



Index: Issue #1 thru #76

November 1987 thru May 2000 \$5.00 U.S. \$7.50 CAN.

Previous issues of *Home Power Index*—a complete listing of all articles appearing in previous issues of *Home Power*. We wish we could publish this resource in the magazine, but it's just too big. We hope that it helps you find the information you need. All of the articles appearing in issues #1 through #76 are listed alphabetically by subject. The first number refers to the issue and is followed by the page number.

There are several ways to access the printed and electronic editions of *HP*'s back issues. If you have a computer, you can save paper by viewing *Home Power* in our *Solar CD-ROM* series. All of *HP*'s previous issues have been published in the CD-ROMs:

- Solar2 issues #1 through #42
- Solar4 issues #61 through #70
- Solar3 issues #43 through #60
- Solar5 issues #71 through #76

The CD-ROMs cost US\$29 each and have a bundle of additional RE and multimedia information including audio lectures and video clips. The back issues and most other information on the CD-ROMs are PDF files. These are viewed using Adobe's Acrobat Reader (included for both Macintosh and PC computers).

We have most of *HP*'s printed back issues in stock at our main office. However, the following issues are out of print and not available: 1–12, 14–16, 25, 35, 36, 38, 40, 41, 57, 59–61, 63–67. Please feel free to contact us for further availability and pricing information.

Power On, The *HP* Crew

Architecture continued

- book reviews, Resource Efficient Housing: Directory, 26-77
- book reviews, Shelter (home design), 18-49 book reviews, The Hydroponic Hothouse
- (greenhouse), 28-76 computers, IBM daylighting simulator software (TtW!), 29-68
- earth berm, concrete dome, 29-22
- efficiency, specs, mass, insulation, sources,
- etc., Gimme Shelter, 46-37 finding true south, simple technique, (letters),
- 63-97
- greenhouse, PV powered ventilation, 34-55 Kyocera's PV-powered energy-efficient building, 75-44
- lumber kiln, passive solar, 63-50
- mud rooms, Home & Heart, 55-92
- passive solar, basics, 11-34
- passive solar, home in northern CA, with PV, 60-6
- passive solar, radiant barriers, basics, 28-43
- passive solar, sun room add-on, Sexton, 53-16
- passive solar, sunspace, trombe wall, radiant
- floor heat, direct gain, 32-28 solar mobile home conversion, passive, PV, DHW, 64-16
- solar space heating, glass and glazing choices, 30-26
- SolarWind home, hexagon, 19-40
- straw bale bathhouse / greenhouse, at Home Power, 63-12
- straw bale bathhouse / greenhouse, at Home Power (part 2), 64-46
- straw bale, basics, overview, examples, sources, 46-44
- straw bale, in MN (photos, letter), 47-101
- straw bale, w/PV: 408 Wp, 12 V L-A, 35-62 strawbale construction, renewable energy sabbatical, 60-50
- vapor barriers, specs for efficient home, sources, 46-37

Ask NREL

- efficiency, conventional power plants, RE, 45-62
- energy, amount in sunlight, world
- consumption, 41-36 PV, breakthrough in low-cost efficient PV, 40-98
- PV, differences in PV technologies, 39-84
- PV, energy payback time of cell manufacture, 43-73
- PV, Why are PV modules blue?, 38-88
- wind, resource across the US, map, table and references, 44-30

Back to the Basics

- alternative, renewable, sustainable energy, 28-67
- moving to the country, 26-47

Batteries

- AA, brands tested/compared, 41-89
 AA, NiCd, recharging w/small PV, 36-78
 alkaline, operating tips, titration, 34-45
 alkaline, operating/testing tips, 34-44
 basics/historical, advent of the sealed nickel cadmium cell, 52-34
 battery defined, Word Power, 73-100
 care of NiCds, Q&A, 69-122
 care, & feeding, 58-66
- care, 69-46
- cell failure, Q&A, 65-108 cell rotation, Q&A, 60-106

Batteries continued chargers, charging with generators (Q&A), 43-107 chargers, constant current, 23-69 chargers, Heliotrope HC-75 (TtW!), 17-38 chargers, Homebrew, constant current, 21-82 chargers, Homebrew, constant current, efficient, 44-54 chargers. Homebrew, for small NiCd, 53-34 chargers, Homebrew, NiCd pulsar PWM, 30-54 chargers, Homebrew, simple NiCd, 23-71 chargers, military surplus (TtW!), 41-66 chargers, with gas generator, 3-32 charging rates, Q&A, 67-124 choice, Q&A, 69-123 Code Corner, safety, National Electrical Code, 40-94 Code Corner, UL listed flexible battery cables, NEC, 41-84 comparison, cost, lead-acids vs NiCd, 16-24 comparison, of technologies, 35-54 comparison, table, acid vs. alkaline, 17-35 Concorde sealed batteries, TtW!, 75-88 education, and PV, loads (teaching plan, part 2), 15-5 education, workshops, MREA, 47-74 electric vehicles, charging and maintenance, 48-60 electric vehicles, fueling techniques, 36-57 electric vehicles, overview, 35-50 electric vehicles, placement & containment, 36-52 electric vehicles, Tech Talk, diagnosing battery condition, 57-105

- enclosures, design of a battery room, 33-42 enclosures, Homebrew, clean/safe/warm,
- 41-70
- enclosures, Sailer system, 768 Wp, 6 V L-A, 42-6
- enclosures, ventilation, 6-31
- EV batteries explained, Go Power, 72-92
- Homebrew, 12 or 24 Volt portapower, 24-70
- Homebrew, charger for AA Ni-Cd cells, 48-46
- Hydrocaps, Q&A, 69-123
- instrumentation, Homebrew, high/low voltage alarm, 39-62
- instrumentation, Homebrew, LED bargraph voltmeter, 10-26
- lead-acid, basics, overview, equalizing, EDTA treatment for sulfation, 47-30
- lead-acid, basics, terms, tips, 9-27
- lead-acid, basics, terms, tips, tables, 1-25
- lead-acid, EDTA reconditioning, how to, 20-23
- lead-acid, EDTA reconditioning, preliminary results, 21-36
- lead-acid, equalizing charge (Q&A), 44-90
- lead-acid, gel cells, description of, 25-46
- lead-acid, internal resistance in, 3-34 lead-acid, restoration using EDTA, 52-78
- lead-acid, state of charge vs voltage at 34°F
- & 78°F (charts), 9-25
- lead-acid, state of charge vs voltage for 12 V & 24 V (charts), 7-25
- lead-acid, state of charge vs voltage, 36-66 maintenance, diagnosing sick cells, 28-36
- maintenance, gassing, 19-50

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

- maintenance, Hydrocap battery tops (TtW!), 11-37
- maintenance, neutralizing spills (letters), 42-106
- maintenance, treating sick cells, 29-44

Batteries continued

- new battery technologies for EVs, Go Power, 75-100
- NiCd, chargers, Homebrew, wall cube replacement, 26-72
- NiCd, equalizing charge (Q&A), 43-108
 - NiCd, pocket plate, care and feeding, 15-19 NiCd, pocket plate, chemistry, types, state of charge vs voltage, 12-16
 - NiCd, pocket plate, evaluating used, 25-72 NiCd, pocket plate, reconditioned (TtW!),
 - 13-17
 - NiCd, pocket plate, testing and reconditioning, 15-23
 - NiCd, pocket plate, voltage regulation, 26-69
 - NiCd, sintered plate, charging for radio, 33-68
- NiCd, sintered plate, charging small NiCd, 19-18
- NiCd, sintered plate, charging using pulses (homebrew), 5-27
- NiCd, sintered plate, charging using solar (teaching plan, part 1), 16-14
- NiCd, sintered plate, description of, charging and discharging, 4-14
- NiCd, sintered plate, sidebar, Sunshine for All, 36-78
- NiCd, sintered plate, test/evaluation/charging of AA cells, 38-38
- NiCd, small rechargeable, 37-97
- nickel-iron, negative experience (letters), 46-104
- nickel-iron, positive experience, 46-16
- nickel-metal hydride, (NiH), Ovonics (TtW!), 15-33
- portable, Consci Portable Power Pack (TtW!), 42-74
- rechargeable, small, 37-97
- recycling, lead-acid battery, 49-72
- safety, overcurrent protection devices, 27-26
- safety, short circuit protection, 17-37
- safety, tech notes, 27-69
- Surrette batteries, TtW!, 75-84
- wiring, basics/L-A & NiCd w/wiring diagrams, 27-30
- wiring, cables, build for battery/inverter, 7-36 wiring, interconnects, tech notes, 33-46

electric vehicles, PV-powered sailboat, 57-28

PV/Wind System, on sailboat, Cotterell, 53-12

sailboats, 2 Amp homemade wind generator,

sailboats, book reviews, In Pursuit of

Adventure and Freedom, 23-76

sailboats, Oldfield, PV and wind, 18-16

solar boat regatta, in Minnesota, 59-56

tow- behind hydro generator, for sailboats

"From Space to Earth," history of PV, 75-136 "From the Fryer to the Fuel Tank," Tickell,

"Gaviotas - A Village to Reinvent the World,"

"The \$50 & Up Underground House Book",

"The Death of Ben Linder," RE enthusiast and

Battery Chargers

PV. boat lift. 57-50

(letters), 46-103

Weisman, 68-102

Contra soldiers, 76-136

Boating

5-9

Book Reviews

68-103

74-134

120 vac to 12 VDC, Statpower 20 Amp charger (TtW!), 48-32

Homebrew, AA Ni-Cd cells, 48-46

grounding PV systems, 72-112

grounding, basics, 18-26

grounding, how to, 28-46

grounding, isolation, 25-65

grounding, why ground, 27-47

32-68

grounding requirements, , 64-70 grounding separate structures, 65-70

grounding, inverter grounding, 30-64

grounding, inverter grounding, 34-85

grounding, surge and lightning protection,

how the code is written / changed, also series

Listed alphabetically by subject: the first number refers to the issue, followed by the page number.

Book Reviews continued

- The Rammed Earth House", 73-122
- Windpower Workshop," (Piggot), do-it-yourself info. 65-92
- Capturing Heat, five cooker designs , 55-99 Code Check, A Field Guide to Building a Safe
- House, 56-92 hot water heaters, anatomy, maintenance,
- trouble-shooting, etc., 51-73 PV, passive solar heat, The Evolution of an Independent Home, 51-72
- PV, Types, construction, how they work, 50-76
- Sierra Club Green Guide, , 55-98
- System Design, collection of RE product spec
- sheets, over 200 pgs, 50-76 system, guide for choosing, installing & using
- RE. 51-73
- The Humanure Handbook, , 61-68
- Who Own the Sun?, IPP, 58-76
- architecture, Resource Efficient Housing (directory), 26-77
- architecture, Shelter (home design), 18-49 Box Beam Sourcebook, 43-86
- business, The Incredible Secret Money
- Machine (home business), 17-51 business, The Incredible Secret Money
- Machine II (home business), 46-76
- conservation, The Fuel Savers, 25-77
- Electric Burro On The Road To Bogota (travel), 18-49
- electric vehicles, Alternative Transportation News (magazine), 22-81
- electric vehicles, Build Your Own Electric Vehicle (Bob Brant), 41-54
- electric vehicles, Convert It (Mike Brown & Shari Prange), 40-64
- generators, The Homebuilt Dynamo, 32-86 greenhouses, The Hydroponic Hot House,
- 28-76 In Pursuit of Adventure and Freedom (sailing),
- 23-76
- Mavericks in Paradise (history), 23-76
- Mutant Message Downunder (philosophy), 41-92
- power politics, A Solar Manifesto (environment and energy), 46-75
- power politics, Sowing the Wind- Reflections on the Earth's Atmosphere, 23-77
- PV, Solar Electricity Engineering (college textbook), 46-75
- reference, Alternative Energy Sourcebook 1990. 17-51
- reference, Alternative Energy Sourcebook 1991, 22-81
- reference, Ecologue (catalog), 21-86
- reference, Shopping for a Better World
- (directory), 15-29 reference, Solar Electricity Today (directory), 23-76
- reference, The Pocket REF, 31-93
- reference, World Wildlife Fund Atlas of The Environment, 21-85
- solar cooking, Heaven's Flame Solar Cookers, 19-52
- solar cooking, Solar Cooking Naturally (cookbook), 37-109
- system design, Buying Country Land, 29-78 system design, The Solar Electric Independent
- Home Book, 18-49 system design, The Solar Electric Independent Home Book, 23-77
- The Bladeless Tesla Turbine, 19-52

