

NARS NEWS

The Northwest Amateur Radio Society

Houston, Texas

September 1999

Switching Power Supplies For Ham Radio

Recently I've been interested in putting together a portable station that I could either work mobile or operate in a temporary location. My radio of choice was the Yaesu FT-890 but an appropriate power supply was either twice as heavy or twice as large as the 890. Neither was a viable option. While operating in Mexico in the ARRL DX Contest the past couple of years, I was introduced to a switching power supply. This little guy stood up to the rigors of contesting and was remarkably stable under a wide range of voltages in the Mexican power system. In talking to a lot of the guys about switching supplies, I got mixed results. Some said that they were too noisy for HF work although good for VHF. Some reported good results with a popular brand. Others had problems with the same brand. At that point I turned my attention to one of ham radio's most popular power supply companies, Astron. Surely they would have the answer. They boast their switching supplies are specifically filtered for HF radios. I decided to give it a try. The size was right, 8 X 9 X 2.5in. The good part, it only weighs 3.5 lbs., cost \$129.00 and will deliver 20 amps continuous. When it came in I was anxious to give it the test. It passed and so far no sign of noise in the receiver or transmitter. The regulation is superb. It works on 220VAC as well as 110VAC and just about every voltage in between. Just throw the switch on the back. It's a winner.

Having said all that, Howard Leverenz, KD5DJJ, is going to talk to us at this month's meeting about why some switching power supplies work and some don't. He says it's all in the design. Howard is a new ham but has years of experience in designing switching power supplies for the computer industry. His company designs rack-mount computer systems for industrial applications.

Howard will give some insight on designing the little switchers and what it takes to make them filtered well enough for high frequency radio applications.

Howard has an MS degree in Physics from the University of Houston. For the last 16 years, has worked as a Design Engineer for Texas Micro Systems designing power supplies and other analog circuits.

I might also add, Howard did his graduate work in the Antarctic. While there, he visited some of the rare islands that attract a lot of attention of us hams when someone shows up with a radio and starts calling CQ DX. He regrets that he wasn't a ham at the time. That's another story. Howard is a very interesting person. I'm sure we all are looking forward to his presentation. See you at the meeting!

-- Bill, W5SB

SIRE 6th Annual Ride-A-Thon, Saturday, October 16

Here's a chance to take part in an event that NARS members have supported with radio communications since Saddle Up For SIRE started seven years ago. With reasonable weather, it is always fun and requires only a 2-meter HT, fresh batteries and a few hours time. Volunteers are stationed along a ten mile trail near Montgomery where participants ride horses to raise money for SIRE, Self-Improvement Through Riding Education, the charity dedicated to the rehabilitation of children and adults with disabilities. For more information, call Keith Dutson, 281-351-7683.

Important Dates

Friday, September 17, 7:30-9:30 PM

NARS General Membership Meeting at Spring Cypress Presbyterian Church, 6000 Spring Cypress Road

Saturday, September 25, 8:30 AM

License Exam Session. Tomball Community Center, S. Cherry & Market streets (just South of Main Street)

Tuesday, September 28, 7:30 PM

NARS Board of Directors meeting, H.O. Townsend's home, 16880 E. Maglitto Circle

Contests:

September 18-19

Washington Salmon Run
Scandinavian Activity CW Contest
QCWA QSO Party
Tennessee QSO Party

September 25-26

CQ WW RTTY Contest
Scandinavian Activity SSB Contest

October 2-3

VK/ZL SSB Contest
California QSO Party
F9AA Cup Contest

October 9-10

VK/ZL CW Contest
Pennsylvania QSO Party

October 16-17

JARTS RTTY Contest
Worked All Germany contest

October 30-31

CQ WW DX SSB Contest

Deadline for articles to appear in October issue -Thursday, September 30.

BREAKFAST at Victors

4710 W. FM 1960

**Saturdays
8:00 AM**

Working the Grey Line

President's Corner

September 1999

Howdy all...

Thanks very much to Jack, WA8GHZ, for heading up the August meeting on short notice!

Also, thanks to George, K5VUU, for a FB meeting program for August. Very sorry I missed this meeting since I'm about 1200 QSL cards behind. Not that I plan to QSL all of them, but I am way behind. I hope he has a synopsis in this newsletter.

Thanks to Jack again for handling the August Board meeting. At a very late date, my office gave the green light for a weeks vacation. A little visit to both sides of the family, will hopefully help us for a while longer.

