

VALLEY HAM NEWS

May 2017

YSARC Web Page: <http://www.ysarc.net>
Y-S ARES Web Page: <http://www.ysares.org>

P.O. Box 1169
Yuba City, California 95992

May 2017

Editors: Curtis R. Sylvester-José, KF6VFP Webmaster: Kevin Conde, KM6GVD
 Marsha L. Sylvester-José, KI6CSN
Telephone: 530-743-3003
E-Mail: Curtis at kf6vfp@arrl.net
 Marsha at ki6csn@arrl.net

CLUB OFFICERS 2017

Pres.: Chris McLain, KK6VZD	11 Jul – General Meeting
Vice Pres.: Eleanor Knox, KI6CSO	08 Jul – VE Session
Secretary: Linda Maas, KK6SOZ	15 Jul – Antenna Building Class
Treasurer: June McJunkin, N6JEY	19 Jul – Board Meeting

BOARD OF DIRECTORS 2017

Joe Visalli, N9BD	01 Aug – General Meeting
Kathy Burns, N7WVW	16 Aug – Board Meeting
Manna Whelchel, KA6ETB	02 Sep – VE Session
Matthew den Hollandar, AC6MF	05 Sep – General Meeting
Mark Peters, KA6FFM	20 Sep – Board Meeting
Herb Pucket, W6HBU	

REPEATER TRUSTEE

Dave Gartner, WD6AXM	03 Oct – General Meeting
	07-08 Oct – CA QSO
	18 Oct – Board Meeting
	20-22 Oct – Pacificon

LIAISONS

ARES: Steve Sweetman, K6TAZ	04 Nov – VE Session
ARRL SM: Carol Milazzo, KP4MD	07 Nov – Election of Officers and Budget Approval
VE Liaison: LeRoy Smith, KJ6DKM	11 Nov – Veterans Day Parade
	15 Nov – Board Meeting

UPCOMING EVENTS

06 Jun – General Meeting	05 Dec – General Meeting/Christmas Party
21 Jun – Board Meeting	20 Dec – Board Meeting
24-25 Jun – ARRL Field Day	

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Wednesday mornings – Breakfast
8:30 A.M. at Dancing Tomato in Yuba
City.

Monday night at 7:00 P.M. – weekly
net (146.085+) PL 127.3 with swap shop
and help sessions.

Monday night at 8:00 P.M. – Butte
County ARES net (145.280–), PL 110.9

Tuesday night at 8:00 P.M. – GEARS
Club net, (146.850–), PL 110.9

Thursday night at 7:00 P.M. weekly –
ARES net (146.085+) PL 127.3.

Third Thursday of each month at
7:30 P.M. – the ARRL Sacramento
Valley Section (VHF) Net, on club
repeater followed by an HF Net on 3987
KHz LSB.

Other nets (From the GEARS
Radiator Newsletter)

Sac Valley Net: 7:00 P.M., 2nd Wed
of the month (146.850–), PL 110.9

440 Wed. Night Net: 8:00 P.M. each
Wednesday, 440.650 MHz.

Golden Bear Net: 7:00 P.M. daily
3975 kHz.

Willie Net: 8:00 P.M. Mondays, 1930
kHz.

CA Traffic Net: 3906 kHz nightly at
6:00 P.M. for traffic listing and 6:30 P.M.
for roll call.

Sunday at 1:00 P.M. weekly on 7278
KHz - California TALARC (The American
Legion Amateur Radio Club) net.

CLUB STORE

The club has the following items
available for purchase at cost.

1. PL295 coax connectors, 32 each.
Cost is \$1.99 each.
2. RG8X reducers, 16 each. Cost is
\$0.69 each.
3. Power Pole connectors, 60 red/
black pairs. Cost is \$1.00 per pair.
4. Coax wrap, 1 roll. Cost is \$4.00
per roll.
5. RG8X strain relief boots, 10 each.
Cost is \$0.50 each.
6. 10 AWG Red/Black Power Zip
Cord, 22 feet. Cost is \$1.38 per foot.
7. RG8X Black Coax, 250 feet.
Cost is \$0.39 per foot.
8. 6 BNC Female to SMA Female
Adapter, \$3.50 each.

If you are interested in purchasing
any of these items contact the club store
manager, Curtis (KF6VFP) at (530) 743-
3003, by email at kf6vfp@arrl.net, on
the air, or at one of the club meetings.