Book Reviews continued Code Corner continued

- The Complete Joy of Homebrewing (beer),
- 24-75 washing machines, Efficient Washing
- Machines, 23-77
- Wildfire Across America (firefighting), 23-77 wind, Wind Power for Home & Business (Paul Gipe), 36-88
- wiring, Wiring 12 Volts For Ample Power, 20-61

Business

- book reviews, The Incredible Secret Money Machine (home business), 17-51
- book reviews, The Incredible Secret Money Machine II (home business), 46-76
- building a PV industry, in Nepal, 62-24
- career in RE, how to start, 26-36
- home, basics, 34-87
- home, plan, 35-89
- profile of Solar Pathfinder, 26-40
- systems, Home Power; PV 400 Wp, 12 L-A,
- 16-7
- utilities, selling power to, 42-62
- what to expect from your RE dealer, , 61-40 Cartoons
- Harry Martin, nuclear power plant in basement, 46-101
- Harry Martin, refrigerator and computer raid battery room for more power, 44-85 Terry Torgerson, Granny grows PV modules, 44-21
- Terry Torgerson, Sherpas carrying fat American up mountain, 45-70
- Cats
 - photos, with PV, 42-6 toys, Drag-a-Mouse (TtW!), 6-37
- **Charge Controllers**
- - Home Brew, Charge controller, slave, 54-40 Homebrew, 3 to 10 Amp PV charge controller, 63-42
 - maximum power point tracking, basics, description of, 29-34
 - Morningstar SunSaver, TtW, 59-40
 - PV, Heliotrope CC120E 120 Amp (TtW!), 48-36
 - see "Regulators,"
- switches, Homebrew, high voltage detector, 33-80
- switches, Homebrew, voltage controlled, 16-50
- **Code Corner**
 - add your input to the 2002 NEC, 75-128
 - breakers, 68-98
 - code Q & A, , 61-74
 - codes & standards, affect on cost & performance, 55-82
 - conductors and cables, 66-82
 - conductors, 31-74
 - diodes and fuses, on PV arrays, 60-74
 - disconnects for AC and DC systems,
 - PV/wind/generator, 42-78
 - disconnects, 19-42
 - disconnects, 21-53
 - example Systems, NEC PV stand-alone with generator back-up, 48-74
 - flexible nonmetallic conduit, temperature ratings. 60-74
 - fuses, 67-100
 - ground fault protection, PV systems Checklist, 58-82
 - grounding arrays far away from rest of system, 74-128

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

diodes, 63-71 inspectors, 33-76 law, relation to National Electrical Code, 23-74 lightning, safety & protection, 57-82 multiwire branch circuits, danger of, 59-76 National Electrical Code, 1996 NEC and Cable update, 49-86 NEC and system protection, preventing accidents form becoming disasters, 52-86

- NEC and UL requirements, PV, cables, overcurrent devices, 43-88
- NEC and UL requirements, response to HP #43, voodoo electronics (letters), 44-84
- NEC and UL requirements, response to HP#43, voodoo electronics, further (letters), 45-84

pumps, PV-powered, example systems, 45-66

PV grounding for single dwelling, how you can

PV, example systems: stand-alone and grid-

PV, grounding/overcurrent protection/fuses,

PV, history/relevance of National Electrical

PV/NEC, Designing systems to meet code,

systems, examples and remedies, PV,

systems, examples, PV, small stand-alone,

systems, purchase of, procurement manual,

UL listings, appliances, system components,

various minutia, nonmetallic flex continued,

water, pumping systems with PV, 45-66

wire ratings and what they mean, 76-128

"shorties", also wind, PV, solar hot water,

Adopt-A-Library, matching funds for

amateur radio (HAM), and PV, 61-46

SAFETY ALERT, wiring, AC multiwire branch

PV, purchase of, procurement manual, specs,

NEC PV module wiring methods & cables, 51-86 NEC summarized, installation checklist,

system users manual, 71-130

perspectives on NEC, 70-118

pumps, PV-powered, 26-57

PV and 1999 NEC, 69-98

tied. 47-84

Code, 20-54

circuits, 54-82

specs, 44-66

etc., 56-82

SWRES Research, 13-42

good/bad/ugly, 44-66

wiring, load circuits, 22-68

rainwater. 20-50

subscription, 47-101

16-31

44-66

50-86

46-84

62-73

Cogeneration

Communications

affect the NEC, 73-114

Communications continued

- computer, Home Power BBS/how to use, 39-40
- computers, comm.power, 50-42
- computers, Internet access, Home Power BBS, you too can have this, 43-91
- computers, Internet, USENET newsgroup, Home Power BBS, 42-14
- cordless phones hot-rodded, Q&A, 65-108 electric vehicles, Internet discussion address (letters), 47-63
- glossary of renewable energy and battery terms, 47-78
- HP's radio telephone system, , 56-50
- Hughes/RCA Digital Satellite System (TtW!), 49-76
- hydro and PV powered ham radio, 66-26

phones off-grid, Q&A, 68-123

PV, FM radio station, 54-6

- PV, Solar-powered public radio transmitters, 63-6
- PV/mobile ham shack, Bosbach, 86 Wp, 12V L-A, 50-38
- radio basics, remote communication options, 56-42
- RE web site list, Comm Power, 55-40
- saving energy , with electronic
- communications, 58-71 shortwave radio, PV charging, batteries,
- antenna (Q&A), 47-108 Things that Work!, criteria and policies
- (letters), 46-102
- travel, house swapping RE homes, 37-107
- travel, RE user network (letters), 47-100 Writing for Home Power Magazine, share your renewable energy experiences!, 47-106

Composting Toilets

- Clivus Multrum, Ciotti, 816 Wp, 12 V NiCd, ram pump, 28-11
- see "Sanitation,"

Computers

- AC powered, efficient, 21-45
- batteries, charging from PV (Q&A), 45-90 battery chargers, Homebrew, constant current charger, 44-54
- communications, comm.power, 50-38
- communications, Home Power BBS/how to use, 39-40
- communications, Internet access, Home Power BBS, you too can have this, 43-91 communications, Internet, USENET
- newsgroup, Home Power BBS, 42-14 communications, renewable energy bulletin
- boards, 27-60 Consci Portable Power Pack (TtW!), 42-74
- Homebrew, 12 Volt regulator for Commodore
- 64, 23-71 inverters, how computers/printers run on mod
- sinewaves, 40-32 low power, 20-44
- low voltage, 19-37
- low-power computing, letters (see city off-
- grid), 42-105
- PC Solar IBM daylighting simulator software (TtW!), 29-68
- printers, Apple Laserwriter II NT, 15-41 printers, Hewlett-Packard DeskWriter, 14-35
- printers, Seikosha SP-1000AP, 16-52
- PV, portable charging, 38-32
- RE web site list, Comm Power, 55-40

Conservation

appliances, finding phantom loads, 14-13

Conservation continued

- birds, effects of pollution (letters), 47-104 birds, wind vs. conventional, power politics, Audubon report, 47-10 birds, wind, power politics, 46-30 book reviews, The Fuel Savers, 25-77 electric vehicles, power use, pollution reduction, 45-42 home load analysis, , 58-38 in the city, 22-11 phantom loads, Homebrew, detecting & eliminating, 55-36 rainforest, Amazon, Yacumama Lodge, ecotourism w/PVs, 43-6 refrigerators, most efficient, Sun Frost RF-19 refrigerator/freezer (TtW!), 45-34 saving energy, with electronic communications, 58-71 Sierra Club Green Guide, book review, 55-98 trees, paper cost/prices/recycling, 46-70
- trees, paper cost/prices/recycling, 46-70 water heating, tank maintenance, anode replacement, source for, 45-30
- Controls
- alternators, Homebrew, 12 VDC
- engine/generator w/ field controller, 2-23 DC-DC converters, Vanner Voltmaster (TtW!),
- 33-84 disconnects, required for AC and DC systems,
- PV, wind, generator, 42-78 fan speed, 12VDC, ZANE (TtW!), 54-68 Homebrew, electric fence chargers,
- programmable pulse generators, 21-78
- Homebrew, lov voltage disconnect (LVD), 60-38
- Homebrew, Renavair control panel, w/ 24 Volt Mark VI field controller, 22-73
- Homebrew, timer for loads, AC to DC conversion. 16-49
- Homebrew, timer for modified sine wave inverters, 51-76
- hydro, systems, 13-35

Cooling

- see "Air conditioning" and "Refrigeration," Dr. Klüge
- basics, electricity terms and laws, 31-78 basics, how transformers and LCBs work, 37-40
- basics, resistors and diodes, 32-62
- electricity, rms voltage, 32-50

electricity, timers and FETs, description of, 34-70

- electricity, transistors, intro to, 33-32 induction and magnetism, Getting the Buzz Out, 35-77
- Editorial
- alternatives, RE a solution to utilities dilemma, 20-46
- conference, REDI Conference 1993, 37-78 conservation, energy conservation, 9-34 consumer's guide, an RE parable, 31-81 costs of RE, how people can affect, 57-39 electric vehicles, Carnegie Mellon report, 49-73
- electric vehicles, Electrathon, ZEVs, 51-50 electric vehicles, future of , 38-49
- electric vehicles, introduction of GoPower, 37-50
- energy farming, 46-4

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

- etiquette, Good Manners, 31-36
- freedom offered by RE, 22-35
- future, musings on utilities, hydrogen, 29-28

Editorial continued Go Power, solar racing, how many EVs, lead herrings, 49-50

- GoPower, a teen's first car, 52-50
- greenhouse effect and PVs, 10-14
- hydro humor, , 59-70
- IPP introduces themselves, 38-94
- IPP, association & SCE update, 39-90
- IPP, CPUC &SCE update, 41-94
- IPP, Net metering, REDI'95, financing, SCEs off-grid, etc, 49-82
- IPP, PV Commercialization, 48-71
- IPP, update, 40-107
- IPP/PV, National PV Production Statistics, 51-82
- IPP/Utilities, California PV for Utilities (PV4U), 50-82
- IPP/Utilities, Ontrio Hydro, CA net metering, PV growth, 52-82
- letter to future generations, by Jim Bell, 63-86 lightning on Agate Flat, Muddy Roads, 55-68
- Lunatic Fringe, 25-6 magazine mechanics, changing printers,
- paper, 35-18
- magazine mechanics, recycled paper, author data, computer nerd stuff, 38-82
- overview of Home Powers first fifty issues, 50-18
- ownership of power, the utilities' involvement in solar energy, 37-4

revolution, turnips, Smile, you are entering a

spoof, Doktor Data explains sunshine, 34-58

storms, RE comes through unscathed, 45-4

the Wizard speaks, A Dream: 2027 AD, 44-78

utilities, selling power to, net billing, IPP non-

utilities, utilities and the off-grid PV market,

Wisconsin, Renewables at work, Power

Adopt-A-Library, matching funds for

Amp defined, Word Power, 69-82

Amp-hour defined, Word Power, 70-98

battery defined, Word Power, 73-100

electric vehicles, building a high school

Elias PV install workshop for Redwood

glossary of renewable energy and battery

Int'l Development Program at HSU, 41-78

international, PV in Nicaragua, 61-36

high school class builds PV demo cart, 74-24

inverter defined and described, Word Power,

electric vehicles, Junior Solar Sprint races,

back to basics, renewable energy education

Education Station, RE demo on wheels, 72-42

- photon's trip to earth, 25-68
- Power Politics, corporate ethics, 57-86
- PV, perks of using, 2-6 PV, state of the industry, 18-15