Although I have not seen the report, thanks Keith, WD5DXL, for the committee work and to all of those who helped with the short term and long term report on DX packet cluster activity.

Don't forget the S.I.R.E. event coming up soon. Please contact Keith, WD5DXL, for details.

Don't forget to sign up for the Sunmart Texas Trails Endurance Run, December 11, to be held at Huntsville State Park. Mark your calendars and get ready for a good time. Contact Walter, KK5LO, or Paul, N5NXS.

On a personal note, I enjoyed working 35 lighthouse stations during the weekend of August 21-22. Maybe next year! We always say that don't we.

I'm looking forward to the program on power supplies to be presented for the September meeting by Howard, KD5DJJ. George, KD5AYF, has arranged for a very nice program for the October meeting.

73 es Gud DX, H. O., WA5MLT

For those of you new to a solar cycle, an interesting form of working DX is called "working grey line." This simply means working 15M or 10M during twilight hours.

Here's what happens:

During the day, solar radiation collides with the molecules in our ionosphere, ripping off electrons. These electrons are called "free electrons" because they are not attached to an atom or molecule. All of these free electrons cause the density of the ionosphere to increase. The more dense the ionosphere, the higher the frequency that is refracted back to earth. Our electron density is what determines the maximum usable frequency (MUF), and the action of solar radiation separating electrons from the molecules is called IONIZATION.

During the day, solar radiation causes ionization to stratify, that is to form distinct layers. The layer closest to the earth is called the D-Layer. It does not refract signals generally, but does absorb some of the energy, and hence the D-layer is often called the "absorption layer." Higher up in our ionosphere, we find the E and F layers. These layers DO refract the signals back to earth if below the MUF, and is exactly what causes "skip propagation." So during the day, the sun is ionizing the D, E and F layers (there are actually two F layers, called F1 and F2). Your signal must travel through the D-layer, getting attenuated, then bounces back from the E or F layer to some exotic DX spot, passing through the D-layer for more absorption again. But since solar radiation has to travel the farthest to get the D-layer, absorption is usually fairly minimal. So far ... middle of the day ... we have moderate absorption, and good skip propagation.

AT SUNDOWN ... solar radiation no longer strikes our ionosphere right above our heads, and ionization stops. This means there is no solar radiation to form free electrons. In fact, without this solar radiation, these free electrons tend to get attracted back to recombine with their host molecules. This is called "recombination." (Gee, how original!). Recombination, when it starts to get dark, causes the electron density to go down, forcing the MUF to do down as well, which is why by total darkness, 10M (and a bit later 15M) are completely dead. The MUF is far below 28MHz.

The D-layer is the FIRST layer where ionization stops, since the sun light is no longer reaching near the surface of the earth, but is still illuminating (and ionizing) the ionosphere far above our heads.

(For the same reason we can see satellites pass overhead in the early evening ... it's dark on the ground, but the satellites are still being illuminated). As the D-layer goes into recombination, the electron density goes down, and the absorption does down. This is why signals appear stronger at night, because there is less absorption by the D-layer at night.

BUT DURING TWILIGHT ... OR IN THE "GREY LINE" ... the D-layer suddenly causes little absorption to signals passing through it, while the E and F layers are still being ionized by sun light. This makes for about a 45-60 minute of interesting operating, ESPECIALLY FOR QRPers. There is almost no signal attenuation, while the MUF is still very high, so long distance skip is still possible. However, when the sun quits illuminating the E and F layers, the MUF can drop dramatically ... sometimes with a few minutes of warning, sometimes between heartbeats. So when you establish contact, get the QSL info fast -hi.

One other advantage of grey-line DX, is your signals tend to refract off the edge of the ionized portion of the upper layers. This means propagation will often be in a southerly direction, bouncing along the shadow, or terminator, between sunlight and dark. This is good for working into South America and the south pacific. Your signals can also bounce northward along the terminator, bending around the pole, and down the MORNING terminator absorption. Although, the MUF in the morning generally does not support propagation on 10M, so most people enjoy grey-line work on 20M or 15M (if open). Morning grey-line can even be eventful on 80 and 40M, just due to the low absorption before the sun starts heating the D-layer.

And remember, 10 and 15M (and often down to 30M) are NOT generally bothered by a geomagnetic storm. So even during major geomagnetic storming, the higher bands may be open and fairly quiet. And even if a bit noisy, then the short period of grey-line operating can still produce a couple of good QSO's.