FCC PERSONAL RADIO SERVICE REVISIONS WILL AFFECT GMRS, FRS, CB, OTHER PART 95 DEVICES

Soon it will be legal for CBers to
work DX on 11 meters. In a lengthy
Report and Order (R&O) in a proceeding
(WT Docket No. 10- 119) dating back 7
years, the FCC has announced rule
changes affecting the General Mobile

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Radio Service (GMRS), the Family Radio Service (FRS), the Citizens Band Radio Service (CBRS or "CB"), and other applications that fall under the FCC's Part 95 Personal Radio Services (PRS) rules and regulations. Part 95 devices typically are low-power units that communicate over shared spectrum and, with some exceptions, do not require a license.

"This draft Report and Order completes a thorough review of the PRS rules in order to modernize them, remove outdated requirements, and reorganize them to make it easier to find information," the FCC said in a summary attached to the R&O.

GMRS and FRS devices are used for personal communication over several miles; compact FRS handhelds, often sold in pairs, are widely available. While GMRS and FRS share spectrum, GMRS provides for greater communications range and requires an FCC license; FRS does not.

"The rules will increase the number of communications channels for both GMRS and FRS, expand digital capabilities to GMRS (currently allowed for FRS), and increase the power/range for certain FRS channels to meet consumer demands for longer range communications (while maintaining higher power capabilities for licensed GMRS)," the FCC explained.

The amended rules eventually will eliminate combination FRS/GMRS radios for the most part, but allow up to 2 W PEP output for FRS transceivers. "[M]any current users of GMRS/FRS combination radios do not obtain licenses to operate over the GMRS

frequencies in those radios," the FCC said. "Much of this problem likely arises as a result of the mass consumer marketing of combination de-vices for sale to the public in large quantities to users who do not know about or do not understand the licensing requirements attached to such radios and obligations associated with operating in the GMRS."

The FCC said it no longer will certify FRS devices that incorporate GMRS capabilities or capabilities of other services. Existing GMRS/FRS combination radios that operate at power levels of less than 2 W ERP will be reclassified as FRS devices; existing GMRS/FRS radios that operate above that power level will be reclassified as GMRS devices, requiring an individual license. Radios that can transmit on GMRS repeater input channels will continue to be licensed individually and not by rule.

The FCC said changes to the decades-old Citizens Band (CB) rules will remove outdated requirements, including certain labeling requirements. DXing on Citizens Band will be-come legal too. Once the new rules are effective, CBers will be allowed to contact stations outside of the FCC-imposed -- but widely disregarded -- 155.3-mile distance limit. The revised CB rules further clarify how hands-free devices can be used with CB radios and will allow the use of wireless microphones with CB radios. The FCC left in place the current power limits for the CB Radio Service.

Most of the new Part 95 rules will become effective 30 days after their publication in The Federal Register.

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The ARRL Letter for May 4, 2017

3F BIKE RIDE

Thank you for your assistance with the 3F Century Bike Ride last Saturday. You all did an excellent job and I really appreciate your willingness to be flexible when the situation required.

The Colusa County Sheriff's CRU would not be able to assist on this ride without help from YSARC so we give special thanks for your help.

With over 170 riders only 3 riders had to be returned to the Fair Grounds and one rider got off course and had to be set back on a shorter route.

Bill Duncan (WA6OHP)

GENERAL MEETING

The next general meeting will be held Tuesday, June 6th at the Caltrans Building in Marysville. Final planning for field day and discussion of an antenna building help at KF6VFP and KI6CSN's QTH will take place.

Come to the meeting, help plan, and volunteer to help out.

FIELD DAY

Field Day is coming up June 24 – 25, 2017. The club will hold it's field day at

Pete Visali's (W6HKB) home in Dobbins. A map to his home and satellite view of his home is available on the club website at YSARC.net.

YSARC will operate three stations using the club trailer with its tower. A BBQ dinner of burgers, hot dogs (plus all the fixin's), Lay's Chips, potato, macaroni and green salad (choice of dressing), Walking Tacos (featuring Fritos Scoops) seasoned refried beans (w/ creamy cheese dip), tortilla chips, taco soup (w/sour cream and jalapeños served on the side), cornbread (w/butter). For dessert Cake (Surprise!) and root beer floats. Ice cold drinks (Pepsi products and bottled water) will be provided

Come out, get on the air, make some contacts and just plain have fun. See you there.

GENERAL CLASS ELMERS

The club has several technicians who are asking for "Elmers" to help them upgrade to general.

Mid May I'll be willing to Elmer up to four individuals. One person has already contacted me so there are three slots open. Anyone else, please contact me at KF6VFP@ARRL.NET.

