost of administration fall exclusively to the membership.



Staff member Pete Warner checks completed exam materials received from a VE team after a successfully completed testing session.

>> Complete this form 90 days in advance of test session <<

ARRL VOLUNTEER EXAMINER PROGRAM

TEST SESSION REGISTRATION FORM



TYPE OR PRINT ALL INFORMATION CLEARLY.

1. TEST DATE: SAT. JAN 26, 1 PM
(list all dates if session extends over a period of two or more adjacent dates)
2. SESSION SPONSOR: Sonoma County Radio Amateurs Inc (SCRA)
(name of club, hamfest committee, convention, or "unsponsored")
3. ADDRESS OF TEST SITE:
(Please include building names and room numbers sufficient to give candidate directions to the site.)
Sonoma County Emergency Operations Center (Behind Courthouse)
600 Administration Drive
Santa Rosa, CA 95401
city state zip
4. VE TEAM MAIL CONTACT PERSON'S ADDRESS:
(This person will receive all mail from candidates, plus non-sensitive supplies from VEC. Exam papers will be sent only to VE TEAM LIAISON, named below.)

NAME: Henry E. Davis W6DTV
first initial last

MAILING ADDRESS: 7822 Washington Ave
number/route street apt/box
Sebastopol CA 95472
city state zip

5. VE TEAM LIAISON (type or print clearly)

NAME: Alan R. Bloom N1AL
first initial last

MAILING ADDRESS: ~~3400~~ ~~Alameda~~ ~~St~~ c/o Hewlett Packard Co.
number/route street apt/box
~~6000~~ Santa Rosa CA 95401
city state zip

[] ADVANCED
[X] EXTRA
(continued)

CALL SIGN: N1AL DATE LICENSE EXPIRES: 1/28/88

TEST SESSION REGISTRATION FORM, p. 2

8. LIST ANY FUTURE TEST DATES PLANNED BY THE SAME SPONSOR OR USE THIS SPACE TO DESCRIBE AN ONGOING REGULAR SCHEDULE.

SESSION DATE

SESSION TIME (give am/pm)

No regular schedule set up yet

7. LIST ALL VEs WHO WILL PROBABLY WORK WITH THE SESSION LISTED ON THE FRONT OF THIS FORM. (This gives the ARRL/VEC Office time to verify that you have enough currently-accredited VEs.)

PLEASE PRINT CLEARLY

CALL

CLASS NAME of VE

✓ W6DTV

E

Henry Davis

✓ WA0JRB

E

Doug Bender

WALACK

E

Don Osborne

N6BLN

E

Lyle Meek

✓ K6ANP

E

Ken Gerald

✓ N1AL

E

Alan Bloom

✓ W66UBA

Jim Boyett

AMERICAN RADIO RELAY LEAGUE
225 MAIN STREET
NEWINGTON, CT 06111

VOLUNTEER EXAM COORDINATOR

Sonoma County RA

TEAM ID : 00121

Sebastopol Community Center
390 Morris St

SESSION ID: 00238*01

TEST DATE : 01/26/85

Sebastopol CA 95472

EXAM	VERSION 1	VERSION 2	VERSION 3	VERSION 4	TOTALS
1A	3				3
1B	12				12
1C	3				3
2	3				3
3	10				10
4A	4				4
4B	3				3
					38

*
* If you have not received the correct quantities
* (other than extra code elements as noted below),
* please contact us as soon as possible.
*
* As appropriate, additional copies of lower level code
* elements have been included for candidates who fail
* to qualify on 13 or 20 wpm tests.
*
* All test papers, used or unused, including cassette
* tapes, must be returned to the VEC (ARRL).
*

Alan Bloom N1AL
260 Arata Lane
Windsor CA 95492

>> Attach to completed Candidate Roster after test session <<



ARRL VOLUNTEER EXAMINER PROGRAM

TEST SESSION SUMMARY SHEET

TEST DATE: 1/26/85

FIVE-DIGIT SESSION ID CODE: 0 0 2 3 8 SITTING: _____

SPONSOR (if any): Sonoma County Radio Amateurs Inc.

TEST SITE ADDRESS: 600 Administration Dr
Santa Rosa, CA 95401

city

state

zip

BREAKDOWN BY LICENSE CLASS

LICENSE CLASS and ELEMENTS	NUMBER GIVEN	NUMBER PASSED
TECHNICIAN 1A (or 1B or 1C), 2, 3	<u>1</u>	<u>0</u>
GENERAL 1B (or 1C), 2, 3	<u>8</u>	<u>3</u>
ADVANCED 1B (or 1C), 2, 3, 4A	<u>2</u>	<u>0</u>
EXTRA 1C, 2, 3, 4A, 4B	<u>3</u>	<u>1</u>
CODE CREDIT 1A (5 wpm)	<u>0</u>	
CODE CREDIT 1B (13 wpm)	<u>0</u>	
CODE CREDIT 1C (20 wpm)	<u>1</u>	

PASS RATE BY ELEMENT

EL CL	NUMBER GIVEN	NUMBER PASSED	NUMBER NO SHOW
1A nt	<u>1</u>	<u>0</u>	<u>1</u>
1B ga	<u>8</u>	<u>2</u>	<u>2</u>
1C e	<u>2</u>	<u>2</u>	<u>1</u>
2 n	<u>1</u>	<u>1</u>	<u>1</u>
3 tg	<u>7</u>	<u>5</u>	<u>2</u>
4A a	<u>3</u>	<u>1</u>	<u>1</u>
4B e	<u>1</u>	<u>1</u>	<u>0</u>
	<u>23</u>	<u>12</u>	

↑ DON'T UNDERSTAND HOW TO FILL THIS PART OUT

NUMBER OF CANDIDATES REGISTERED FOR THE SESSION: 16

NUMBER OF CANDIDATES ACTUALLY ATTENDING SESSION: 12

7 out of 12 passed at least one element.