RE, a matter of intent, 44-4

profit organization, 42-62

grid-free zone, 42-4

solar, perspective, 4-35

37-91

Education

Politics, 54-86

subscription, 47-101

careers in PVs, CMC, 3-20

electrathon racer. 40-58

also see "Energy Fair,"

sources, 30-72

Alliance, 73-38

terms, 47-78

Kid's Corner intro, 26-50

53-64

74-116

Education continued

- Kid's Corner: solar, 31-86
- Kid's Corner: solar cooker designs, 27-74
- Kid's Corner: solar experiments, 28-70
- Kid's Corner: solar oven designs, 30-74
- Kid's Corner: solar, wind, solid waste, 29-74 Midwest Renewable Energy Fair, highlights,
- 54-26 MREA gets new home and demo facility,
- 74-44
- news on efficient PVs, wind, vacuum, SERI, 13-31
- P-N junction explained, Word Power, 76-116 paper, cost/prices/recycling, 46-70
- passive solar lumber kiln, Appalachian State Univ., 63-50
- PicoTurbine, small wind genny demo, Homebrew, 71-102
- planetary citizens, amateur radio, 5-5
- PV cell defined, Word Power, 75-114 PV class / installation, in Iowa by IRENEW,
- 63-24 PV design & installation, SEI workshop, 10-20 PV for practitioners workshop, SEI (formerly
- ATA), 13-12 PV installation,, a little at a time, 60-16
- PV system, urban, Wausau WI, 600 Wp, 24 V L-A, 48-16
- PV, batteries, loads (teaching plan, part 2), 15-5
- PV, Boy Scouts, Amateur radio, 32-71
- RE sabbatical, in Africa, 60-50 **RETSIE**, , 6-18
- SEI hydro power workshop, 76-64
- solar battery charging (teaching plan, part 1), 16-14
- solar cooking in Mexico, SEI bakery project, 59-50
- solar cooking, for kids, Home & Heart, 57-90 solar cooking, Spanish-language pamphlet to build cooker. 44-50
- Solar Sprint racing, construction tips, 62-70
- Solar Sprint racing, rules and regulations, efficient components, 61-56
- Solar Sprint racing, testing PVs and motors, 63-68
- Solar Sprint, model solar cars for adults and kids. 60-30
- sources, RE material, 30-72
- Stirling engine, small and simple, Homebrew, 76-88
- Sustainable Energies Research Institute, 11-21
- systems, PV, hydro, wind, BLM historical site, 55-6
- Veggie Van, vegetable oil fuel, diesel engines, 65-46
- videos reviews: PV, wind, hydro, Alternative Energy with the Experts, 56-93
- Volt defined, Word Power, 68-82
- Watt defined, Word Power, 71-114
- Watt-hour defined, Word Power, 72-98
- WET Lab, mobile student lab using RE, 67-18
- wind, home built / restoration, 56-32 workshops, SEI, interties, batteries, inverters,
- Code, Safety, etc., 47-82 workshops, wind, PV, batteries/inverters, solar hot water, etc., 47-74

Efficiency

- Code Corner, Standards, affects on cost & performance, 55-82
- education, workshops, MREA, 47-74

Efficiency continued

energy efficiency is crucial, 71-84 home load analysis, 58-38 lighting, LED lighting shootout, 60-33 lighting, most efficient available, LED Illuminators (TtW!), 44-33 lighting, retrofit of school w/fluorescents, 32-38 phantom loads, appliances that are always on, 37-46 phantom loads, Homebrew, detecting & eliminating, 55-36 straw bale, comparisons, overview, sources, examples, 46-44 system design, whole-house, insulation, mass, etc, sources, Gimme Shelter, 46-37 utilities, efficiency of conventional power plants, Ask NREL, 45-62 **Electric Vehicles** a potluck of EVs & letters, 51-53 batteries for EVs explained, Go Power, 72-92

- batteries part 2, Go Power, 74-104
- batteries, reviving, EV Tech Talk, 65-65 charging EV batteries with PV, EV Tech Talk,
- 66-68
- choosing an EV, GoPower, 69-66
- conversion, Porsche 911T, 63-60
- conversions from driver point of view, GoPower, 65-58
- conversions, tips, tricks, and planning ahead, 64-58
- diagnosing equipment problems, EV Tech Talk, 68-84
- electric bike homebrew, 73-64
- EV suspension, EV Tech Talk, 73-102
- fabricating motor mounts, 71-116
- financial incentives, GoPower, 68-74
- fix jerky start-off, EV Tech Talk, 67-84
- fuel cell future for EVs. Go Power. 76-104
- hybrid vehicles myths debunked, EV Tech Talk, 74-112
- improving range of EVs, EV Tech Talk, 70-106 insurance for EVs, 66-64
- integrating traction battery and low Volt accessory battery, 76-110
- kits and converting EVs, GoPower, 70-100
- motor to transmission adaptors, EV Tech Talk, 72-100
- motors for EVs, aircraft generators, EV Tech Talk, 69-84
- neighborhood electric vehicle, PV-powered in Alaska, 69-8
- neighborhood electric vehicle, Sparrow, 67-76
- new battery technologies, Go Power, 75-100
- PV-charged EV, 12 KW grid-intertie, Systems
- article, 72-10
- racing, Electrathon, 61-50
- racing, University Spec. (formula) class, 62-62 rehabilitating old EVs, EV Tech Talk, 75-108
- reviving batteries, EV Tech Talk, 65-65
- reviving old lawn tractors , 70-44
- solar boat regatta, in Minnesota, 59-56
- solar boats in Finland, 74-60
- Solar Sprint racing, construction tips, 62-70
- Solar Sprint racing, rules and regulations, efficient components, 61-56
- Solar Sprint racing, testing PVs and motors, 63-68
- Sparrow neighborhood electric vehicle, 67-76 Tech Talk, battery amps vs controller amps, 64-65
- Tech Talk, perceptions of EV performance / practicality, 63-64

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

Electric Vehicles continued Tech Talk, tires, 59-68 Tech Talk, troubleshooting (part 2), 62-66 Tech Talk, troubleshooting, 61-65 tires for EVs, Go Power, 71-90

- tours & rallies, 59-63 Voltsrabbit conversion at SolWest, Go Power,
- 73-94 aerodynamics, terms, overview, 47-66
- aircraft, solar powered ultralight, 19-6
- aircraft, solar vs. other, energy comparison, 19-8
- basics, wiring (part 1), size, cable, strap, identify, protect, etc., 42-52
- basics, wiring (part 2), measure, connect, ground, fuse, relay, etc., 43-52
- batteries, conversion, overview, 35-50
- batteries, EV fueling techniques, 36-57 batteries, Wh/lb and price comparison
- (letters), 47-62 battery chargers, Homebrew, 0-140VDC,
- autotransformer, 110 rectified, 47-59 battery chargers, types, issues, sources,
 - 46-64

races, 39-48

43-86

36-52

41-46

boats, solar powered, 26-30

by Bob Brant, 41-54

w/Shari Prange, 40-64

Bradley GT, Gail Lucas, 42-46

60-80 mi, 55 mph, 45-42

conversion, adaptors, 34-40

shopping for, 40-66

batteries, etc., 45-50

identify, protect, etc., 42-52

ground, fuse, relay, etc., 43-52

regen, 84 Dodge D50, 47-54

conversions, pickup truck (photo), 45-46

conversions, suspension: data, springs,

shocks, struts, alignment, etc., 44-46

conversions, trucks, 9" DC series motor, 120V,

Citicar, Gail Lucas, 42-46

(letters), 47-63

brakes, electric-assist brake, 44-36

charging and maintenance, 48-60

- battery, lead acid recycling, 48-61 bicycle power assist, ZAP Power System,
- 43-46 bicycles, also solar- and human-powered
- (photo), 46-56 boats, 1st Spada Lada Electric Boat Race, 32-18

boats, Marine Electric Propulsion, 37-70

book reviews, Convert It, by Mike Brown

boats, 2nd Annual Spada Lake electric & solar

book reviews, Build Your Own Electric Vehicle,

book reviews, design, Box Beam Sourcebook,

commuter, 96V, DC series motor, 16 6V L-A,

controllers, conversion, speed control, 37-74

conversion, battery chargers, explanation &

conversion, experience by first-timer, 45-42

conversion, Kawasaki 2WD to electric mule,

conversion, power accessories/options, 41-56

conversion, what to save, what to scrap, 32-48

conversion, wiring (part 1), size, cable, strap,

conversion, wiring (part 2), measure, connect,

conversion, choosing a car for, 31-32

conversion, troubleshooting of circuits,

conversion, battery containment & placement,

computers, Internet discussion address

Electric Vehicles continued

- conversions, Voltsrabbit, 96V, DC series, 16 6V L-A, 60-80 mi, 55 mph, 45-42
- crashworthiness, crash tests, 40-50 design, experiences designing & racing EVs, 40-54
- editorial, Carngie Mellon Report, 49-73
- editorial, Electrathon, ZEVs, 51-50
- editorial, solar racing, how many EVs, lead herrings, 49-50
- editorial, towards an EV future, 29-31
- editorial, Tropica, CARB, 42-44
- editorial, ZEV mandate, electric-assist brake, instrumentation, 44-36
- education, building a high school Electrathon racer, 40-58
- education, building an Electrathon vehicle at a junior high school, 44-38
- education, Jordan Energy Institute, 21-32
- education, Junior Solar Sprint races, 53-64
- efficiency, auto emmisson pollution, 18-9
- efficiency, energy consumption in ZEVs and HEVs, 37-57
- efficiency, performance testing 1992 American Tour de Sol, 34-62
- efficiency, reasons for owning, 18-11
- Electrathon racing, SEER '94 Electrathon, 43-56
- Electrathon, building a high school Electrathon racer, 40-58
- Electrathon, Lightning Series by Dann Parks, 43-48
- Electrathon, Panther Electric junior high project, 44-38
- Electrathon, SEER '94 racing and results, 43-56
- electric wheelbarrow, 43-40
- energy, gasoline-to-electric equivalents, 42-48 EV driving techniques, 49-68
- fuel cells, intro to hydrogen fuel cells, 23-16
- gardening, walking tractor conversion, 53-53 grid power emissions, , 56-70
- Homebrew, build a solar-powered vehicle, 14-27
- Homebrew, building a shopping cart racer, 50-64
- Homebrew, building an Electrathon vehicle, Box Beam, 44-38
- Homebrew, controllers/relays, simple, 39-53 Homebrew, design & construction of a
- shopping cart racer, 49-62 Homebrew, dynamic braking (part 1 of 3, all
- needed), 42-56 Homebrew, dynamic braking (part 2 of 3)
- (Letters, see Problem Relay), 43-99 Homebrew, dynamic braking (part 3 of 3) (EV
- Q&A), 45-54 Homebrew, frames, 15-42
- Homebrew, frames, 15-42
- Homebrew, regenerative braking, 38-52
- Homebrew, shopping cart racing, 48-52
- Homebrew, solar powered dune buggy, 34-20 Homebrew, suspension: data, springs, shocks, struts, alignment, etc., 44-46
- Homebrew, VW Rabbit conversion, part 1, 51-62
- Homebrew, VW Rabbit conversion, part 2, 52-52
- Homebrew, VW Rabbit conversion, part 3, 53-60
- Honda R&D EVs, delivered to Pacific Gas & Electric, 45-39
- hybrids, general, 8-5
- hybrids, overview, 9-13