If there are any other club members willing to help others upgrade their license please announce your willingness at a club meeting, on the Monday Night Net or drop me an email and I'll put it in the newsletter.

Curtis (KF6VFP)

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CLUB DONATES BOOKS TO LIBRARIES

On May 3rd the YSARC donated four ham books to the Sutter County Library and the Yuba County Library. The titles of the books are: *The ARRL Handbook For Radio Communications 2017*, a current *Ham Radio License Manual for Technician, General, and Extra licenses*.

On behalf of the club, Curtis (KF6VFP) and Marsha (KI6CSN) presented the books to James Ochsner, Librarian at the Sutter County Library, and Gina Zurakowski, Librarian at the Yuba County Library.

You can find these books on the shelves at either library. The call numbers begin with 621.384. You will also find other related amateur radio books for you to check out.



Curtis (KF6VFP) and James Ochsner, Sutter County Librarian



Curtis (KF6VFP) and Gina Zurakowski, Yuba County Librarian

HAMFESTS

Northwestern Division Convention
(SEA-PAC)

Start Date: 06/02/2017

End Date: 06/04/2017

Location: Seaside, Oregon Convention
Center

415 First Avenue
Seaside, OR 97138

Website: <http://www.seapac.org>

Sponsor: Oregon Tualatin Valley ARC

Type: ARRL Convention

Talk-In: 145.49 (PL 118.8) and 146.52
simplex

Public Contact: C Wayne Schuler, AI9Q
16414 NE 21st Street Vancouver, WA
98684

Phone: 503-882-7388

Email: ai9q@arrl.net

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THE 8-PIN MODULAR CONNECTOR

The 8-pin modular connector (figure 1), often called a T1 or Ethernet connector, is used in many ways within the ham shack. What type connector it is dependent upon which pins are used and what signals are on the pins.



Figure 1 8-pin modular plug

If you hold the connector with the pins up and the clip down the pins are numbered as shown in figure 2.

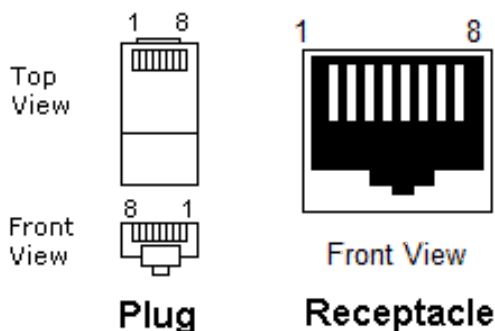


Figure 2 Pin Numbering

So, where is this useful connector found in your ham shack. On your computer it is the Ethernet connector often labeled 10/100/1000. The

10/100/1000 indicates the data rates that port can accept. 10/100 is 10 Megabits per second (Mbps) or 100 MPS. 1000 is 1000 Mbps or 1 Gigabit per second (Gbps). The pinouts and signals for the connector are shown in Tables 1 and 2.

Table 1 10/100 Ethernet Pinouts

Pin	Signal	Color Code
1	Transmit +	Orange-White
2	Transmit 1	Orange
3	Receive +	Green-White
4	Unused	Blue
5	Unused	Blue-White
6	Receive -	Green
7	Unused	Brown-White
8	Unused	Brown

*This is TIA-568B wiring. TIA 568A wiring reverses the orange and green pairs.

Table 2 1000 Ethernet Pinouts

Pin	Signal	Color Code
1	+BI_DA	Orange-White
2	-BI_DA	Orange
3	+BI_DB	Green-White
4	-BI_DC	Blue
5	+BI_DC	Blue-White
6	-BI_DB	Green
7	+BI_DD	Brown-White
8	-BI_DD	Brown

* BI means bidirectional and DA, DB, DC and DD means Data Pair A, B, C or D.

** This is TIA-568B wiring.

Note that Ethernet cables use Cat 5 (Category 5) or Cat 6 cables. Your standard household telephone cable is Cat 3 where all pairs have the same twist. In Cat 5 and Cat 6 each pair has a different twist and the pairs are twisted

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around each other using a twist different from the pairs. This difference in twists helps prevent crosstalk on the wires and allows for higher data speeds.