Hope this help explain the "grey line" phenomenon, and hope it helps you snag a few new ones.

-- GL and 72, Paul NA5N

(Editor's Note: Many thanks to K5ZTY for submitting this interesting article.)

10-Meter ARRL Contest Results

The September QST contest results show several of our local guys finishing well in various contests. The 1998 10-Meter Contest Results showed Conrad, W5MN, with a terrific score leading the way in low power W/VE results. Conrad tells me that an error was made when his score was sent in and the score listed in QST is a combined total of his CW and Phone score. Nice try, Cuz!

K5NZ had a good score of 1,406,904 in the mixed mode high power. This is a very competitive class. The best I can tell he was tops in the W5-call area and was edged out of the top ten by just a few points. One more multiplier may have done it for Mike.

Another notable was K5XI operated by Joey, W5BAK, and visitors from DX land DL3YEH and IK2MRZ. That probably was the last contest conducted at one of the great contest stations in the world before it was disassembled and sold. They had 1,208,400 points for their effort.

Ex-Narsian Ed Gilliland, NA5B, keeps putting up big numbers at his new contest station in Oklahoma.

Other results we should bring to everyone's attention is the 1999 School Club Roundup. K5KHS the Kingwood High School Club station finished second in the high school division. That group is sponsored by Mike Furrey, WA5POK, who is a teacher at KHS. Our friend John, N6MU, was first in the QRP class. Congrats to all

73, W5SB

Solar Power Station for QRP Enthusiasts

I had a recent contact on 20 meters with W5PIZ, Jack Halliday, 82 and a retired Navy commander. I was surprised when he said he was operating QRP with ten watts into an Argosy II using solar power.

I received his signal 5/5 at my station; good audio and very little QRM. He uses a monoband 2-element beam antenna with a forty-foot mast. He says he uses large, stranded wire on the solar panels -- #10 red for positive and #10 black for negative. Since his panels are roof mounted he used a run of 15 feet from the panel terminal strip to the batteries at the operating position. He likes to keep track of the voltage and amperage with meters. The ammeters remain in the circuit, while he put switches in series with the voltmeters. S2 switches the solar panels directly to the equipment and to the lead-acid batteries (automobile type). He cautions that you make sure the solar panels provide

vide enough current to supply the equipment you are using. In his case the solar panels are good for 35 watts.

BT1, BT2, BT3 -- 35 watt panels
BT4, BT5 -- 12 volt lead acid auto batteries
D1 -- any diode rated at 5A. - 50 PIV
S1, S2, S3 -- momentary switches
S2 -- DPST knife switch

Jack Halliday provided the circuit, parts nomenclature and equipment data. He says, "My Argosy II requires 12 to 14VDC at 1 Ampere. I have three solar panels with a total of 4.1 amps output. Each panel provides 21.5 VDC under no-load conditions." Under load the panels provide enough voltage to operate his equipment.

The equipment he uses with solar power is an "Argosy II (2 watts PEP), and an ICOM-245 (10 watts PEP) and a Ten Tec 525 (10 watts output)."

(Concluded on page 5)