- **Electric Vehicles continued**
- hybrids, solar electric/ natural gas prototype, 31-108
- instrumentation, conversion, gauges for the working EV, 39-58
- instrumentation, tachometer sensors, meter drivers, 44-36
- international, British Battery Vehicle Society (letters), 47-63
- international, British EV society, Dorset (letters), 46-104
- international, electric rickshaws in Kathmandu, 49-52
- international, EVs in Europe & renting an EV in Geneva, 38-64
- international, Isle of Man, education, racing, publicity, 45-54
- Lightning Series, Dann Parks, Electrathon, 43-48
- maintenance, troubleshooting of circuits, batteries, etc., 45-50
- motors, conversion, types and tips, 33-38
- overview, myths debunked, 46-59
- overview, various conversions, purpose-built, production & kit models, 44-42
- parts, access data, 19-54

pen pals wanted—Kansas City, letters, 42-105

- politics, CARB ZEV mandate, 44-36
- prototyping, aluminum box beam, 54-50 PV intertie, Heckeroth, 3 Kw, 24V L-A, 50-57
- PV powered sailboat, 57-28
- Q & A, low cost and low performance, 60-66
- racing , at Phoenix, 54-53
- racing, '91 Phoenix Solar & Electric 500, 23-66
- racing, '92 Phoenix Solar & Electric 500, 30-16
- racing, 1990 American Tour de Sol, 18-7
- racing, 1991 American Tour de Sol, 24-35
- racing, car & race types, 55-62
- racing, design/development of open class racer, 39-44
- racing, drag & speed records, 58-56
- racing, driving techniques, 57-56
- racing, Electrathon, high school, 41-50
- racing, new speed records & old EV frames, 41-44
- racing, rapid recharging, 33-109
- racing, safety & protocall, 56-64
- racing, safety, 30-22
- racing, Snowhite EV vs. gas stock car, 43-40
- racing, solar, endurance, 60-60
- racing, statistics, photos, 46-59
- racing, Universities compete in solar car race, 50-50
- rail biking , (not electric), 54-60
- road test, an electric bicycle, 48-57
- safety, conversion, disconnects, circuit breakers, fuses, 38-60
- safety, design, operation & maintenance, 51-58
- safety, safety features for the EV conversion, 50-68
- scratchbuilt, gear ratios (EV Q&A), 45-55 scratchbuilts, Sunray, 3-wheel, 12HP DC series, 120V, 45-46
- scratchbuilts, tractor (photos), 45-46
- Shawk electric motorcycle, 49-58
- Solar Sprint, model solar cars for adults and kids, 60-30
- solar, '90 World Solar Challenge, Australia, 21-29
- solar, 4 PV panels, 12V L-A, Tom Bennett/Eileen Niedermann, 42-48 solar, building a solar vehicle, 14-30

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

Electric Vehicles continued

46-101

Electricity

52-74

35-77

37-40

2-33

power, 53-44

- solar, PV panel construction for racer, 37-52 Speedster Two, 72V, 4.5HP, 600lbs, 43-42 SunCoaster, 4 PV panels, 12V L-A, Tom
- Bennett, 42-48 suspension, data, adjustment, springs,
- shocks, struts, alignment, etc., 44-46 Tech Talk, diagnosing battery condition, 57-105

tires, overview, issues, 46-66

24V/2HP, 47-52

Tech Talk, range, car type, battery treatments, 58-62 three-wheel, design considerations (letters),

tractors, BoxBeam, PM motor, 12V/1HP or

trike, w/ pedal & Zap, The Phantom, 55-56

video reviews, Hand Made Vehicles, 43-40

identifying, protecting, looms, 42-52 wiring, (part 2), measuring, connectors, extra

wires, grounds, fuses, relays, 43-52

ZAP Power System for bicycles, 43-46

Amp-hour defined, Word Power, 70-98

basics, alternating current, part 1, sinewaves,

basics, alternating current, part 2, phase &

basics, Dr Klüge, induction and magnetism,

basics, Dr Klüge, rms voltage, 32-50

basics, Dr Klüge, transistors, 33-32

basics, resistors and diodes, 32-62

basics, terms, definitions, 29-72

Amp-hours, 1-35

circuits. 53-38

care for, 47-30

article, 70-88

shunt table. 6-35

(TtW!), 16-39

definition of terms, 29-72

history, AC vs. DC, 8-21

definitions, see "Word Power,"

home load analysis, , 58-38

Ohm's law , definition, 3-40

Ohm's law, applications, 4-33

soldering, basic how to, 18-35

Volt defined, Word Power, 68-82

wiring, sizing tables, DC/PV, 18-31

basics, schematics, how to read, 5-35

basics, Dr Klüge, terms and laws, 31-78

basics, Dr Klüge, timers and FETs, 34-70

basics, electricity for dummies, Part 1, 44-62

basics, terms: amps, volts, watts, Watt-hours,

basics, transformers and LCBs, electronics,

basics, understanding DC electricity, 52-64

basics, wiring, low voltage techniques, sizing,

batteries, lead-acid, how they work, how to

cartoon describing amps and volts, 25-67

motors, how electric motors work, 34-48

power factor, sidebar to water purification

shunts, multimeters, to measure current, Cu

soldering, Pensol portable gas soldering iron

reliability, RE vs utility (letters), 46-100

Ohm's law, digital multimeters, 16-46

basics, understanding series & parallel

Amp defined, Word Power, 69-82

trucks, conversions, 9" DC series, 120V,

video reviews, EVs & Hydrogen, 27-78

wiring, (part 1), sizing, cable, straps,

regen, 84 Dodge D50, 47-54

Electromagnetic Fields

AC, reducing EMF, 24-62 Homebrew, AC field meter, 23-26 Homebrew, simple magnetic field meter, 34-79 Metering, TriField (TtW!), 54-73 systems (PV etc), health effects, 23-24

Emergency Equipment

appliances, 16-30 Camp Fires' B-B-Q Box (TtW!), 28-65 Consci Portable Power Pack (TtW!), 42-74 emergency micropower systems, 14-9 emergency power system, 25-33 micro system: Sovonics PV, Ovonics battery (TtW!), 15-33

Emergency Preparedness

be prepared, Home & Heart, 68-105 five stages of Y2K, Home & Heart, 69-104 insiders discuss Y2K, 71-70 surviving ice storm of '98, 68-42 Y2K outlook, humor, 71-78

Energy

- cold fusion, non-ecological, 43-97 conversion, gasoline-to-electric equivalents, 42-48
- conversion, kiloWatt-hours to Sherpa-weeks, 45-70
- costs of RE, how people can affect, 57-39 editorial, freedom offered by RE, 22-35
- efficiency, appliances that are always on, phantom loads, 37-46
- electricity, basics, Electricity for Dummies, Part 1, by "Dr. Demento", 44-62
- embodied, various building materials, chart, straw bale info, 46-44

etiquette, Good Manners, 31-36

- free, impact of, the Wizard speaks, 45-82
- future, musings on utilities, hydrogen, 29-28 home power movement, 45-64
- human energy converter (HEC), bicycle parts + people = power, 1036 Wp, 24 V, 43-78
- nuclear, costs, "give it up", 45-73
- organizations, profile of Redwood Alliance,
- 12-22 physics, charge/energy and mass/energy, 8-33
- PV, amount to produce cells vs. that produced
- by cells, 43-73

selling RE to utilities, 42-62

- stud muffins & kW-hrs, they ought to call them Sherpa-weeks, 45-70
- survey, voters choose between RE, coal & oil, etc., 45-64
- terms, conversion of units, 19-46
- utilities, hidden costs, 16-21
- zero-point field, challenges quantum & relativity, 46-98
- zero-point field, ZPF virtual photons, New Energy News, 42-100

Energy Fairs

- energy fair update, initial responses, 13-24 ham radio at Midwest Renewable Energy Fair [•]98. 66-37
- inspiration for installing RE, 46-6
- Midwest Renewable Energy Fair '90, Amherst, WI, 19-16
- Midwest Renewable Energy Fair '91, Amherst, WI, The Spark, 24-32
- Midwest Renewable Energy Fair '92, Amherst, WL 30-10
- Midwest Renewable Energy Fair '93, Amherst, WI, 36-6

Energy Fairs continued

- Midwest Renewable Energy Fair '94, Amherst, WI, 42-22
- Midwest Renewable Energy Fair '95, Amherst, WI. 49-22
- Midwest Renewable Energy Fair '96, Amherst, WI, highlights, 54-26
- Midwest Renewable Energy Fair '97, Amherst, WI. 60-24
- Midwest Renewable Energy Fair '98, 66-32
- Midwest Renewable Energy Fair 99, 72-50 People's Energy Fair, "A Dream", 12-27
- reports, 1990, 19-12
 - season of energy fairs begins, From Us to You, 71-6
- SEER '91, Solar Energy Expo & Rally, Willits, CA. 25-26
- SEER '92, Solar Energy Expo & Rally, Willits, CA. 31-12
- SEER '94, Solar Energy Expo & Rally, Willits, CA, 43-19
- Solar Sprint racing, model solar cars for adults and kids, 60-30
- SolWest RE fair 99, 73-74
- SWREF, Flagstaff, AZ, 68-68
- SWREF, Flagstaff, AZ, '99, 74-66
- Tehachapi Wind Fair '98, 67-52
- The Farm, Summertown, TN, '90, 18-40

Engines

- battery charger, Heliotrope HC-75 (TtW!), 17-38
- engine/generators, small gas engines compared, 42-29
- fuel, transportation, handling and storage, 4-18
- Homebrew, electronic ignition, 7-30

EV Tech Talk

- battery amps vs controller amps, 64-65 charging EV batteries with PV, 66-68 diagnosing equipment problems, 68-84
- EV suspension, 73-102
- fabricating motor mounts, 71-116
- fix "jerky" start-off, 67-84
- hybrid electric/gasoline vehicles myths debunked. 74-112
- integrating traction battery and low Volt accessory battery, 76-110 motor to transmission adaptors, 72-100 motors for EVs, aircraft generators, 69-84 range of EVs, improving, 70-106
- rehabilitating old EVs, 75-108 reviving batteries, 65-65

Financing

GMAC offers financing for solar, 70-78 how to finance your RE system, locally, 59-36 loans for RE systems, bank and federal, 62-85 utility intertid RE, myths of payback, 64-6

From Us to You

- Arcata CA RE fair. 65-6 Bill Haveland, hydro evangelist, passes on, 72-8 Grand Canyon renews our perspective, 74-6
- guerrilla solar, 67-6
- HP's growing energy source, 69-6
- season of energy fairs begins, 71-6

solar harvests, for power and for garden, 73-6

- spring humor, 70-6
- taking RE on-grid, 76-6 thinking outside the box, putting wind gennies in trees, 75-6 why guerrilla solar, 68-6

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

Y2K and public hysteria, 66-6

Fuel Cells

- fuel cell future for EVs, Go Power, 76-104 fuel cells, Wizard Speaks, 76-142
- state of technology for home power, 72-20 EV, intro to, 23-16
- Homebrew, hydrogen, 35-42
- hydrogen, overview of 5 types, 35-37