Another place that this connector might be used in your shack is the microphone cable to your radio. Different radios may have different pinouts. For example:

Table 3 Microphone Cable Examples

ICOM IC-207H	ICOM 706MIIG
1 8V out	1 +8V dc out
2 Freq. up/down	2 Freq. up/down
3 V control in	3 AF output
4 PTT	4 PTT
5 Mic AF -	5 Microphone Gnd
6 Mic AF +	6 AF input
7 Ground	7 Ground (Gnd)
8 Data In	8 Squelch Switch

*AF stands for audio frequency

Other uses of this connector include DS1 or T1 (RJ48 (RJ stands for registered jack)) signaling by telephone companies (using pins 1, 2, 4 and 5) to transfers data at 1.536 Mbps. DS0 connectors using pins 1,2 and 7,8 to send signals at 56 Kbps. This connector also gets used as an RS-232 communications port connector (e.g Cisco routers and switches, your computer communications port). This connector is also used to connect to multiline telephones (up to 4 lines).

As you can see this is a very versatile and useful connector.

Curtis (KF6VFP)

TECHNICIAN, GENERAL AND EXTRA CLASS QUESTION POOL REVIEW

From the Technician Class question pool:

T7C13 What does a dummy load consist of?

- A. A high-gain amplifier and a TR Ω switch
- B. A non-inductive resistor and a heat sink
- C. A low voltage power supply and a DC relay
- D. A 50 ohm reactance used to terminate a transmission line

The correct answer is B. A dummy load is used in place of your antenna so you can perform test on your radio station without transmitting. A typically 50 Ω resistor. The resistor is non-inductive, so the radio does not see any reactance, just resistance. The heat sink is used to dissipate the RF energy from the radio under test rather than broadcasting the energy like an antenna would.

From the General Class question pool:

G8B06 What is the total bandwidth of an FM phone transmission having 5 kHz deviation and 3 kHz modulating frequency?

- A. 3 KHz

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- B. 5 KHz
- C. 8KHz
- D. 16 KHz

The correct answer is D. The correct bandwidth is calculated using Cramer's Rule. Cramer's Rule states that

$$BW_{FM} = 2(\Delta f + f_m)$$

where Δf is the peak frequency deviation and f_m is the highest modulating frequency.

Therefore:

$$\begin{aligned} BW_{FM} &= 2(\Delta f + f_m) \\ BW_{FM} &= 25 \text{ KHz} + 3 \text{ KHz} \\ BW_{FM} &= 2(8 \text{ KHz}) \\ BW_{FM} &= 16 \text{ KHz} \end{aligned}$$

For a more detailed explanation go to www.hamradioschool.com/g8b06-carsons-rule/

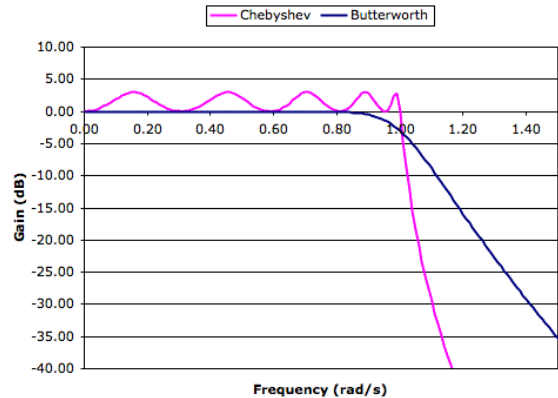
From the Extra Class question pool:

E7C05 Which filter type is described as having ripple in the passband and a sharp cutoff?

- A. A Butterworth filter
- B. An active LC filter
- C. A passive op-amp filter
- D. A Chebyshev filter

The correct answer is D. The figure below shows the frequency response of a Chebyshev filter as compared to a Butterworth filter. Note the ripples of the Chebyshev filter and the sharper cutoff

response.



Chebyshev vs Butterworth Filter Response

“The Chebyshev filter is a form of filter used in RF and many other applications.

The Chebyshev filter provides a steeper roll-off than the more commonly use Butterworth filter.

However, the additional roll-off of the Chebyshev filter comes at the expense of ripple, and this makes it unsuitable for a number of applications.

Nevertheless, the Chebyshev filter is widely used in RF applications where ripple may not be such an issue. The steep roll-off can be used to advantage to remove out of band spurious emissions such as harmonics or intermodulation.”¹

1. radio-electronics.com/info/rf-technology-design/rf-filters/chebyshev-rf-filter-basics.php

Curtis (KF6VFP)

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VE TEST SESSION

At the last VE session 7 people tested and 9 exams were given. There are now 4 new techs and 2 new generals. Congratulations to Bryant D Pearson (KM6KMZ), Jared Beem, (KM6KNA) David Isham (KM6KNB), and Seth Wright, (KM6KNC) for making technician. Stephen A Ballenine (KC7KET), and Bernd Esemann, (KM6KND) made general. Bernd took both the technician and the general class tests. He is now a US and German licensed ham.