ARRL VOLUNTEER EXAMINER PROGRAM
TEST SESSION SUMMARY SHEET, p. 2

This section must be completed by all three Volunteer Examiner Team members administering an examination for Amateur Extra, Advanced, General, or Technician Class operator licenses.

PRINT CLEARLY

VE #1

SIGNATURE
(required):

Alan Bloom Alan Bloom

CALL SIGN:

N1AL

[] ADVANCED CLASS
[X] EXTRA CLASS

VE #2

SIGNATURE
(required):

Donald E. Osborne Donald Osborne

CALL SIGN:

W4GACX

[] ADVANCED CLASS
[X] EXTRA CLASS

VE #3

SIGNATURE
(required):

Douglas Bender Douglas Bender

CALL SIGN:

W4JRB

[] ADVANCED CLASS
[X] EXTRA CLASS

LIST CALL SIGNS OF ANY ACCREDITED VEs WHO SERVED AS HELPERS AT THIS TEST SESSION AND WISH TO BE CREDITED FOR PARTICIPATION.

<u>Hank Davis</u> <u>W6DTV</u>	<u>Len Gerald</u> <u>K6ANP</u>
<u>Irma Osborn</u> <u>K6FX</u>	<u>Lyle Meek</u> <u>N6BLN</u>
<u>Ron Baker</u> <u>K6GIT</u>	<u>Jim Boyett</u> <u>WB6UBA</u>
<u>Bob Hein</u> <u>K56V</u>	

>>To be completed after test session<<

ARRL VOLUNTEER EXAMINER PROGRAM

TEST SESSION EVALUATION

(TO BE ATTACHED TO TEST SESSION SUMMARY SHEET)

ID CODE: 00238401 SITTING: _____ DATE: 1-26-85

SPONSOR: Sonoma County Radio Amateurs Inc

CITY & STATE: Santa Rosa, CA 95401

1. WHO WAS THE VE TEAM LIAISON FOR THIS SESSION?

NAME: Alan Bloom

CALL: N1AL

2. Were all test materials received in good order?
If NO, explain:

YES []
NO [X]

Novice Answer sheet was missing question 2A-9.10
One Element 3 Test book was missing the center pages.

3. Did the session proceed without complaints from
or problems with candidates? If NO, explain here
or on additional page(s):

YES [X]
NO []

4. The following questions seemed to give candidates trouble:

Test Schedule # _____ Questions: _____

Test Schedule # _____ Questions: _____

Test Schedule # _____ Questions: _____

(OVER)

Our location was identified as Sebastopol. This was the location of our last exams last September. (Our registration form had the correct location - Santa Rosa)

I am confused as to how to fill out the Test Session Summary sheet. Under "Breakdown by License Class" What do you do for someone who fails his desired class, but passes a lower? For example, say the session had 1 applicant who applied for Extra, but passed Advanced with a 20wpm code credit. Which of the following would be the correct summary?

	GIVEN	PASSED	GIVEN	PASSED	GIVEN	PASSED
TECH	0	0	0	0	0	1
GEN	0	0	0	0	0	1
ADV	0	0	0	1	0	1
EXTRA	1	0	1	0	1	0
20wpm CODE CREDIT	1		1		1	

①
②
③

I assumed method 1, but I can see the logic of the other 2 methods, altho it seems strange to have more "passed" than "given" in a category!

Alan Blom NIAL

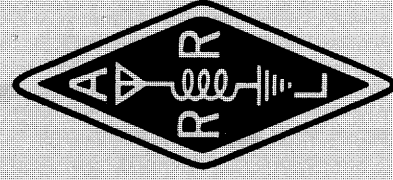
1-29-85

>> For VE Team pre-test info use only <<
>> Detach before sending copies 1 and 2 to VEC <<

ID CODE (assigned by VEC): _____ SITTING #: _____ DATE: Jan 26, 1983

SPONSOR NAME: Sonoma Co. Radio Antennas Inc. CITY & STATE: Santa Rosa CA

**APRIL VOLUNTEER EXAMINER PROGRAM
CANDIDATE ROSTER AND TEST RESULTS**



[] CHECK BOX IF MORE THAN ONE SHEET WAS USED TO COMPLETE THIS CANDIDATE ROSTER. THIS IS PAGE 1 OF 1.

[] CHECK BOX IF THIS SESSION HAS TWO OR MORE SITTINGS. HOW MANY TOTAL SITTINGS? 1

CANDIDATE'S NAME	PRESENT CALL (if any)	CLASS PRST	CLASS APPLD	ELEMENTS REQUESTED	FEE PAID	ELEMENTS PASSED AND SCHEDULE NUMBERS	CODE CREDIT CERTIF GIVEN	NEW LICENSE EARNED	NO HOLD SHOW TRBL
1* SARAH F. DAVIS N6FAX		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
2* Jackie M. Lilman N6JTB		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X] []
3* Patricia M. Jowis KB6GHY		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
4* Richard D. Joy SR. WB6MCE		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
5* Edward D. Lotenberg B Shook		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
6* Marie C. Mappus N6KUS		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
7* Jeffrey T. Meyers K4BZMU		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
8* Hermit B. Shook KB6GBV		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X] []
9* Lee G. Snyder K4H9VZO		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
10* Anne G. Swanson K4B4XP		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
11* George K. Wallace N6DSW		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
12* Charles E. Walsh W6HMX		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X] []
13* Mark Van Wyke		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
14* Joanne A. Ford		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
15* Gary H. Lehnert		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[X]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X] []
16* Don Singerman		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED 20	NTG A E	[] []
17		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
18		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
19		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
20		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
21		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
22		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
23		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
24		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []
25		NTG A EU	NTG A E	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[] []

ATTACH ADDITIONAL SHEET(S) IF SITTING IS LARGER THAN 25 CANDIDATES

American Radio Relay League
Volunteer Examiner Coordinator

CONFIRMATION OF TEST SESSION APPOINTMENT

You have applied for an Amateur Radio license examination. Please come to the test site about 15 minutes in advance of the time given below.