Gardening

- book reviews, The Humanure Handbook, 61-68
- cider press, Home & Heart, 56-90
- electric vehicles, walking tractor conversion, 53-53
- greywater, CCAT, also PV: 450 Wp, 12 V L-A; wind: 500 W, 32-6
- Home & Heart, Figs, grapevines & garlic, 49-92
- log splitter, Homebrew, electric conversion, 55-32
- PV, minisystem for charging mower, etc. (Q&A), 43-108
- rainwater, "shorties", also wind, PV, solar hot water, cogen, 20-50
- Sun Frost solar composter, Home & Heart, 63-90

Generators

back-up power, choosing and employing effectively, 51-66 batteries, charging with (Q&A), 43-107 bicycle-powered, track stand conversion, 56-75 book reviews, The Homebuilt Dynamo, 32-86 charging batteries with gas generator, 3-32 DC generator for battery charging, GennyDeeCee (TtW!), 68-78 electricity, basics, 42-35 engines, choosing, using, 1-19 Homebrew, 12 VDC engine/generator, 2-23 Homebrew, 12 VDC w/field controller, updated, 42-28 PV/systems, YAGO, 2.4 Kwp, 24 V, 7 Kw generator, 50-32 system, with PV, multiple gen switching, 62-6 systems, "shorties", also wind, PV, temporary, 17-46 systems, Haeme (shop, trailer); 4000 W; PV 360 Wp, 12 V L-A; grid, 47-24 systems, Kingman (CA); PV 848 Wp, 24 V N-I; gen 7.5 kW propane, 46-16 systems, Lasley (OR); PV 146 Wp, 12 V L-A; gen, 44-16 systems, Pryor; PV 200 Wp, 12 V L-A; generator, 2-7 systems, Reichenbach; also PV, 42-18 systems, Yacumama, Amazon; gen: 6.5 kW; PV: 576 Wp, 24 V L-A, 43-6 Glossarv

definition of Home Power terms, 18-52 renewable energy definitions, 39-108 water pumping terms, , 61-28

batteries for EVs explained, 72-92

conversions, tips, tricks, and planning ahead,

biodiesel VW Vanagon, 76-56

biodiesel, step by step, 72-84

electric bike Homebrew, 73-64

fuel cell future for EVs, 76-104

solar boats in Finland, 74-60

new battery technologies, 75-100

see "Electronic Vehicles",

batteries part 2, 74-104

GoPower

64-58

GoPower continued tires for EVs, 71-90 Voltsrabbit conversion at SolWest, 73-94 choosing an EV, 69-66 EV conversions from driver point of view, 65-58 financial incentives, 68-74 insurance, 66-64 kits and converting vehicles, 70-100 Sparrow neighborhood electric vehicle, 67-76 Greenhouse PV powered ventilation, 34-55 book reviews, The Hydroponic Hothouse, 28-76 passive solar, Sun room add-on, Sexton, 53-16 straw bale bathhouse / greenhouse, at Home Power (part 2), 64-46 straw bale bathhouse / greenhouse, at Home Power, 63-12 Greywater see "Gardening" and "Sanitation," Grid Intertie see "IPP" column, Guerrilla Solar 0001, PV, AC module, original GS article, 67-34 0002, PV and wind, 70-32 0003, PV and wind, 70-38 0004, PV and wind, 71-48 0005, PV, 71-56 0006, PV and wind, 73-84 0007, PV, 74-85 0008, PV with MicroSine, 75-74 0009, PV, 76-84 interties explained, safety, 71-58 The Manifesto, GS statement of purpose, 72-77 Health & Environment electromagnetic fields, measuring, TriField (TtW!), 54-73

lighting, effects of, 30-32 microwaves, what are/where from/hazardous?, 35-67 paper, use, cost, recycled, 46-70

Heat

definitions, 2-27

Heating Pads

12 Volt Products' heating pad (TtW!), 29-58 Electro-Bed-Warmth 12 VDC bed warmer (TtW!), 8-36

Home & Heart

appliances, Asko dish washer, 52-94 appliances, buying a dishwasher, 50-92 bicycle grinders, 32-81 book reviews, A Bite of Independence, week's meals for \$10 & 2-1/2 hours, 42-96 book reviews, Morning Hill Cookbook, solar, philosophy, 47-92 book reviews, The Encyclopedia of Country Living, by Carla Emery, 42-96 bread machine, , 58-90 bringing down the barn, , 64-90 build a solar barrel composter, 35-96 cider press, , 56-90 cookbook, bees, 71-136 earthquake, 29-76 emergency preparedness, 68-105 food clubs, vacuums, 24-73 gardening, 70-122

Home & Heart continued gardening, figs, grapevines, garlic & a ranch house retrofit, 49-92 garlic, fluorescent lights, Thermomax water heater. 28-72 hand appliances, low flow toilets, food coops, 31-87 Hawaii RE food processing & eco-tourism, 33-92 herbal medicine video, 39-92 home improvement pay-off, clothes dryer, 51-92 Homebrew, simple stove top toaster, 48-82 love in the boonies, how to get some, 62-89 more bees, 72-123 mud rooms, , 55-92 open-pollinated seed, box gardens, 25-75 Peerless-Priemer efficient gas cook stove, 40-108 project completion, lists, Midwest Renewable Energy Fair, 66-90 RE homemakers, 22-71 realities of living in the boonies, , 61-86 resources and loads variations, throughout the year, 59-86 solar cooking, new Solar Chef, 60-86 solar cooking, recipes, 41-95 solar cooking, Solar Chef-solar cooker extraordinaire, 44-74 solar cooking, teaching kids, 57-90 solar cooking: models, hints, recipe conversion, 65-90 solar cooking: Sundyne fresnel cooker, 67-106 solar food drying, 30-75 solar turntable, 34-96 Staber washer and Frigidaire dryer, 75-134 still more bees, 73-120 Sun Frost freezer, also solar composter, 63-90 Sun Frost refrigeration, seeds, 26-75 Sun Frost refrigerator, gophers & garlic, 27-76 thermo-electric wood stove fan, 76-134 travel, house swapping RE homes, 37-107 utilities, conspicuous consumption in PG&E's "houses of future," 43-93 vacuums, Maytag washers, 23-79 video reviews, Co-dependent Ecology, saveenergy tour w/13-yr old boy, 42-96 video reviews, Creating a Healthy Home, chemicals to toxic-free, 42-96 washing machines, brands compared, 46-92 washing machines, reader letters of experiences, 45-76 washing machines, Staber System 2000 Haxis front-loader (TtW!), 47-70 women, Midwest Renewable Energy Fair F '93. 36-86 worm raising, 74-132 Y2K - five stages, 69-104 Homebrew batteries, 12 or 24 Volt portapower, 24-70 batteries, charging, constant current source, 21-82 batteries, charging, constant current, 23-69 batteries, low cost, high/low battery voltage alarm, 39-62 battery charger, AA Ni-Cd cells, 48-46 battery charger, for small NiCd, Linn, 53-34 battery chargers, constant current, efficient, 44-54 charge controller, slave, , 54-40 consumption monitor with a multimeter, 71-98 controls, regulators, 3 terminal, adjustable (TtW!), 6-37

Homebrew continued controls, Renavair control panel, w/24 Volt Mark VI field controller, 22-73 controls, switch, voltage controlled, multipurpose, 16-50 controls, timer for loads, AC to DC conversion, 16-49 controls, timer for modified sine wave inverters. 51-76 DC power tools, converting from AC, 70-54 DC timer, variable, 54-44 DC-DC converters, run 12V appliances on 24V battery, 3 amps, cheap!, 39-68 electric bike, 73-64 electric fence chargers, programmable pulse generator, 21-78 electric vehicles, building a shopping cart racer, 50-64 electric vehicles, design & construction of a shopping cart racer, 49-62 electric vehicles, motor controllers/relays, simple, easy to build, 39-53 electric vehicles, odometer, 26-64 electric vehicles, regenerative braking, 38-52 electric vehicles, VW Rabbit conversion, Part 1, 51-62 electric vehicles, VW Rabbit conversion, Part 2, 52-52 electromagnetic fields, AC meter, 23-26 electromagnetic fields, meter, simple, 34-79 electronic parts catalogs/sources, 8-40 engine/generators, 12 VDC w/ field controller, 2-23 engine/generators, 12 VDC w/field controller, updated, 42-28 engines, electronic ignition for, 7-30 FET, care and feeding, 45-58 fuel cells, hydrogen, make electricity with, 35-42 health & environment, microwave oven leakage detector, 35-72 Home & Heart, simple stove top toaster, 48-82 hot air collector, 72-34 hydrogen storage techniques, incl. metal hydride Homebrew, 59-14 hydrogen, barbeque grill, 43-24 instrumentation, ammeter & voltmeter, 35-92 instrumentation, ammeter, AC, beginner's, 33-82 instrumentation, ampere-hour meter, 26-42 instrumentation, ampere-hour meter, digital, 30-68 instrumentation, low-voltage detector, 120 vac, 32-57 instrumentation, wattmeter, 30-45 inverters, 156 Volt DC transformerless, 36-71 inverters, tricks for square wave inverters, 31-69 LED battery voltmeter, build your own, 69-76 LED light projects, 71-110 lighting, 12 VDC night light, 23-70 lighting, 12 VDC night night, Raynes, 53-30 lighting, 120 vac LED night night, Morris, 53-32 lighting, convert 120vac halogen lamp to 12VDC, 35-30 lighting, convert AC lamp to 12 VDC quartz halogen, 18-47 log splitter, electric conversion, 55-32 low voltage disconnect (LVD), , 60-38 motor controller, DC, 12V, 24V, variable or hi/low speed, 45-58

motors, soft-starting, 23-72

Homebrew continued

- NiCd charger, pulsar PWM charging, 30-54 NiCd charger, pulsar PWM charging, 5-27 NiCd charger, simple, 23-71 NiCd charger, wall cube replacement, 26-72 phantom loads, detecting & eliminating, 55-36
- PicoTurbine, small wind genny demo, 71-102 pulse width modulator, dimmer or speed control, 75-116
- pumps, ram, simple/effective hydraulic, 41-74 PV charge controller, 3 to 10 Amp, 63-42
- PV powered lawn mower, Knapp, 28 Wp, 12V L-A, 50-72
- PV regulator, low cost, build your own, 70-40
- ram pump from plumbing parts, 76-42
- refrigeration, solar ammonia absorption ice maker, 53-20
- refrigerator/freezer, DC, 21-8
- refrigerator/freezer, DC, insulation, 16-48
- regulators, "latchup" shunt voltage, 25-74 regulators, array-direct power point, run motor
- from PVs, 38-72 regulators, Commodore 64, 12 Volt, 23-71
- regulators, DC power supply converter, 29-69
- regulators, PV direct, 32-46 regulators, run a stereo on battery & solar
- power (sidebar), 40-105
- regulators, short circuit 35 Amp, 28-57
- regulators, shunt, 18-46

schematics, how to read basic, 5-35

- simple LED lights, 73-88 simple solar water heater for third world, 76-36
- solar cooker, contest winner 1994, 43-33
- solar cooking, box cookers, 12-14
- solar cooking, Heaven's Flame Solar Cooker, 20-27
- solar cooking, HP '92 cooker contest results, 31-38
- solar cooking, HP '93 cooker contest winner, 37-22
- solar cooking, parabolic, "Berkeley
- Thermonuclear Paraboloid", 37-34
- solar food dryer, concepts & plans , 57-62
- solar food dryers, improving, 69-24
- solar food drying, arid climates how-to, 29-64 solar food drying, humid climates how-to, 29-62
- Solar Sight (sun's path for winter), 28-61
- solar water distillation, water pasteurization for developing countries, 52-44
- Solar water heating, thermosyphon, how to build, Homebrew, 58-30
- Stirling engine, small and simple, 76-88
- SunSighter (point panels to sun), 26-73
- system / hydro, dirt cheap hydro, 66Wp, 12V L-A, 52-14
- systems, portable, PV, small (computer, radio), 38-32
- time-in-use meter, build your own, 69-72
- towers, and wind generator, 1.5kW 24VDC, 42-38
- trackers, active solar, 17-48
- trackers, manual, 13-20
- voltage converter, build a buck converter, 37-82
- voltmeters, expanded scale, 12-34
- voltmeters, expanded scale, 2-31
- voltmeters, LED bargraph, 10-26 washing machines, converting a wringer
- washer to DC, 40-40
- water heating, economy solar shower, 43-30 Watt-hour meters, on 120 Volt systems, 17-50