The next VE session will be 9:00 A.M., 8 July at 715 King Ave., Yuba City. VE's are needed to administer the exam. The elements for Technician, General, and Extra class will be offered. If you are planning on taking an exam you will need two forms of ID, at least one of them must be a picture ID. A fee of \$15.00 is required. A calculator may also be used as long as it has had all of its memories cleared and there are no built in or preprogrammed formulas.

If you are upgrading to a higher class you need to bring your license and a photocopy of the license.

If you take an exam and pass, you can take the next higher class exam for no additional cost. If you do not pass and wish to try again an additional fee will be required.

Good luck to everyone taking exams.

EDITORS COMMENTS

✓YSARC's new web page is: ysarc.net - click on the upper right-hand icon on the homepage to join the club's Facebook page. Past issue's of the VHN are available on our new website.

✓Send your ham related articles and pictures to share in your VHN. Pictures of ham shacks, antenna projects, antenna parties, etc. are appreciated KI6CSN@arrl.net or KF6FVP@arrl.net

Hope everyone has a wonderful Memorial Day. Remember those who died protecting our freedoms.

MEMORIAL DAY

It is the
VETERAN,
not the preacher,
who has given us freedom of religion.

It is
The **VETERAN**,
not the reporter,
who has given us freedom of the press.

It is
The **VETERAN**,
not the poet,
who has given us freedom of speech.

It is
The **VETERAN**,
not the campus organizer,
who has given us freedom to assemble.

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It is
The **VETERAN**,
not the lawyer,
who has given us the right to a fair trial.

It is
The **VETERAN**,
not the politician,
Who has given us the right to vote.

It is
The **VETERAN**
Who salutes the Flag,

It is
The **VETERAN**
who serves under the Flag,

God Bless them all!!!

From an email received from Bob
McClaird (N6BOB)

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Yuba Sutter Amateur Radio Club

Board of Directors Meeting Minutes April 19, 2017

Caltrans, Cedar Ridge Room #105, 703 B Street, Marysville, CA
95901



Meeting called to order by Vice President Eleanor Knox KI6CSO at 1903 hours.

Officers and Board Present: Vice President Eleanor Knox KI6CSO, Secretary Linda Maas KK6SOZ, and Board Members Joe Visalli N9BD, Kathy Burns N7WVW, and Mark Peters KA6FFM. Absent: President Chris McLain KK6VZD, Treasurer June McJunkin N6JEY, Board Members Manna Whelchel KA6ETB, Matthew den Hollander AC6MF, Board Member Emeritus Herb Puckett W6HBU and Honorary Board Member Dave Gartner WD6AXM.

Members and Guests present: Leroy Smith KJ6DKM, Udell Smith, Cindy Torlone KK6OIO.

Secretary's Report: Mar 15, 2017 board meeting minutes were distributed. Motion to accept minutes as written: Kathy/Mark, passed. We had a few more renewals come in, currently 58 members (including the 5 new "comped" members). Correspondence: received DMV renewal notice for the trailer, \$10, due May 31, already given to June. Thank you note sent to Kim Cunningham, of YSDADA, for use of her motorhome at Bike around the Buttes.

Treasurer's Report: June McJunkin emailed the Financial Report for April 19, 2017. Copies were brought to the meeting. Motion to accept Financial Report, Joe/Mark, passed.

Old Business

- 3FCentury Bike Ride – Bill Duncan WA6OHP has just enough volunteers, could use more.
- Field Day locations were scouted out by Mark & Chris: Sycamore Ranch and a private residence in Browns Valley. Pros and cons discussed. A few other possibilities were mentioned, including Hammon Grove park and Live Oak HS.
- ARRL books/manuals for libraries bought and received, except Antenna books which will be ordered when they are back in stock. Chris has the rest of the books and is working on a bookplate for the inside cover.

New Business

- Club Trailer, located at Les's father-in-law's place, needs a lot of maintenance. Steve Sweetman has made a list of items that need repair and is compiling a list of volunteers to help out. Motion to approve up to \$400 for repairs of trailer, Joe/Mark, passed.
- A dozen Vests needed for volunteers at events like parades & bike rides. For identification and safety. Some already have their own. Joe will look into this.
- YSARC banner needs .org changed to .net

Upcoming Meetings and Events:

- General Meeting May 2 - Eleanor will contact YSDADA about giving a short presentation.
- VE session May 6
- Board Meeting May 17

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- Field Day June 24-25
- Antenna workshop July 15

Adjourned at 1939 hours, Joe/Kathy, passed.

Respectfully submitted by Linda Maas KK6SOZ, YSARC Secretary