YOU ARE REQUIRED TO BRING THE FOLLOWING ITEMS TO THE TEST:

- **YOUR CURRENT ORIGINAL DOCUMENT** Amateur Radio license for positive identification (FCC requirement - it will be returned immediately, since a photocopy is attached to your application form);
- at least one pencil (#2 lead) and a suitable eraser;
- an ink pen;
- two forms of positive identification from this list:
 - a photo ID plus one of the following, OR two of the following:
 - non-photo driver's license or other ID card (school or employer);
 - birth certificate;
 - passport;
 - minor's work permit;
 - any business or personal correspondence addressed to you.

Your cooperation in providing proper identification is appreciated. The Volunteer Examiners must assure themselves of the identify of persons taking the examinations (FCC requirement.)

Non-programmable calculators are allowed. Scratch sheets and code copy sheets are provided. All notes made during the test must remain with the test papers. Code credit and "instant upgrade" certificates will be issued.

TO WAIVE A CODE TEST, BRING THE ORIGINAL DOCUMENT (not a copy) OF ONE OF THE FOLLOWING FORMS OF PROOF OF PROFICIENCY (they will be returned immediately):

- a First, Second or Third Class Commercial Radiotelegraph license that is currently valid, or has expired less than five years before the test date;
- a Certificate of Successful Completion of the Examination issued by any VEC within the twelve months preceding the test date; OR
- a Code Credit Certificate issued by any FCC Field Office within the twelve months preceding the test date.

SPONSOR: SCRA, Inc. Box 116, Santa Rosa, CA 95402

PLEASE BRING THIS APPOINTMENT CONFIRMATION LETTER WITH YOU TO THE TEST SESSION AS A REMINDER OF THIS IMPORTANT INFORMATION. IT MAY BE NEEDED TO GAIN ACCESS TO SESSIONS HELD AT CONVENTIONS AND HAMFESTS.

TEST TIME AND DATE:	Jan 26, 1:00 PM	_____ Highway 101 _____	_____ N _____
TEST SITE:	The Sonoma Co. Emergency Operations Center (EOC) located behind the Co. jail in the County administration complex in the North end of Santa Rosa.	! Co. ! _____	! Bicen-
		! Court! EOC!	! tennial
		! House! _____	! Way
		_____ Ventura Ave _____	!
		_____	!
		_____ Mendocino Ave. _____	!

GOOD LUCK!

THIS LETTER IS NOT FOR PERSONAL USE



American Radio Relay League
Volunteer Examiner Coordinator



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- at least one pencil (#2 lead) and a suitable eraser;
- an ink pen;
- two forms of positive identification from this list:
 - a photo ID plus one of the following, OR two of the following:
 - non-photo driver's license or other ID card (school or employer);
 - birth certificate;
 - passport;
 - minor's work permit;
 - any business or personal correspondence addressed to you.

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TEST TIME AND DATE:

Jan 26, 1:00 PM

S<--- Highway 101

--->N

TEST SITE:

The Sonoma Co. Emergency Operations Center (EOC) located behind the Co. jail in the County administration complex in the North end of Santa Rosa.

! Co. !

! Court! EOC!

! House!

----- Ventura Ave -----

----- Mendocino Ave ! -----

Bicen-
ennial
Way

GOOD LUCK!

THIS LETTER IS NOT FOR PERSONAL USE

>> Complete and mail 25 days before test session <<

ARRL VOLUNTEER EXAMINER PROGRAM

REQUEST FOR TEST MATERIALS

(ATTACH TO CANDIDATE ROSTER and TEST RESULTS)

1984 AUG 24 PM 3:16

SESSION ID CODE _____ (assigned by ARRL/VEC Office)

1. TEST SESSION DATE: Sept 15, 1984
2. SPONSOR NAME: Sonoma County Radio Amateurs Inc.
3. CITY & STATE: Box 116, Santa Rosa, CA 95402
4. ☐ CHECK BOX IF MORE THAN ONE SITTING IS PLANNED. IF MORE THAN ONE SITTING, THIS IS PAGE _____ OF _____. BRIEFLY DESCRIBE THE SCHEDULE FOR YOUR SESSION'S MULTIPLE SITTINGS (times, dates, etc.)
2 PM

5. After completing the CANDIDATE ROSTER (pre-test portion), total the number of test elements needed for each sitting, and enter those totals below.

WRITTEN ELEMENTS	NUMBER NEEDED	CODE ELEMENTS	NUMBER NEEDED
2	<u>9</u>	1A 5 wpm	<u>9</u>
3	<u>14</u>	1B 13 wpm	<u>13</u>
4A	<u>32</u>	1C 20 wpm	<u>2</u>
4B	<u>2</u>		

REQUEST FOR TEST MATERIALS, p. 2

6. LIST QUANTITIES OF ANY ADDITIONAL SUPPLIES YOU NEED

APPLICATIONS (FOC FORM 610) _____

FORM 610 TROUBLE SHEETS _____

CANDIDATE ROSTER/TEST RESULTS FORM _____

TEST SESSION REGISTRATION FORM 2

TEST CONFIRMATION POSTCARDS _____

OTHER: _____

7. NAME THE TEST SESSION LIAISON to whom the test materials will be sent. (This person must be one of the accredited VEs serving on this session.)