- Homebrew continued wind generators, 1.5kW 24VDC and tower, 42-38
 - wind tower, tilt-up conversion of Rohn, 56-38 wind, build your own wind generator, 12-29
 - wind, cheap towers, 52-24
 - wind, utility pole/pipe tower, 28-26

wiring, cables, build for battery/inverter, 7-36 Y2K disco ball, 74-88

HP Survey

- energy satisfaction, survey blank, 42-16 Home Power Book Survey, 30-66
- renewable energy, reader response to May '89 survey, 10-25
- respondents' comments, (letters), 43-101
- respondents' comments, (letters), 44-86
- respondents' comments, (letters), 45-88 results, energy satisfaction, RE and/or grid,
- 43-16
- results, energy satisfaction, RE and/or grid, Part 2, 46-78

Hydro

- 240 VAC direct drive, pumps water, too, 65-36 amateur radio, hydro and PV powered, 66-26 basics, great article, overview of all the basics, 44-24
- basics, pressure, flow, head, velocity, turbines, efficiency, etc., 42-34
- Canadian high-head hydro system, 76-8

chart, poly pipe table, pressure loss vs. gpm, 8-25

- chart, PVC pipe table, pressure loss vs. gpm, 8-26
- controls, systems, 13-35
- editorial, "Śeeking Our Own Level", 2-17 Energy System & Design's Stream Engine (TtW!), 30-50
- ES&D's Stream Engine turbine (TtW!), 67-68 generators, induction, 3-17
- Himalayan hydro for hydronic heating, 75-68
- induction hydro in Costa Rica, 71-36 intake screens, 71-64
- Lil' Otto, nano hydro, 13-15
- linear current boosters, PM generators, 17-39 low-head, Olson, Overshot low head hydro, 37-6
- low-head, ultra-low, 23-6
- profile of Lipple Lop's story
- profile of Uncle Len's story, 3-13 sailboats, tow-behind (letters), 46-103
- SEI hydro power workshop, 76-64
- sidebar, hydro turbine runners, 25-12
- sidebar, the physics of falling water, 37-9
- system / homebrew, dirt cheap hydro, 66Wp,
- 12V L-A, 52-14
- system design, how to, weir measurement table, 8-17
- system design, nano-hydro, 15-17
- system design, small, overview, 1-7
- system design, solar, hydro, and wind, 21-75 system design, ten rules for surviving
- microhydroelectric power, 47-16
- system, Spencer, living with Lil Otto in Australia, 52-40
- systems, Gaydos, Hydrocharger, 40 ft/8 gpm. 50 Wp PV, 11-5
- systems, Higgs, Morgan-Smith turbine, 17 ft head/ 10,000 gpm , 25-7
- systems, Kennedy Creek, 5 systems, high head, 100 to 2200 watts, 20-7
- systems, Kinzel/Kingsley (MI); 16ft/75gpm, FAT, 12V L-A; PV 480 Wp, 47-16

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

Hydro continued

Hydrogen

22-32

34-26

22-26

70-114

Y2K, 68-92

Instrumentation

sidebar. 35-92

(TtW!), 16-40

(TtW!), digital, 16-40

- systems, Nicaragua, 78 ft/160 gpm, 12 V leadacid, 8-13
- systems, Purcell Lodge, IPD pelton, 315 ft head/ 220 gpm, 12 kW, 33-12
- systems, Rakfeldt, Harris turbine, 300 ft/400 gpm, 24 V, 6-5
- systems, Schultze, ES&D hydro,
- PV/wind/hydro/DHW, 41-6

as potential fuel, 21-17

(letters), 47-102

project, 39-32

(homebrew), 35-42

how to, safety of, 21-55

homebrew. 59-14

Independent Power Providers

beyond net metering, 65-76

corporate acquisitions, 71-126

distributed generation, 72-108

distributed generation, 76-124

tribal utilities, IPP history, 67-94

utilities and home power, 66-78

value of grid-connected solar, 69-92

PV markets, 75-122

- systems, w/ PV, wind, BLM historical site, Bethea, 55-6
- Watermotor for wood working in Bolivia, 71-50 what to expect from your RE dealer, basics of buying, 61-40

communications, sources of info in UK and US

cooking with, converting stove top, 33-28

electric vehicles, intro to fuel cells, 23-16

electrolyzers, home-sized solar hydrogen

electrolyzers, intro to, calculations, 32-42

heating, heater conversion gas to hydrogen,

fuel cells, building a hydrogen fuel cell

fuel cells, overview of 5 types, 35-37

safe levels and venting, Q & A, 64-107

storage techniques, incl. metal hydride

video reviews, EVs & Hydrogen, 27-78

state of technology for home power, 72-20

systems, Schatz experimental PV/hydrogen,

cut-rate equipment, RE world-wide, 73-110

more IEEE 929, international guerrilla solar,

IEEE 929 and intertied systems, 74-122

net metering update, corporate mergers,

ammeters, Homebrew, & voltmeter, 35-91

ammeters, Homebrew, and voltmeters,

ampere-hour meters, Ample Power

ammeters, Homebrew, AC, beginner's, 33-82

Company's Energy Monitor (TtW!), 20-40

ampere-hour meters, Cruising Equipment

ampere-hour meters, Cruising Equipment's

ampere-hour meters, Digital Amp-Hour Meter

ampere-hour meters, Homebrew, digital, 30-68

Amp-Hour +2 Meter (TtW!), 26-59

ampere-hour meters, Homebrew, 26-42

Homebrew, barbeque grill, 43-24

purification for storage, 67-42

electrolyzers, description of, 26-34

electrolyzer, making electrolyte, storage of,

Instrumentation continued

- ampere-hour meters, Offgrid's Power Meter 15 (TtW!), 25-61
- ampere-hour meters, Steamco Solar SPM2000 (TtW!), 27-56
- ampere-hour meters, Thomson & Howe (TtW!), 11-39
- angle indicators, for PV module, tech notes, 32-67
- Brand Electronics Digital Power Meter (TtW!), 67-72
- computerized, RMS Datalogger (TtW!), 34-76 consumption monitor with a series multimeter, Homebrew, 71-98
- Cruising Equipment's E-Meter (TtW!), 52-30
- Cruising Equipment's Link 2000 (TtW!), 50-46
- data logging your PV input with a PC, 74-52
- digital multimeter, buying and using, 60-42 electric vehicles, gauges for the working EV, 39-58
- electromagnetic field meters, Homebrew, super simple, 34-79
- electromagnetic Fields, measuring, TriField (TtW!), 54-73
- grid meters, formula/using to figure Watt-hrs, 34-30
- Hobo data logger for computer monitoring of system loads, 76-96
- LED battery voltmeter, build your own, 69-76 low voltage detectors, Homebrew, 120 vac, 32-57
- multimeters, and Ohm's law, 16-46
- multimeters, and shunts to measure current, Cu shunt table, 6-35
- multimeters, Beckman 2020, digital (TtW!), 32-54
- multimeters, Cygnet M-32 Battery Monitor (TtW!), 26-62
- multimeters, digital, Ohm's law, 16-46
- multimeters, Fluke 87 DMM, 15-41
- shunts, and multimeters to measure current, Cu shunt table, 6-35
- system monitor, Offgrid's Power Meter 15 (TtW!), 25-61
- system monitors, Homebrew, shunt table, multimeter, Amp-hr meter, voltmeter, 24-42
- time-in-use meter, build your own, 69-72
- voltmeters, Homebrew, expanded scale, 12-34
- voltmeters, Homebrew, for battery, 2-31 voltmeters, Homebrew, LED bargraph for
- battery, 10-26
- voltmeters, SunAmp's Bar Graph Voltmeter (TtW!), 22-55
- Watt meters, Homebrew, 30-45
- Watt meters, Offgrid's Power Meter 15 (TtW!), 25-61
- Watt meters, Steamco Solar SPM2000 (TtW!), 27-56
- Watt-hour meters, Homebrew, using on 120 Volt systems, 17-50
- wind, NRG Sou'wester & 2100 Totalizer (TtW!), 28-55
- wind, odometer, Homebrew, 26-64
- wind, Trade Wind's wind odometer (TtW!), 22-53
- International
 - Africa, PV, 41-20
 - Africa, renewable energy sabbatical, 60-50 Africa, PV in a Maasai hospital, 64-36
- Amazon, Yacumama Lodge, PV: 576 Wp, 24 V L-A; generator, 43-6
- Australia, hydro, 240 VAC direct drive, water pumping, 65-36

- International continued Australia, hydro, Spencer, living with Lil Otto, 52-40 Belize, small PV, systems, 67-8 Bolivia, Watermotor for wood working, 71-50 Cambodia, Samaki village gets PV lighting, 71-16 Canada, high-head hydro system, 76-8 Canada. PV in the frozen north. 68-58 Chile, solar cooking changed a village, 41-28 Chile, wind, PV, solar cooking, 28-20 China, number of installed wind generators, 43-61 China, PV in rural village, 41-32 Colombia, PV system for health center, 32-99 Costa Rica, induction hydro, 71-36 Cuba, PV-powered health clinic, 66-50 Cuba, RE happenings, 55-26 Dominican Republic, PV water pumping, 56-16 El Salvador, PV and solar ovens, 35-58 El Salvador, PV systems, 31-28 Falkland Islands, systems, wind, Wilkinson, 55-18 Fiji, remote resort power, refrigeration, 67-26 Finland, solar boats, 74-60 funding by for PV by US Dept. of Energy, 46-82 Germany & Switzerland, rate-base model to motivate PV market, 44-20 Guvana, PV powered health care in, 20-37 Himalaya, hydro for hydronic heating, 75-68 Honduras, PV, 34-14 Kathmandu, electric rickshaws, 49-52 Kenya, bush camp PV power for training, 75-34 Kenya, with solar cooker plans, 66-56 Mali, solar cooking update, 73-48 Mexico, Baja, government funded systems, 59-30 Mexico, Chatuco, PV systems: 960 Wp 24 V L-A, 10-5 Mexico, SEI solar bakery project, 59-50 Nepal, building a PV industry, 62-24 Nepal, monasteries systems (2), 100 Wp, 12 V L-A, 45-6 Nepal, systems update, Ramsey, 56-56 New Zealand, PV, Wind, & Hydro systems, 49-36 New Zealand, PV, wind, solar H2O, 66-8 New Zealand, PV/wind, Soma 300 W, PV/wind hybrid economics, 18-21 Nicaragua, Agua Zarca electrifies medical clinic with PV, 74-34 Nicaragua, hydro in, 78 ft/160 gpm, 12 V leadacid, 8-13 Nicaragua, PV educational programs, 61-36 Papua New Guinea, PV for a college, 76-74 Peru, pamphlet to teach solar cooking (Spanish), 44-50 Peru, Solar Cooking, 57-44 South Africa, African Windpower 3.6 m wind turbine with PV, 76-52 South America, PV refrigerators in, 21-20 Spain, systems, PV, Zirkel, 56-26 Sri Lanka, PV, 37-19 Switzerland & Germany, rate-base model to motivate PV market, 44-20 Uganda, PV (letters), 47-100 UK, solar powered recycling sorter, 68-34 Vietnam, PV for medical clinic, 38-46 Vietnam, SELF's Solar Electricity for Rural
 - Women, 50-6