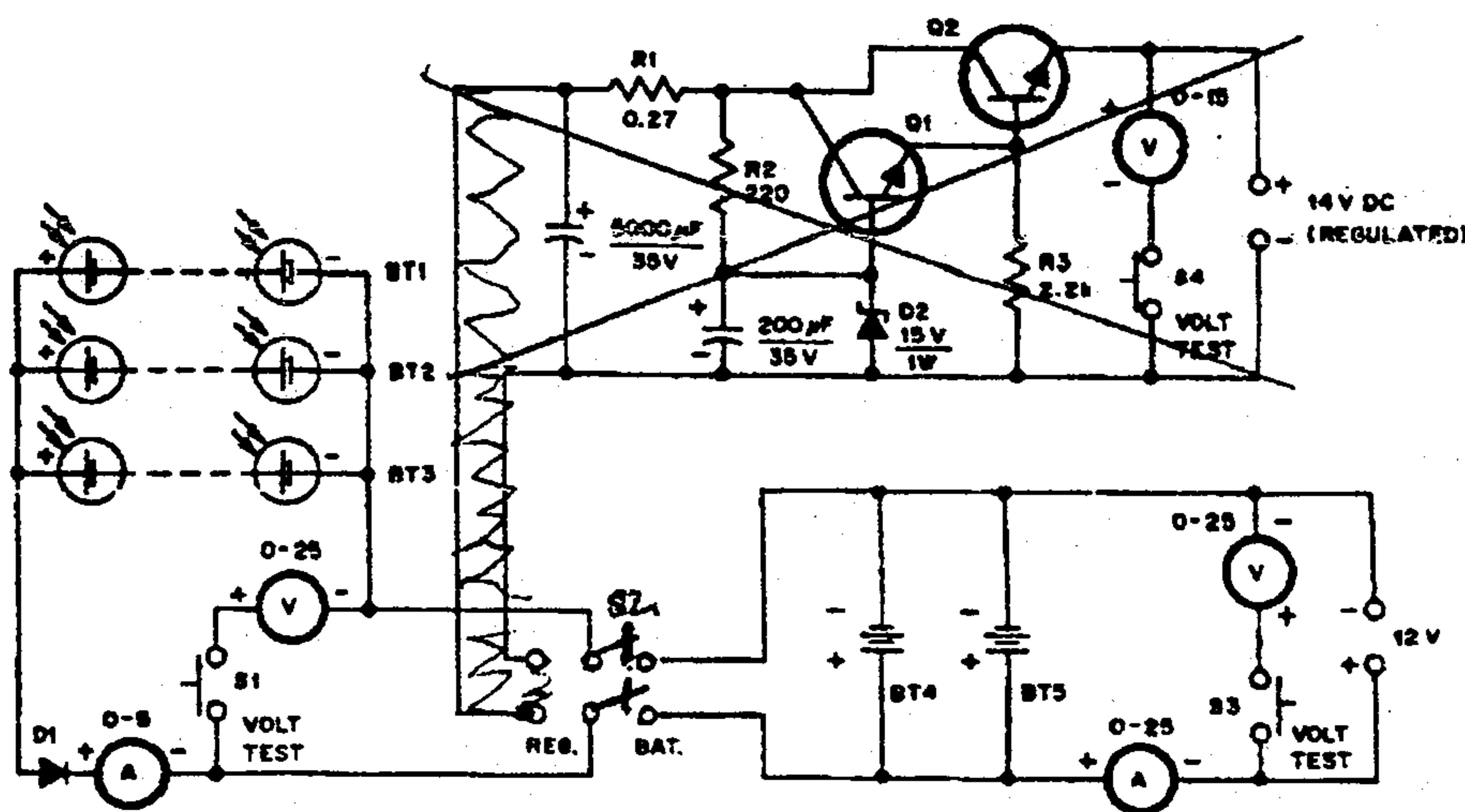


Fig. 1 — Schematic diagram of solar power supply. Note that battery charging circuit does *not* employ a regulator or switch to shut off charging current once the storage battery reaches full charge state. Because the output of the solar panels is, at most, 1-1/2 amperes and the storage batteries are full-size automobile batteries, the danger of damage from overcharging is not great. Anyone contemplating higher current solar batteries or smaller storage batteries should give serious consideration to a regulator.

NARS FALL PICNIC

Our picnic this year will be held Saturday, October 9 and some special activities are being planned by the Committee. Please mark your calendars:

When: Saturday Oct 9 at 1 P.M. **Where:** Spring Hill Park near Highways 249 and 2920. Key Map 288A
We're planning on a catered main course (for a nominal fee) and also a special event in keeping with the outdoors location. You are invited to polish up those mobile installations and be ready for a "mobile station shootout" for the biggest key-down signal. There will be QRP, standard and QRO categories, plus one for HT's. Brush that antenna wax onto your best mobile or portable setup and come on out for an afternoon of food, socializing and fun. Families are very welcome to this activity at this beautiful park site. See you there!

-- Jack, WA8GHZ

DX News

*Soon we'll sing in merry chorus
In the watches of the night.
For we'll tune the bands for DX,
Til the pale dawn brings the light...*

The Old Timer was busily working on QSL cards one warm summer day, happy for the excuse to stay indoors where it was cool. The loud banging on the back door announced the arrival of one of the noisier Local QRPers, probably one bearing questions of suspicious merit. Just as he reached to open the back door it burst open, followed by an intruding, wild-eyed QRPPer. "Say," said the QRPPer. "What 's this business of KJ5X and KM5OE putting new beams on top of their houses? What do they think that is going to gain them?"