VE #1

NAME: Alan Bloom (EXTRA)

CALL: N1AL 260 Arata Lane, Windsor CA 95492
ARRL ACCREDITATION NUMBER: 6061435

8. NAME THE TWO OTHER VES serving this particular sitting.

VE #2

NAME: Hank Davis (EXTRA)

CALL: W6DTV ARRL ACCREDITATION NUMBER: 6091978

VE #3

NAME: Lyle Meek (EXTRA)

CALL: N6BLN ARRL ACCREDITATION NUMBER: 8316325

9. (OPTIONAL) NAME ONE OR MORE ALTERNATE VES WHO CAN SUBSTITUTE FOR THOSE NAMED ABOVE.

VE #4 (ALT)

NAME: Don Osborn (EXTRA)

CALL: W6ACX ARRL ACCREDITATION NUMBER: 8073507

VE #5 (ALT)

NAME: Doug Bender (JUST PASSED EXTRA)

CALL: W4JRB ARRL ACCREDITATION NUMBER: _____ P

NOTE:
None of us
has yet
received
notice of
accreditation

ID CODE [assigned by VEC]: _____ SITTING #: _____ DATE: 9/15/84

SPONSOR NAME: Sonoma County Radio Amateurs Inc. CITY & STATE: Santa Rosa, C.A.

☐ CHECK BOX IF THIS SESSION HAS TWO OR MORE SITTINGS. HOW MANY TOTAL SITTINGS?

(continued)

CANDIDATE'S NAME			PRESENT CALL (if any)	CLASS PRST	CLASS APPLD	ELEMENTS REQUESTED	FEE PAID	ELEMENTS PASSED AND SCHEDULE NUMBERS	CODE CREDIT CERTF GIVEN	NEW LICENSE EARNED	NO HOLDS SHOW TR
11	Fred. E. Wallin	KAGAYX	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
12	Susan Z. Schuyler	N6IRJ	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X]
13	Lloyd D. Bartles	KAGFCH	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[X]
14	Robert E. Olsten	WD6DPE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
15	Curtis L. Braucher	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
16	Kermit B. Shirk	KB6GBV	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
17	Patricia M. Louise	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
18	Robert J. Wile, Sr.	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
19	Robert J. Wile, Sr.	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
20	Joanne A. Lord	KB6EMQ	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
21	Sam L. Terzo	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
22	Harry D. Jenkins	NONE	✓	NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[✓]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
23				NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]
24				NTG AEU	NTG AE	2 3 4A 4B 1A 1B 1C	[]	1A 1B 1C 2 3 4A 4B	SPEED	NTG A E	[]

>>To be completed after test session<<

ARRL VOLUNTEER EXAMINER PROGRAM

TEST SESSION SUMMARY SHEET

ID CODE: _____ SITTING: _____ DATE: 9/15/84
SPONSOR: Sonoma County Radio Amateurs
TEST SITE ADDRESS: Analy High School
6950 Analy Ave
Sebastopol CALIF
city state zip

This is a summary of test data for the test session listed above. In cases where more than one sitting occurred, the data has been combined from all sittings on this summary sheet.

BREAKDOWN BY LICENSE CLASS | PASS RATE BY ELEMENT

■ ESNEC								
■ Lic. class	# Passed	EL	CL	# GIVEN	# PASSED	% PASSED	# NO SHOW	# OLD TRBL
TECHNICIAN 1A, 2, 3	<u>2</u>	1A	nt	<u>3</u>	<u>2</u>	<u>66%</u>	<u>1</u>	<u>0</u>
GENERAL 1B or 1C, 2, 3	<u>3</u>	1B	ga	<u>10</u>	<u>4</u>	<u>40%</u>	<u>4</u>	<u>0</u>
ADVANCED 1B or 1C, 2, 3, 4A	<u>1</u>	1C	e	<u>1</u>	<u>1</u>	<u>100%</u>	<u>1</u>	<u>0</u>
EXTRA 1C, 2, 3, 4A, 4B	<u>1</u>	2	n	<u>4</u>	<u>4</u>	<u>100%</u>	<u>1</u>	<u>0</u>
CODE CREDIT (5 wpm) 1A	<u>6</u>	3	tg	<u>11</u>	<u>6</u>	<u>55%</u>	<u>2</u>	<u>0</u>
CODE CREDIT (13 wpm) 1B	<u>0</u>	4A	a	<u>1</u>	<u>1</u>	<u>100%</u>	<u>1</u>	<u>0</u>
CODE CREDIT (20 wpm) 1C	<u>0</u>	4B	e	<u>1</u>	<u>1</u>	<u>100%</u>	<u>1</u>	<u>0</u>

TEST SESSION SUMMARY SHEET, p. 2

This section must be completed by all three Volunteer Examiner Team members administering an examination for the Amateur Extra, Advanced, General, or Technician Class operator licenses.