Inverters

- appliances on, 14-11 basics, 1-22 basics, how they work, 23-53 basics, what is, history, 32-22 comparison of 12 makes, 36 models, 36-34 comparison, SEER '90, 19-29 computers, how computers/printers run on mod sinewaves. 40-32 Dynamote's 2.4 kW. sine wave (TtW!), 31-54 education, workshops, MREA, 47-74 electrical noise and inverter filters, 14-35 Exeltech XP 1100, Things that Work!, 75-76 grid intertie, variations in technique, 62-44 Heart's 2.5 Kw inverter (TtW!), 50-46 Heliotrope PSTT 2.3 kW (TtW!), 3-29 Homebrew, 156 Volt DC transformerless inverter. 36-71 Homebrew, tricks for square wave inverters, 31-69 inverter defined and described, Word Power, 74-116 PowerStar POW200 (TtW!), 15-36 PowerStar's UPG1300 (TtW!), 22-22 safety, fuses for/wiring protection, 24-66 sine wave, Exeltech 1000 Watt sine wave (TtW!), 39-74 sine wave, Exeltech SI-250 (TtW!), 27-53 sizing, small or med-small (Q&A), 43-108 Statpower PROsine 2.5 kw inverter/charger (TtW!). 69-60 Statpower's PROwatt 600 (TtW!), 20-48 telephones, 3 ways to keep buzz out, 38-78 Trace 1512 with charger (TtW!), 2-29 Trace 2012 (new) with charger (TtW!), 25-58 Trace 2012 with charger (TtW!), 8-29 Trace 2512 (TtW!), 35-74 Trace 2524 w/charger (TtW!), 16-42 Trace 4024 4.0 kW Sine Wave (TtW!), 48-26 Trace 812SB (TtW!), 28-53 Trace SW2512, (TtW!), 58-46 Trace upgrade, 22-57 waveform clarification, Q&A, 67-123 wiring, to mains panel, 11-23 Lighting 12 VDC, 12VDC quartz halogen/20W (TtW!), 40-92 12 VDC, choices, applications, sources (Q&A), 47-107 12 VDC, fluorescent and incandescent, 1-31 12 VDC, LED Christmas lights (TtW!), 8-37 12 VDC, LED flashlight lamps (TtW!), 34-68 12 VDC, Northern Lites' tail-light bulb adapters (TtW!), 4-28 12 VDC, Q & A, 52-108 12 VDC, Solar Retrofit's Fluorescent (TtW!), 4-27 12 VDC, Tek-Tron 12VDC compact fluorescent (TtW!), 41-82 120 vac, compact fluorescent comparison, 20-15 120 vac, compact fluorescent comparison, DC lights, 16-27 120 vac, compact fluorescents, description of, 20-20 120 vac, incandescent vs. fluorescent, on inverters, 3-41 basics, incandescent vs. halogen vs. fluorescent, AC vs. DC, 9-20 efficiency, retrofit of school w/fluorescents, 32-38
 - halogen, GE's Halogen-IR™ PAR 38 (TtW!), 38-76

Lighting continued

- health & environmental, effects of, 30-32 Homebrew, 12 VDC night light, 23-70
- Homebrew, 120 vac LED night night, Morris,
- 53-32 Homebrew, convert 120vac halogen lamp to
- 12VDC, 35-30 Homebrew, convert AC lamp to 12VDC quartz
- halogen, 18-47
- Homebrew, variable DC timer, 54-44
- international, PV, pumping, Zaiken, 102 Wp, 12V L-A, Costa Rica, 51-6
- LED light projects, Homebrew, 71-110
- LEDs, efficient lighting, LED shootout, 60-33
- PV-powered, LED light (TtW!), 57-74 simple LED lights, Homebrew, 73-88

Linear Current Boosters

- pumps, how to run 24V pump w/48V battery, 40-70
- basics, how transformers and LCBs work, 37-40
- basics, using, 6-12
- DC-DC converters, long distance power transmission, 28-34
- hydro, with PM generators, 17-39
- PV, Kuff, 472 Wp, 12 V L-A. LCB, 700 ft from PV to battery, 25-16
- Things that Work!, Bobier's LCB 40, 29-53 Things that Work!, LCB 3-4-8 for Water Pumping, 12-19

Maximum Power Point Tracking

see "Controls, maximum power point tracking", 29-34

Media Review

"E-build" CD-ROM. green building, 72-126 also see "Book Reviews,"

Meters

see "Instrumentation,"

Methane

air collector, passive batch water heater, 17-19 animal treatment, retaining heat, 27-44 basics, low-pressure storage tank, 26-24 chemistry, pH balance, heat, 28-39 digester, improvements to . 40-82 tank insulation, heat, raw material requirements, 30-42

Motors

basics, how electric motors work, 34-48 Homebrew, soft-starting, 23-72

Multimeters

buying and using, 60-42 see "Instrumentation,"

National Electric Code

- add your input to the 2002 NEC, Code Corner, 75-128
- and inspector, 33-76
- and UL Standards, PV, conduit, overcurrent devices (see HP44&45), 43-88
- basics, 8-27
- batteries, UL listed flexible battery cables, 41-84
- battery, battery safety, 40-94
- Book Review: Code Check, A Field Guide to Building a Safe House, 56-92
- breakers, Code Corner, 68-98
- cable ampacity, using the proper size and type of wire/cable, 37-93
- changes for 1996 code, 36-75
- Code Corner, code Q & A, 61-74
- Code Corner, disconnects, 19-42

National Electric Code continued Code Corner, disconnects, 21-53

Code Corner, grounding/isolation, 25-65 Code Corner, grounding/overcurrent protection/fuses, 16-31 Code Corner, history, relevance to PV, 20-54 Code Corner, law, relation to, 23-74 Code Corner, load circuits/wiring, 22-68 Code Corner, safety and PV-powered pumping, 26-57 Code Corner, surge and lightning protection, 32-68 conductors and cables, Code Corner, 66-82 conductors. 31-74 DC GFCIs and the NEC, Wrench Realities, 65-82 diodes and fuses, on PV arrays, 60-74 disconnects, Code Corner, 53-72 disconnects, required for AC and DC systems, PV, wind, generator, 42-78 flexible nonmetallic conduit, temperature ratings, 60-74 fuse focus, Code Corner, 67-100 grounding realities, Wrench Realities, 66-86 grounding requirements, Code Corner, 64-70 grounding separate structures, Code Corner, 65-70 grounding, basics, 18-26 grounding, guidelines, 25-42 grounding, how to, 28-46 grounding, inverter grounding, 30-64 grounding, inverter grounding, 34-85 grounding, why ground, 27-47 How the code is written / changed, also series diodes, Code Corner, 63-71 how you can affect the NEC, Code Corner, 73-114 interpretation of NEC, rebuttle to Code Corner, 61-77 multiwire branch circuits, danger of, Code Corner, 59-76 NEC summarized, Code Corner, 71-130 non-metallic flex, temp ratings, battery cables, Wrench Realities, 64-82 perspectives on NEC, Code Corner, 70-118 PV and 1999 NEC, Code Corner, 69-98 PV, example systems: stand-alone and gridtied, 47-84 PV, small stand-alone systems, examples, 46-84 short circuit protection for wiring, 38-85 standards, 35-87 SWRES Research, 13-42 UL listings, appliances, system components, etc., 56-82 various minutia, nonmetallic flex continued, Code Corner, 62-73 water, pumping systems with PV, 45-66 Wrench Realities, reaction to Code Corner, nonmetallic flex cont., 62-78 Wrench Realities, reactions to Code Corner, nonmetallic flex cont., 63-82 energy fairs, BP plant tour, RE corporate

Ozonal Notes

- takeovers. 67-121
- fairs, travel, guerrilla solar, 74-151
- global warming, net metering in OR, 73-136 guerrilla solar, energy fairs, net metering,
- 71-151
- guerrilla solar, OR net metering, energy fairs, 68-121

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

history of Home Power magazine, 75-152 HP crew biographies and photos, 76-152

Ozonal Notes continued

- Midwest Renewable Energy Fair '98, guerrilla solar, OR net , 66-104
- new paper for HP, OR net metering, guerrilla solar, 69-120
- OR net metering, guerrilla solar, 65-106
- OR net metering, guerrilla solar, HP online, 70-137
- retirement, net metering, ASES, MREF, guerrilla solar, 72-138

Pedal Power

basics, 23-48

bicycle power assist, ZAP Power System, 43-46

- bicycle, with solar and electric (photo), 46-56 charging batteries, 31-50
- human energy converter (HEC), bicycle parts + people = power, 1036 Wp, 24 V, 43-78 human energy converter (HEC), use at energy
 - fair, photo, 47-4
- PV, Haaren/Abbott, 36 W, PV: 65 Wp,
- 12 V L-A, 12-13

People

- Allart Ligtenberg, promoter of solar cooking in Nepal, 45-24apprentice program, letters, 42-106
- Bill Gates, with PV, 45-65
- condensed resumes, Get a Job! column, 43-106
- Dennis Ramsey, installer of PV in Nepal monasteries, 45-6
- Elliott Bayly, founder, World Power
- Technologies (wind generators), 43-58 environmental community, letters (see
- brainstorming), 42-101 kids, planetary citizens, amateur radio, 5-5
- Larry Schussler of Sun Frost, interview, 25-22
- pen pals, New Zealand (Letters), 43-99
- Redwood Alliance, profile of an organization,
- 12-22
- Sol Sisters, renewable energy networking, 19-55
- Uncle Len, Power of Personal
- Resourcefulness, 3-13
- university students. CCAT needs upgrade/donations, 43-70
- women in RE, Tewa, Fischer, Sainyeye, Brown, 62-61
- women, lifestyle with renewable energy, 21-40 women, renewable energy networking, Sol
- Sisters, 19-55

Photovoltaics

- "From Space to Earth," history of PV, Book Review, 75-136
- 12 KW grid-intertie, PV-charged EV, Systems article, 72-10
- Agua Zarca, Nicaragua electrifies medical clinic with PV, 74-34
- amateur radio (HAM), and PV, 61-46
- ancient PV panel (TtW!), 10-31
- Ask NREL, breakthrough in low cost efficient PV. 40-98
- Ask NREL, differences in PV technologies, 39-84

basics, how they work, physics of, 23-37

basics, solar/hydro/wind site survey, 21-75

basics, number of cells per panel, 3-9

batteries, charging small NiCds, 19-18

- Ask NREL, Why are pv modules blue?, 38-88 back to basics, run a stereo on battery & solar power, 40-104
- basics, how they work, 20-31