The Old Timer was considerably taken aback by the question. "Well," he welled, stalling for time while he thought how best to answer the question. "Have you ever had a beam up at your place?" he asked the QRPPer. "No," he shouted, "but everybody knows you have to have them at least 70 feet high to work very well! Those are not going to be even forty feet high! Why are they bothering at all?"

Having heard quite enough, The Old Timer tried to answer the QRPPer's question. "Most people feel that seventy feet is a great target height, but there is nothing magical about it. Many folks have successfully used beams at lower heights than seventy feet. Probably Jim and Loyd have special problems they are trying to solve at their places."

The QRPPer immediately rose to the question. "But they will never get the good signals they need to become 'big gun' DXers. Why are they even bothering," he asked? "I don't know about that," said The Old Timer. "How about that K8-fellow in the club with a beam at forty feet? Says it has never been any higher than it is now. And doesn't he have a whole bunch of countries worked? Like all but two of them?" The QRPPer's jaw dropped at the realization of what The Old Timer had said. "But. but. but..." he was saying as The Old Timer firmly closed the

door and went back to his QSL chores. He remembered what he had been told many years earlier by another Old Timer. "Put up the best antenna you can, given your circumstances, and then make up any shortcomings with a little power, a lot of patience, and a strong dose of good operating technique!"

The high propagation numbers fell along with the sunspots during the first part of August. The solar flux dropped down to 138 and the A and K indices were down to 5 and 2. The early morning Asia openings went away under those conditions, although some Aussies could still be heard coming through. During the second week of August, the SFI dropped into the 120-range. Even though the A and K indices maintained relatively low numbers, the bands were pretty poor. The third week of the month began with the SFI at 131 and the A index at 25. Despite this, there were good stations to be worked (see below).

LOCAL EVENTS: A bunch of the fellows were successful in working some relatively rare ones early in August, such as HBØ, HZ1AB and some others. As conditions sagged and the temperatures continued to go up, many of the DXers decided it might be a good time to take off for a bit. John Ellis called to happily announce he had received his WAZ certificate. Nice going, John! Jackie Shallington called to discuss early morning DX. He decided he should adjust his sleeping habits and was observed early on August 17 working BV4FH for a brand new one. K5ZTY worked ZK1AAN in the North Cooks for a new one. KJ5X, K8CSG, KK5LO and WA5MLT worked CEØZAM on Juan Fernandez Isl., a new one for KJ5X. WA5MLT, N5WIZ and K8CSG worked GB2MUL at the lighthouse on The Mull of Quintyre in Scotland. WA5MLT said he worked about 35 different lighthouse/lightship stations. I carried some QSLs to New Orleans for DXCC checking for Walter, KK5LO, and Steve, KD5AJJ. All were checked and approved for the indicated need. Bob, N5ET, took cards over for the same purpose on behalf of Jerry Reynolds, KI5QA. Jerry passed with exactly 100 DXCC cards and had not included one for the USA.

DX WORKED: FW8ZZ (Wallis Island) 20m 1148Z; VU2RTF (India) 20m 1226Z; 4S7EA (Sri Lanka) 20m 1232Z; BY4BJA (China) 15m 1506Z; YBØECT (Indonesia) 15m 1526Z; HBØ/PI4TUE

Liechtenstein) 20m 2327Z; BY4BZB (China) 20m 1146Z; H44NC (Solomon Islands) 20m 0921Z; 3B9FR (Rodriguez Island) 20m 0254Z; 4S7DA (Sri Lanka) 20m 1153Z; VU2XX (India) 20m 1304Z; 4L4MM (Georgia) 20m 0158Z; ZK1MGS 15m 0220Z; HZ1AB (Saudi Arabia) 20m 0226Z; JY4MB (Jordan) 20m 0257Z; S83KA (Transkei) 20m 1455Z; A22ZS (Botswana) 20m 1422Z; 5H3US (Tanzania) 20m 1455Z; 9K2GS (Kuwait) 20m 0138Z; 9J2AM (Zambia) 20m 1253Z; YBØLOG (Indonesia) 15m 1604Z; ZK1CRR (So. Cook Is.) 15m 0054Z; EA9LZ (Ceuta) 20m 0118Z; TU2KC (Ivory Coast) 20m 0153Z; TA3/DL7JAK (Turkey - CW) 20m 0208Z; ZK1SCQ (So. Cook Is.) 20m 0435Z; 7X2LS (Algeria) 20m 0446Z; VK9NS (Norfolk Is.) 20m 1200Z; VQ9GB (Diego Garcia) 20m 1257Z; ZK1AAN (No. Cook Is.) 15m 0125Z; CEØZAM (Juan Fernandez Is.) 20m 0138Z; BV4FH (Taiwan) 20m 1207Z; T24DX (Tuvalu) 10-12-15m ~2330Z; EK6TA (Armenia) 20m 0016Z.