PRINT CLEARLY, TYPE, OR USE ARRL/VEC-SUPPLIED LABELS

VE #1

SIGNATURE (required)

Alan Bloom

NAME (or label):

Alan R. Bloom
first initial last

MAILING ADDRESS:

260 Arata Lane
number/route street apt/box
Windsor, CA 95492
city state zip

☐ ADVANCED
☒ EXTRA

CALL
SIGN:

N1AL

DATE
LICENSE
EXPIRES

1-22-88

VE #2

SIGNATURE (required)

Lyle MEEK

NAME (or label):

LYLE E. MEEK
first initial last

MAILING ADDRESS:

1469 LUPINE DR
number/route street apt/box
SANTA ROSA, CA 95401
city state zip

☐ ADVANCED
☒ EXTRA

CALL
SIGN:

NGBLN

DATE
LICENSE
EXPIRES

9-23-88

VE #3

SIGNATURE (required)

Donald E. Osborne

NAME (or label):

DONALD E. OSBORNE
first initial last

MAILING ADDRESS:

9070 GREEN VALLEY RD
number/route street apt/box
SEBASTOPOL CA 95472
city state zip

☐ ADVANCED
☒ EXTRA

CALL
SIGN:

W6ACX

DATE
LICENSE
EXPIRES

10-6-86

ALSO ASSISTING WERE VES: DOUG BENDER WA0JAB
(Please put them down for LEO GERALD K6ANA
VE activity in 1984) HANK DAVIS W6DTV

>>To be completed after test session<<

ARRL VOLUNTEER EXAMINER PROGRAM

TEST SESSION EVALUATION

(TO BE ATTACHED TO TEST SESSION SUMMARY SHEET)

ID CODE: _____ SITTING: _____ DATE: 9/15/84
SPONSOR: Sonoma County Radio Amateurs Inc.
CITY & STATE: Sebastopol, CA

1. WHO WAS THE VE TEAM LIAISON FOR THIS SESSION?

NAME: Alan Bloom

CALL: MIAL/6

2. Were all test materials received in good order?

YES ☐

If NO, explain:

NO ☒

- NO Reply cards received prior to Application Deadline
- The Summary sheets were printed defective, looks like your word processor had a headache.

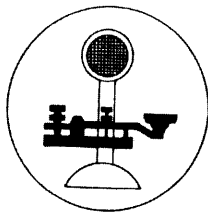
3. Did the session proceed without complaints from or problems with candidates? If NO, explain here or on additional page(s):

YES ☒

NO ☐

4. The following questions seemed to give candidates trouble:

ELE 3 Test Schedule # 1 Questions: #5 (Phone bands changed Sept 1)
ELE 4B Test Schedule # 1 Questions: #16, #28, #29, #38 (SEE ATT. SHEET)
ELE 4A Test Schedule # 1 Questions: #17 (Depends on whether electron or conventional current is assumed)
ELE 2 #1035A #2A-22.5 (NO ANSWER ON ANSWER SHEET)



Sonoma County Radio Amateurs, Inc.

Club Station

W6LFJ

P.O. Box 116
Santa Rosa, CA 95402

Repeater Station

WB6PVS



SUPPLEMENT TO TEST SESSION EVALUATION SHEET

Sonoma County Radio Amateurs' session Sebastopol, CA 9/15/84

Our Extra class candidate missed 4 questions, and I agree with his answers in each case: *(Schedule #1)*

Q #16: Time constant may be measured in any of these units, but the best answer is B "seconds" because these are the fundamental units. This is supported by the enclosed photocopy from the ARRL Handbook.

Q #28: "A" is a perfectly good answer. AT-cut crystals are impractical below 1 MHz, and less stable cut angles must be used.

Q #29: "C" is just as good an answer.

Q #38: A, B and C are all correct. In fact, the closer the spacing, the sharper the figure-8 pattern, so A would have to be the "most correct" answer.

Note that Q #1 is now out of date.

Finally, I disagree with question 10, even though our applicant got the "right" answer. If you study the enclosed photocopies from Reference Data for Radio Engineers, you can calculate that the correct answer for NTSC video is 70.3%.

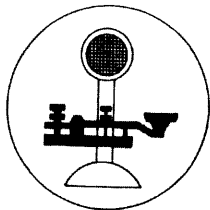
Alan Bloom, N1AL/6

Extra Class

General Radiotelephone (formerly
1st class)

BA/MSEE

Design Engineer for Hewlett Packard Co.



Sonoma County Radio Amateurs, Inc.

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WB6PVS



SUPPLEMENT TO TEST SESSION EVALUATION SHEET

Sonoma County Radio Amateurs' session Sebastopol, CA 9/15/84

ADDITIONAL COMMENTS ON THE VOLUNTEER EXAM PROGRAM:

-- Questions on the Novice exam should be numbered sequentially as well as with FCC question numbers so the applicant can get the right answer in the right space on the answer sheet.

-- There is no place on the written test answer sheet to indicate PASS/FAIL or the number correct.

-- There is no place on the VE Team Report for the name of the applicant! (This will be corrected when it's made a part of the 610 form, but the old forms will be around for a long time.)

-- The VE Manual makes no mention of the VE Team Report form and how to fill it out.

-- The VE Manual (p 48) says use a separate summary sheet for each sitting, but the summary sheet itself says use one sheet for the entire session. Which is correct?

-- Please simplify the paperwork!! Some suggestions:

1. Eliminate the VE addresses and other information from the VE Team reports. Better yet, eliminate everything on this sheet other than section I parts 1-5 since all the other information is redundant on other forms.
2. Eliminate VE names/calls on the code test answer sheet. After all, it's not required on the written test.

If we could make it so all 3 VE's need only fill out their life history and signature in one place, it would greatly simplify the job of the Team Liason!

Alan Bloom N1AL

other. Maximum coupling exists when they have a common axis and are as close together as possible (one wound over the other). The coupling is least when the coils are far apart or are placed so their axes are at right angles.

The maximum possible coefficient of coupling is closely approached only when the two coils are wound on a closed iron core. The coefficient with air-core coils may run as high as 0.6 or 0.7 if one coil is wound over the other, but will be much less if the two coils are separated.