QSL ROUTES: FW8ZZ via OH2BN; ZK1CRR via F6FNU; ZK1SCQ via DL6DK; VQ9GB via K7GB; ZK1AAN via F6FNU; CEØZAM via CE3ESS;

DX HEARD/NOT WORKED: VU2XX (India-LP) 20m 1230Z.

The rumor concerning an operation from the Laccadives looked pretty good. The bad part about it is that it has been postponed until March, 2000 at the earliest.

Another rumor has a good basis. An international group of operators led by N7CQQ plans to operate from Clipperton Island from Feb. 26 - March 15, 2000. Once upon a time Clipperton was considered extremely rare DX. In more recent times it has become less rare, currently 57th on the most wanted list. Back in 1978 I worked Clipperton when they came on after a long dry spell. My son, WD5DLZ, also worked them. He frequently reminded me that he was obviously the better operator. He worked it in his first year, while it took me thirty years to work it...

Karel, ON4QY, is operating from Conakry, Guinea as 3XY2A. He expects to be there for two years or so. Not bad DX. If you get him, QSL to his home call.

The US dollar is now worth 5000 Indonesian
(Concluded on Page 5)

HOUSTON
AMATEUR RADIO
SUPPLY, INC.

George DiLetto, KDORW
President

Exit 68 I-45 North
181 Cypresswood Drive
Spring, TX 77388

800-471-7373
281-355-7373
Fax 281-355-8007

Operating YO9/ WA8GHZ

My recent Romanian operation this August sure had a long call sign! There's gotta be a place with more dits and dahs in a temporary call sign than Romania, but I'm not sure where it might be.

Thanks to a business need to travel to Ploiesti, Romania, and thanks to the US government that recently signed the CEPT treaty which allows Ham operating reciprocity with European countries, I was able to run as a "YO" station for 4 days in mid-August. And, I got to do so without the usual 3-month application process and without the typical \$75 license fee for visiting operators. Now, thanks to the CEPT treaty, US hams need only bring their US license, a photo ID such as passport and a 3-language copy of the treaty which can be downloaded from the ARRL site.

With those three items, you can now operate openly in virtually all of Europe. But be aware that band plans and power limits are drastically different than what we are used to here. Do your frequency homework before leaving home.

Getting there: \$5941. is the fare on Air France leaving Houston at 4:40 PM with arrival in Paris the next morning. There was about a 2-hour layover time for the flight to Bucharest, which took just under 3 hours. From Bucharest, a company driver took me the remaining 60 Km drive to Ploiesti. Local vehicles are either a Daewoo or the local Daisha.

Accommodations: Hotel Turist was comfortably appointed, and featured hot water service starting promptly at 6:30 A.M. each day, except Sunday. No shampoo, but they do provide small soap bars each day, and bottled water is available. Best of all, my room's windows opened up onto an adjoining roof, which provided ready antenna-mounting access. The view wasn't much, but who has time to look about when there's contacts to be made?!? (Radio tip: Be sure to ask for Room 116).

Shopping: They don't take American Express, nor Visa, nor Master Card, nor any other form of credit. This was a source of irritation causing one to carry large rolls of cash, since the current exchange valuation was 15,900 lei = to one dollar.

Highlight: Working U.S. stations trying for multipliers in the Worked All Europe CW contest on the weekend.

Rig: Icom-706, MFJ mini-tuner, NorCal homebrew paddle set, and a 40-Meter 18-gauge wire dipole with alligator clips to shorten sections as needed for 30Meters and 20Meters. Logging by SpiralTablet and Bic. Left the Microphone at home, in favor of room for another pair of shorts in the traveling kit. The decision was sound, even in retrospect.

(Concluded at right)

My Summer Vacation

While on vacation I stopped by ARRL Headquarters for a tour of the facilities. Unfortunately I didn't have time to operate W1AW. Bob Schetgen, KU7G, was my tour guide. The tour, which lasted about one hour, was well presented.

Highlights of the tour of the Administrative Headquarters and Maxim Memorial Station, W1AW, included: the DXCC Department and QSL Bureau. The QSL Bureau processes about 2,000,000 cards per year. And, as of July 23rd, 1,020,000 cards have been sent abroad, with 50,000 that day alone.

The lab is best known for testing commercial amateur equipment for advertising acceptance. Other testing of commercial equipment for the "Product Review" column in QST. The lab buys equipment on the open market, then performs many tests to determine performance of the product. Most tests take place in a copper shielded room to prevent interference from W1AW. A Patcom HF + 6 meter transceiver was on the bench.

The Production Department is the most visible department, focusing on QST Magazine. It includes license manuals, ARRL Handbook, QEX, NCJ, books, brochures and handouts. Other departments included: Field Services, Advertising, Educational Activities, and VEC.

The W1AW bulletin station consists of a 120-foot tower with several monoband antennas, a Harris transmitter and amplifiers. The guest operating station has three operating positions with Kenwood, Icom and Yaesu equipment, and two 60-foot towers.

The tour also included discussion about mementos in display cases, and stories of amateur radio lore such as the Wouff Hong.

My brief time spent at ARRL was quite enjoyable and the staff was very nice. Hopefully, one day I will go back and operate from W1AW

-- Scott Byrd, N5KEU

DX News (Concluded)

rupiah, while postage from Indonesia to the USA costs 7500 rupiah. Accordingly, one green stamp no longer works there anymore. That is the bad news. The good news is that an IRC still works in Indonesia.

A couple of JA-operators went to Yemen (7O) recently. They were successful in taking their radio equipment into the country. However, they did not get permission to operate. One of the authorities in the MPT remarked somewhat casually that "there are many applications in the pile in that drawer." So, despite the efforts of numerous groups, Yemen still is a tough one from which to get permission to operate.

-- Bill, K8CSG

Solar Power Station for QRP Enthusiasts

(Concluded from page 3)

Jack said he bought his solar panels in used condition from an engineer friend (Sovonics Solar Systems #MA-30). He says the manufacturer does recommend using their regulator #1208 with the MA-30 panels. Those interested can contact: Antennas West, Provo, Utah 84603-1144, referencing the above part numbers and manufacturer. He says the panels could be used on RVs also.

Anyone desiring to use his ideas and circuitry and needs further info should contact: Jack Halliday, 4808 McKnight N.E., Albuquerque, NM 87110. Per the diagram Jack says he used the circuitry depicted without a regulator for QRP because he uses full-size automobile batteries, and the danger of damage from overloading is slight. It appears that is the reason for deletion of the regulator for his QRP operation.

I hope some of you NARS QRPers will be interested in what appears to be a unique solar powered station.

-- Harry Gage, N5WIZ

Operating YO9/WA8GHZ

(Concluded from Col. 1)

Highlight: While driving on the weekend in a company car, I gave a ride to two 70-year old women who were hitchhiking from their country food market on Sunday. I only knew a dozen phrases in Romanian, and they spoke no English, but we had a nice ride for a half-hour. At first they thought I was Russian. I believe I was the first American they had ever met.

Highlight: Having dinner at the country estate of the last dictator, Ceaucescu (who inconveniently ran into a bullet during the 1991 revolution). The estate, now the area's principal restaurant, was his hunting lodge and the walls of this immense estate were covered with very fine trophies of bear, deer, etc. The estate also featured a most excellent wine cellar, since wine is one of Romania's featured agricultural products.

People: The Romanian people are about the finest I have met in this Earth of ours; although they don't have 2 nickles among them, they seem intent on enjoying life, and sharing that spirit with visitors.

Return: On the fifth day of my visit, I awoke at 4 AM local (02:00 Z) for my 5 AM ride back to the Bucharest airport. After a 3-hour flight, I arrived in the comfortable Schiphol airport in Amsterdam, and another 10.5 hour flight on KLM concluded with a landing in Houston.

Good to be home, but I gotta work on getting one of those stubby call signs one of these days. This present one gets to be just too long after appending an XYZ-Stroke to it....