Time Constant: Capacitance and Resistance

Connecting a source of emf to a capacitor causes the capacitor to become charged to the full emf practically instantaneously, if there is no resistance in the circuit. However, if the circuit contains resistance, as in Fig. 28A, the resistance limits the current flow and an appreciable length of time is required for the emf between the capacitor plates to build up to the same value as the emf of the source. During this "building-up" period, the current gradually decreases from its initial value, because the increasing emf stored on the capacitor offers increasing opposition to the steady emf of the source.

Theoretically, the charging process is never really finished, but eventually the charging current drops to a value that is smaller than anything that can be measured. The *time constant* of such a circuit is the length of time, in seconds, required for the voltage across the capacitor to reach 63 percent of the applied emf (this figure is chosen for mathematical reasons). The voltage across the capacitor rises with time as shown by Fig. 29.

The formula for time constant is

$$T = RC$$

where T = time constant in seconds
 C = capacitance in farads
 R = resistance in ohms

Example: The time constant of a $2\text{-}\mu\text{F}$ capacitor and a $250,000\text{-ohm}$ (0.25 M) resistor is

$$T = RC = 0.25 \times 2 = 0.5 \text{ second}$$

If the applied emf is 1000 volts, the voltage between the capacitor plates will be 630 volts at the end of $1/2$ second.

If C is in microfarads and R in megohms, the time constant also is in seconds. These units usually are more convenient.

If a charged capacitor is *discharged* through a resistor, as indicated in Fig. 28B, the same time constant applies. If there were no resistance, the capacitor would discharge instantly when S was closed. However, since R limits the current flow the capacitor voltage cannot

instantly go to zero, but it will decrease just as rapidly as the capacitor can rid itself of its charge through R . When the capacitor is discharging through a resistance, the time constant (calculated in the same way as above) is the time, in seconds, that it takes for the capacitor to lose 63 percent of its voltage; that is, for the voltage to drop to 37 percent of its initial value.

Example: If the capacitor of the example above is charged to 1000 volts, it will discharge to 370 volts in $1/2$ second through the 250Ω resistor.

Inductance and Resistance

A comparable situation exists when resistance and inductance are in series. In Fig. 30, first consider L to have no resistance and also assume that R is zero. Then closing S would tend to send a current through the circuit. However, the instantaneous transition from no current to a finite value, however small, represents a very rapid *change* in current, and a *back emf* is developed by the self-inductance of L that is practically equal and opposite to the applied emf. The result is that the initial current is very small.

The back emf depends upon the change in current and would cease to offer opposition if the current did not continue to increase. With no resistance in the circuit (which would lead to an infinitely large current, by Ohm's Law) the current would increase forever, always growing just fast enough to keep the emf of self-induction equal to the applied emf.

When resistance is in series, Ohm's Law sets a limit to the value that the current can reach. The back emf generated in L has only to equal the difference between E and the drop across R , because that difference is the voltage actually applied to L . This difference becomes smaller as the current approaches the final Ohm's Law value. Theoretically, the back emf never quite disappears and so the current never quite reaches the Ohm's Law value, but practically the differences become unmeasurable after a time. The time constant of an inductive circuit is the time in seconds required for the current to reach 63 percent of its final value. The formula is

$$T = \frac{L}{R}$$

where T = time constant in seconds
 L = inductance in henrys
 R = resistance in ohms.

The resistance of the wire in a coil acts as if it were in series with the inductance.

Example: A coil having an inductance of 20 henrys and a resistance of 100 ohms has a time constant of

$$T = \frac{L}{R} = \frac{20}{100} = 0.2 \text{ second}$$

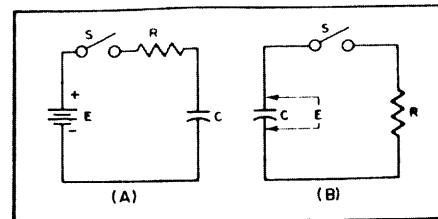


Fig. 28 — Illustrating the time constant of an RC circuit.

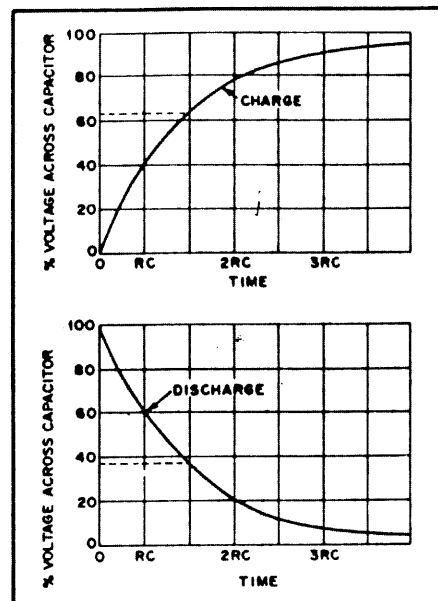


Fig. 29 — How the voltage across a capacitor rises, with time, when charged through a resistor. The lower curve shows the way in which the voltage decreases across the capacitor terminals on discharging through the same resistor.

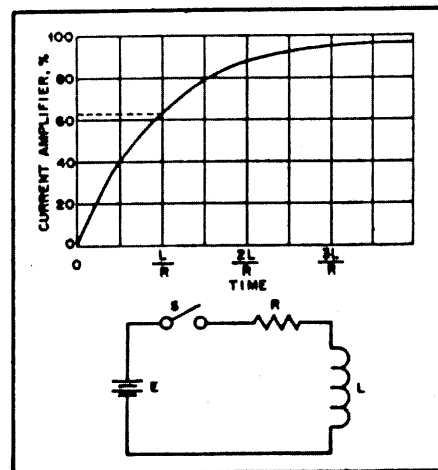


Fig. 30 — Time constant of an LR circuit.

if there is no other resistance in the circuit. If a dc emf of 10 volts is applied to such a coil, the final current, by Ohm's Law, is

$$I = \frac{E}{R} = \frac{10}{100} = 0.1 \text{ amp. or } 100 \text{ mA}$$

The curves of Figs. 16 and 17 give estimated field strengths for the television channels at different heights and powers. The antenna height is the height of the radiation center of the antenna above average terrain. Average terrain is determined by the elevations between 2 and 10 miles from the antenna site, taken along 8 radials separated by 45° in azimuth. Effective radiated power is the product of the antenna gain and the antenna input power. Antenna input power is the peak visual output power of the transmitter less transmission-line and diplexer losses. If extremely high antenna towers are used, it is often desirable to provide beam tilt and null fill-in to improve close-in coverage. In these cases the antenna gain in the horizontal plane is used to calculate the effective radiated power.

Directional antennas may be employed to improve service. The ratio of maximum to minimum radiation in the horizontal plane shall not exceed 10 decibels for channels 2-13, and 15 decibels for channels 14-83 if the transmitter power is more than 1 kilowatt. There is no restriction for channels 14-83 if the transmitted power is 1 kilowatt or less.

Transmission Standards

The standards for television transmission* in the US, as defined by the FCC, are:

Channel Width: 6 megahertz.

Picture Carrier Location: 1.25 megahertz \pm 1000 hertz above lower boundary of the channel.†

Aural Center Frequency: 4.5 megahertz \pm 1000 hertz above visual carrier.

Polarization of Radiation: Horizontal.

Modulation: Amplitude-modulated composite picture and synchronizing signal on visual carrier, together with frequency-modulated audio signal on aural carrier, shall be included in a single television channel (Figs. 18 and 19).

Scanning Lines: 525 lines/frame interlaced two to one.

Scanning Sequence: Horizontally from left to right, vertically from top to bottom.

Horizontal Scanning Frequency: 15 750 hertz for monochrome or $2/455$ times chrominance sub-carrier frequency ($15\,734.264 \pm 0.044$ hertz).

* See also "Television Standards and Practice," editor D. G. Fink, McGraw-Hill Book Company, 1943; EIA Standard RS170, "Electrical Performance Standards—Monochrome Television Studio Facilities."

† The table of assignments specifies that certain stations operate with carrier frequencies offset 10 kilohertz above or below the normal carrier frequencies. This is done to minimize co-channel interference.

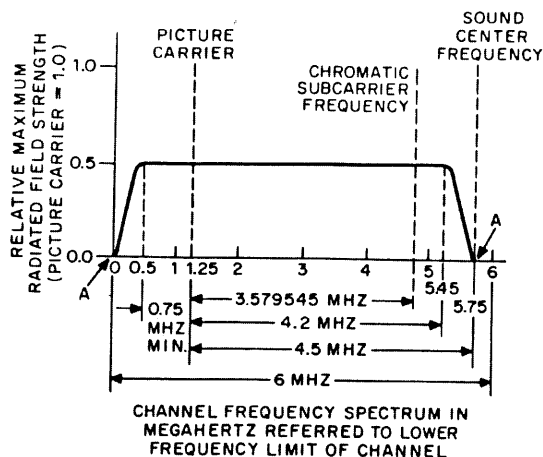


Fig. 18—Radio-frequency amplitude characteristic of television picture transmission. Field strength at points A shall not exceed 20 decibels below picture carrier. Drawing not to scale.

Vertical Scanning Frequency: 60 hertz for monochrome or $2/525$ times the horizontal scanning frequency (59.94 hertz) for color.

Aspect Ratio: 4 units horizontal, 3 units vertical.

Chrominance Subcarrier Frequency: 3.579545 megahertz \pm 10 hertz.

Blanking Level: Shall be transmitted at 75 ± 2.5 percent of the peak carrier level.

Reference Black Level: Black level is separated from the blanking level by 7.5 ± 2.5 percent of the video range from blanking level to reference white level.

Reference White Level: Luminance signal of reference white is 12.5 ± 2.5 percent of peak carrier.

Peak-to-Peak Variation: Total permissible peak-to-peak variation in one frame due to all causes is less than 5 percent.

Polarity of Transmission: Negative—a decrease in initial light intensity causes an increase in radiated power.

Transmitter Brightness Response: For monochrome transmission, radio-frequency output varies in an inverse logarithmic relation to the brightness of the scene.

Aural-Transmitter Power: Maximum radiated power is 20 percent (minimum, 10 percent) of peak visual transmitter power.

For color transmission (Figs. 43-44) the luminance component shall be transmitted as amplitude modulation of the picture carrier and the chrominance components as amplitude-modulation side-

bands of a 1
quadrature.*

Color Signal
signal is

$$E_M = E_Y'$$

$$+ [E$$

where

$$E_Q' = +0.41(I$$

$$E_I' = -0.27(I$$

$$E_Y' = +0.30E_I$$

For color-di
hertz, the sign:

$$E_M = E_Y' + \left\{ \frac{1}{1} \right.$$

The symbol

E_M

E_Y'

* See also J.
"Engineering," McC
1955.