-- Jack, WA8GHZ

Welcome, Congratulations and Condolences

Welcome to these new NARS members:
Craig Peeler, Technician, K5CAP
Jay Lovett, Technician, KD5HSS

NARS Resource List

General Help:

Bill Stietenroth K5ZTY, 281/893-3901
Allen Majeski WA5REJ, 281/353-8652
Bill Denton W5SB, 281/469-8331

Antennas

O.J. Quarles K1OJ, 281/955-1555, HF
Larry McCain WA5SAJ, 281/469-6709
Madison Jones W5MJ, 281/350-4330

CW

Bill Gary K8CSG, 281/537-9240, DX
Bill Rister KC5EZQ, 281/537-8596
ATV

Satellite:

Deral Kent K5WNO, 281/548-7476
RS12/13
Dick Rooney W5VHN, 281/288-8424

Electrical Design, Troubleshooting:

George Carlson KC5RCC, 281/376-8307

Packet:

Don Bedell KA3BKU, 281/370-6576

VHF/UHF:

Brian Derx N5BA, 713/894-5942

Computer Operations:

Bob Argo KC5JZO, 281/288-7430

Computer Programming:

Keith Dutson WD5DXL, 281/351-7683

Interference (Basic Advice):

Harry Gage N5WIZ, 281/370-7488
Mark Tyler 281/587-0256

Card Checking for Awards:

DXCC - Bob Walworth N5ET, and Linda
Walworth KE5TF, 281/363-0209
WAS, VUCC - Brian Derx, N5BA
281/894-5942
WAZ - Bill Gary K8CSG, 281/537-9240
CQDX - Bill Gary K8CSG

NARS Public Information Officer:

George Levandoski, KD5AYF
713/895-0700 kd5ayf@juno.com

NARS Information

PRESIDENT & BOARD CHAIRMAN

H. O. Townsend WA5MLT 281/376-7416
wa5mlt@flash.net

VICE PRESIDENT

Jack Dougherty WA8GHZ 281/856-7768
jdougher@wt.net

SECRETARY

Bob Argo KC5JZO 281/288-7430
bobargo@infohwy.com

TREASURER

Keith Dutson WD5DXL 281/351-7683
kdutson@swbell.net

DIRECTORS

Joe Sokolowski KD5KR 281/353-2196
kd5kr@juno.com
Jim Kirk KJ5X 281/376-0718
jrkirk@wt.net
Allen Majeski WA5REJ 281/353-8652
wa5rej@flash.net
George Edwards, K5VUU 281/376-4209
gedwards@onramp.net

VE EXAM COORDINATOR

Bill Gary K8CSG 281/537-9240
k8csg@arrl.net

ADMINISTRATIVE SECRETARY

Marian Denton KB5SGV, 281/469-8331
w5nc@juno.com

*Call Marian for general information
about NARS. Send address, phone, e-mail
and other changes to:*

NARS Administrative Secretary
P O Box 690342
Houston, Texas 77269-0342

NETS

10M Ragchew: Monday 8:00 PM. 28.444
Coordinator: Jim Kirk KJ5X
jrkirk@wt.net 281/537-0718

2M Information: Wed. 8:00 PM. 146.66
Coordinator: Bill Gary K8CSG
k8csg@arrl.net 281/537-9240

WEB SITE

URL: <http://www.flash.net/~nars/>
Webmaster: Ben Worell KM5OT
km5ot@bfweb.com 409/773-4484
Trustee: Walter Hock KK5LO
kk5lo@flash.net 281/350-6633

REPEATERS

2M -- 146.060/146.660 (KA5AKG)
70 cm -- 449.375/444.375 (KA5AKG)
Digipeater -- 145.710(W5NC aliasNARS)

MEETINGS

Monthly General Membership at
Spring-Cypress Presbyterian Church
6000 Spring Cypress Road
Third Friday each month -- 7:30PM
Saturday Breakfast at Victors Restaurant
7:30 AM
Wednesday Lunch Bunch at various
locations 11:30 AM (Info. on 146.660)

NARS NEWS is published monthly by the
Northwest Amateur Radio Society

Editor: Bill Gary, K8CSG
281/537-9240
k8csg@arrl.net

Send all articles and materials other than
email for the Newsletter to:
NARS Newsletter
14834 Falling Creek Drive
Houston, Texas 77068

Northwest Amateur Radio Society is a Spe-
cial Service Club affiliated with the Ameri-
can Radio Relay League.
ARRL Club No. 2120