Notes:

1. H = time in
2. V = time in
3. Leading an
4. to complet
5. Leading an
6. must be
7. maximum
8. of picture
9. Dimension
10. tolerances
11. variations
12. Equalizing
13. of the area
14. Color bur
15. omitted fo
16. the broad
17. Color bur
18. transmissi

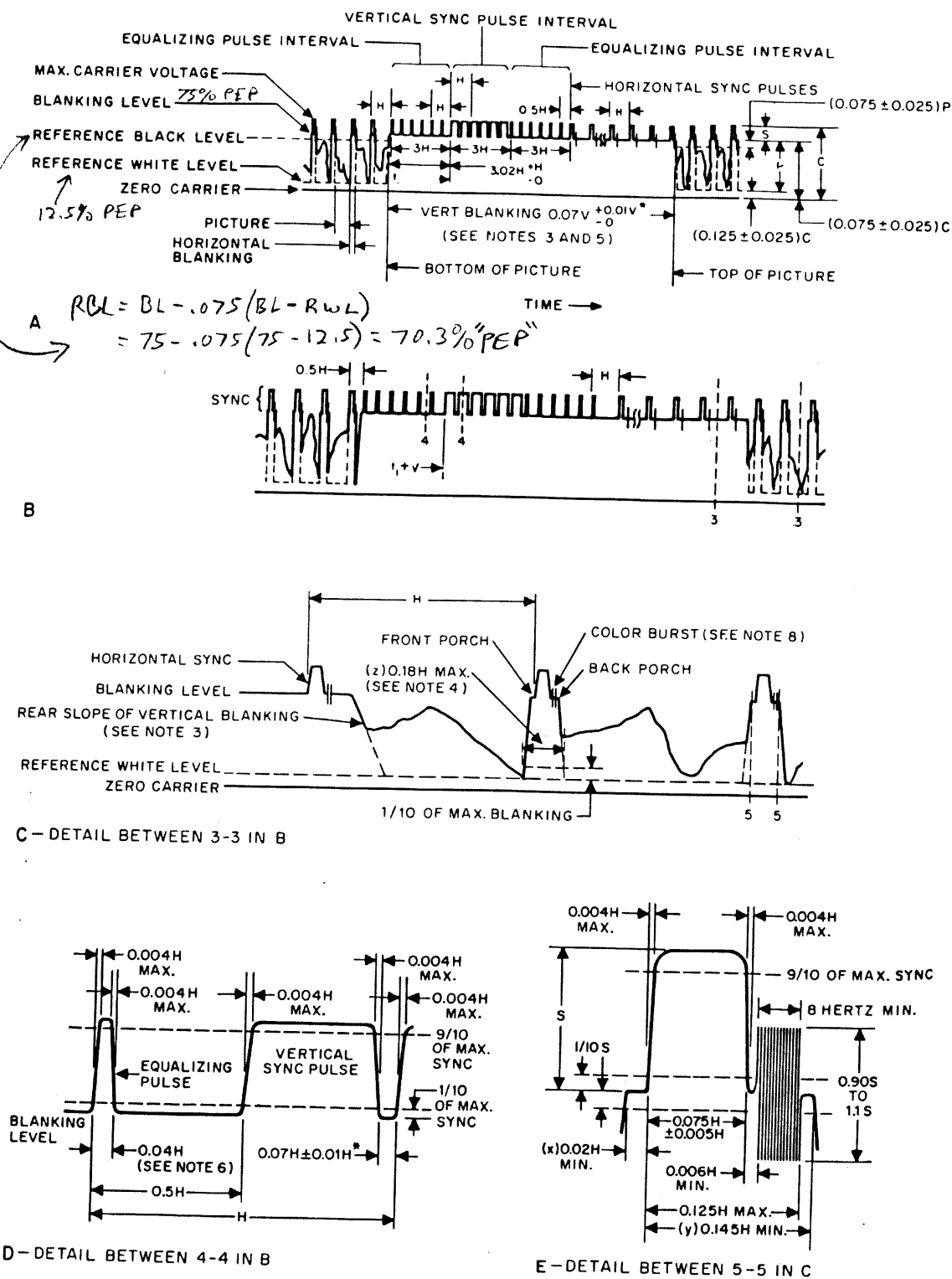
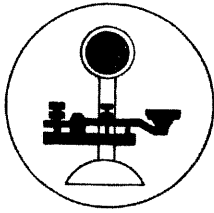


Fig. 19—Television composite-signal waveform data. (See notes at right).



Sonoma County Radio Amateurs, Inc.

Club Station
W6LFJ

P.O. Box 116
Santa Rosa, CA 95402

Repeater Station
WB6PVS



10/10/84

Chris Holsapple
ARRL
225 Main St
Newington, CT 06111

Chris,

We had a lot of positive comments
from applicants at our tests Sept 15.
Enclosed is one letter from someone who
bothered to write.

I think the thing that made it go
so smoothly was that we had plenty
of non-VE help so the VE's could
concentrate on running the exams

73,

Al

Alan Bloom N1AL

ROBERT J. WILEY
981 GROSVENOR PLACE
OAKLAND, CALIF. 94610

September 21, 1984.

Mr. Alan R. Bloom, N1AL,
260 Arata Lane,
Windsor, Calif, 95492.

Dear Al:

You, and all the others who helped you conduct the radio license examinations at Analay High School in Sebastopol on Saturday, Sept. 15, did such a marvelous job that I wanted to write you and thank you for making it such a memorable experience. I recall your saying that you had ideas for improving your procedures the next time around. They really don't need much improving.

There never was any doubt that the examinations were under perfect Control, but you managed to create an encouraging and friendly atmosphere that helped to ease any tension that might have built up during the course of the afternoon. Also, you all seemed so genuinely pleased whenever anyone passed a section of the examination. A fine line - but you handled it well. I first passed my General Class exam at the Customs House in San Francisco in 1940 (ex W6LQC) and my memory is still good enough to recognize the stark contrast with my experience in Sebastopol.

Again, I want to thank you and all your fine associates.

Sincerely,

Bob Wiley