Photovoltaics continued

- big PV system on motor home, Systems article, 75-52
- Block Island community RE with wind, Systems article, 74-8

boat lift, , 57-50

- Book Review, Types, construction, how they work, 50-76
- Cambodia, Samaki village gets PV lighting, 71-16
- Canada, system in the frozen north, 68-58
- Carrizo Copper Quadlams (TtW!), 39-71
- Caveney treehouse PV, Systems article, 73-54 Chacon PV/wind, done without eyesight, 75-26
- concentrators, 19-27
- concentrators, hybrid PV/hot air linear concentrator, 5-14
- concentrators, Midway PV concentrators, 40-28
- control, Heliotrope CC120E 120 Amp (TtW!), 48-36
- Cuba, PV-powered health clinic, 66-50
- Dankoff PV system for home and pumping, 76-26
- diodes, bypass or blocking (Q&A), 46-106 education, IRENEW class / installation in
- lowa, 63-24 education, PV, batteries, loads (teaching plan,
- part 2) , 15-5
- education, solar battery charging (teaching plan, part 1), 16-14
- education, systems a little at a time, 60-16
- education, workshops, MREA, 47-74
- electric vehicles, PV-powered sailboat, 57-28 electric vehicles, solar endurance racing,
- 60-60 embodied energy in manufacturing, Q&A, 68-123
- EN-R-PAK portable PV system, 72-74
- energy to produce cells vs. energy produced
- by cells, 43-73 event, 3072 Wp, 24V, 14,000AH L-A concert system, 51-22
- Fiji, remote resort power, refrigeration, 67-26
- financing for solar electric, GMAC, 70-78
- finding true south, simple technique, (letters), 63-97
- generator / systems, Yago, 2.4 Kwp, 24V, 7Kw generator, 50-32
- government funded systems in Baja, Mexico, 59-30

grid intertie, CA, Davidson system, 68-8

- grid intertie, Lord, 70-24
- grounding arrays far away from rest of system, Code Corner, 74-128
- grounding PV systems, Code Corner, 72-112
- guerrilla solar 0001, AC module, 67-34
- guerrilla solar 0002, with wind, 70-32
- guerrilla solar 0003, with wind, 70-38
- Guerrilla Solar 0004, PV and wind, 71-48
- Guerrilla Solar 0005, PV, 71-56
- Guerrilla Solar 0006, PV and wind, 73-84
- Guerrilla Solar 0007, PV, 74-85 Guerrilla Solar 0008, PV with MicroSine, 75-74
- Guerrilla Solar 0009, PV, 76-84
- ham radio, PV-powered, 66-26
- high school class builds PV demo cart, 74-24 Homebrew, 3 to 10 Amp PV charge controller,
- 63-42 Homebrew, solar sight (sun's path for winter),
- 28-61

- Photovoltaics continued
- Homebrew, SunSighter (point panels to sun), 26-73
- huge system, Ford, 70-14
- in adobe home, in CA, 61-12 in Africa, renewable energy sabbatical, 60-50
- in Nepal, building an industry, 62-24
- installation, Backwoods Solar Electric PV
- Rack (TtW!). 11-41
- installation, Echolite PV mounting brackets (TtW!), 12-31
- installation, installing/wiring/mounting, 2-11 installation, mounting and junction box
- comparison, 33-22
- installation, racks, metal choices, construction, 22-41
- installation, setting optimum angle, discussion, 36-14
- installation, wiring non-identical panels, 27-22 international, lighting, pumping, Zaiken, 420
- Wp, 12V L-A, health clinic, Costa Rica, 51-6 international, PV education in Nicaragua, 61-36
- international, PV in rural Chinese village, 41-32
- international, solar in Eastern Africa, 41-20
- intertie and net metering, IPP, 63-76
- intertie, EVs, Heckeroth, 3 Kw, 24V L-A,
- intertie, 50-57
- IPP/editorial, National PV Production Statistics, 51-82
- Kenyan bush camp PV power for training, 75-34
- Kindseth-Burbridge mobile PV trailer powers home, 71-8
- laser-grooved PV modules, 73-58
- lighting, PV- powered LED light (TtW!) , 57-74 loans for RE systems, bank and federal, 62-85 Maasai hospital, Africa, 64-36
- Millard system update, Systems article, 73-28 minisystem, for charging tools (Q&A), 43-108
- mobile ham shack, Bosbach, 86 Wp, 12V L-A, 50-38
- mobile PV system, Bluesmobile, 68-50
- module voltage, Q&A, 66-107
- neighborhood system with wind, Systems article, 73-18
- New Zealand, Persson, PV, wind, solar H2O, 66-8
- on VW bus, , 54-16
- P-N junction explained, Word Power, 76-116 panel design, construction of a PV module to power a racecar, 37-52
- Papua New Guinea PV for a college, 76-74 Pierson, bed and breakfast, 66-20
- pond aeration, 23-42
- portable on trailer, WET Lab, 67-18
- procurement manual, for municipalities, utilities, other purchasers; Code Corner, 44-66 public radio, Solar-powered transmitters, 63-6
- pumping, deep-well, 68-16
- pumps, basics, 11-15
- pumps, deep wells, 6-27
- pumps, intro to, 5-21
- PV cell defined, Word Power, 75-114
- PV grounding for single dwelling, Code
- Corner, 73-114
- recycling sorter, U.K., 68-34
- repairing glass, 21-12
- run a stereo on battery & solar power, 40-104
- RV, Dougherty, 66-40 sailboat, with wind, 53-12

71-24 Siemens Solar tour, 69-38 siting & mounting, PV panels, 57-32 solar boat regatta, in Minnesota, 59-56 solar in the frozen north, 68-58 solar mobile home conversion, passive, PV, DHW. 64-16 South African PV and wind hybrid system, 76-52 Sovonics panel (TtW!), 15-33 system design, basics (simple starter system), 25-48 system design, economics for home power systems, 20-39 system design, economics for home power systems, 1-11 system design, Solar Pathfinder (TtW!), 16-44 system design, solar/hydro/wind site survey, 21-75 system update, Frost, 70-34 system, grid-intertie hybrid, 42-6 system, Pfeiderer, 763 Wp, 24V L-A, in Hawaii, 49-14 system, Scott-McKean, and wind, passive solar home, 70-8 system, ski hut PV systems in Colorado, 50-24 system, slow conversion to RE, resort in Montana, 62-6 system, urban, Whitaker, 100 Wp, 12 V L-A, 48-22 system, w/ utility, Gastrow, 888Wp, 24V L-A, 52-6 system, w/ utility, Sharp, 340 Wp, 24V L-A, SEI installed, 49-6 system, Waggoner, 980 Wp, 24V L-A, 51-28 system, 400Wp, w/ passive solar, Wildearth, 60-6 system, Buck, 371 Wp, 12 V L-A, 48-6 system, Epstein (OR), 2,000 Wp, 24 V L-A, 44-6 system, Fire Station, 57-12 system, FM radio station, 54-6 system, Frost, 55-44 system, Haeme (shop, trailer); 360 Wp, 12 V L-A; gen 4000 W; grid, 47-24 system, LaForge, 2 PV systems-w/power sheds. 40-6 system, Millsapps, integrating PV with Utility Power, 39-6 system, Nekola (IL), 100 Wp, 12 V L-A; wind 500 W; grid, urban, 46-6 system, Nepal monasteries (2), 100 Wp, 12 V L-A, 45-6 system, on a budget, Krush, 54-22 system, recreational vehicle, Magleby, 53-24 system, Reichenbach; DC: M78s, QuadLams, 6 V L-A; AC: M75s, 42-18 system, Schultze, tracked array, PV/wind/hydro/DHW, 41-6 system, Siebert (CA), 1122 Wp, grid, 45-18 system, Spain, Zirkel, 56-26 system, update, Nepal, Ramsey, 56-56 system, upgrade, Brethorst, 55-50 system, w/ hydro, wind, BLM historical site, Bethea, 55-6 system, w/ wind & passive solar, Vogel, 56-6 system, w/ wind on earthship, 59-6 system, w/ wind, small scale, 57-6 system, w/ wind, Whitehead, 53-6 system, w/ with (re-install), in CO, Preston,

58-6

Photovoltaics continued

SEI workshop, PV and wind system upgrade,

Photovoltaics continued

- system, Wausau WI, 600 Wp, 24 V L-A, 48-16
- system, Wheeler, PV observatory & home for \$7100, 39-14
- system/Urban, Gerosa, 85Wp, 12V L-A, 49-40
- testing and rating, Hoxan PV Test Erratum, 26-69
- testing and rating, Hoxan, 25-70
- testing and rating, meaning, 23-40
- testing and rating, procedure, 23-20
- testing and rating, summer PV performance, 24-26
- testing and rating, winter PV performance, 33-17
- testing, hot weather performance test, HPs Democracy rack, 49-28
- Things that Work!, Carrizo Copper Quadlams, 39-71
- tracking, Midway PV concentrators, 40-28
- tracking, Wallin, PV system/Wattsun tracker in MT, 40-14
- transmission through glass, reflection and refraction based on angle, 61-60
- UL Standards, National Electrical Code, 43-88 Utah dome home, Collar, 65-8
- utilities, subsidies, Independent Power Providers (IPP), 43-74
- utility intertie system, net metering, 59-24
- utility intertied, Colorado's Public Service Co, 18 Kw, intertied, 51-36
- utility intertied, myths of payback, 64-6
- water pumping, mobile, PV jack pump, cattle watering, 54-12
- water, pumping systems, National Electrical Code, 45-66
- what to expect from your RE dealer, basics of buying, 61-40
- wind hybrid, basics of wind, wind/PV hybrid, PURPA, 22-18
- Witt, modifies for utility intertie, Systems article, 73-8

Power Politics

- also see, "Utilities", 44-58
- buying green power (wind), also NV nuke dump, 63-87
- buying green power, net metering, CA nuke dump demonstration, 64-86
- call to put solar on White House, 34-83
- Chernobyl, Dangers of nuclear, 53-76
- coalitions, lobbying for our side, 58-86
- corporations, ethics, 57-86
- deregulation, autopsy of CA's Prop 9, 69-88 editorial, getting your message to the media & government, 51-90
- editorial, why energy should be a presidential issue, 52-90
- energy dollars opinion poll, 72-104
- energy trends, global warming, NAFTA, 38-68 failed dereg in CA, learning from mistakes,
- 73-106
- green electricity companies blasted and defended, 68-88
- green electricity recommendation, 65-86
- history of Redwood Alliance, , 59-82
- legislation, deregulation, 43-82
- legislation, effects of subsidies, 37-85 legislation, funding renewables, bogus bill
- ("job creation"), 47-88
- legislation, NAFTA, RE & environment, 39-86 legislation, national energy bill, 32-72 legislation, net metering/billing, 46-72

Power Politics continued

- letter to put solar on the White House, 35-86 Million Solar Roofs revisited, 76-118 million solar roofs, also Nevada nuke dump, 62-86
- Nader speech: ownership of public assets, 66-72
- net billing, definition(s), 46-72
- net billing, info sources, 47-88
- net billing, utility deregulation, 48-78
- nuclear menace around the world, 74-118
- nuclear power and Y2K, 70-110
- nuclear waste disposal, 71-122
- nuclear& the energy budget, 40-100 nuclear, human experiments, security risk,
- NRC positions open, 42-84 nuclear, sites "recycled" to solar sites, 41-87
- nuclear, waste on reservation, 47-88
- nuclear, waste policy legislation, 46-88
- opportunities, Clinton appointees, 33-73
- RAGE green energy deregulation campaign, 67-88
- Ralph Nader, for prez, 55-88
- rate-based incentives, definition of term, networking, 46-88
- rate-based incentives, how-to, 44-71
- rate-based incentives, program to implement, 45-72
- utilities, green electricity or green washing?, 60-82
- utilities, rate based incentives, 49-89 utilities, restructuring in California, 50-90
- utility restructuring, also nuke bailout, 61-82
- utility restructuring, in CA, 56-86
- voting, get out the vote, 30-38
- voting, review of presidential candidates, 31-46
- Wisconsin, renewables at work, 54-86 World Trade Organization riots in Seattle, 75-94

Pumps

- AC vs DC, choosing a water pump, 40-78 AC vs DC, Q & A, 62-107
- AC, submersible, inverter powered, 17-25 basics, types, terms defined, system design,
- complete info, 46-24 Dankoff PV system for home and pumping, 76-26
- DC, submersible booster pumps & pressure tanks, 39-20
- DC, submersible installation, 38-22
- DC, submersible, PV-powered, Econsub Pump (TtW!), 13-22
- DC, submersible, PV-powered, installation, 31-17
- drilling a water well, 33-54
- High Lifter water pump (TtW!), 23-58
- homebrew, shallow well (letters), 43-99
- hydro turbines, using for pumping, 65-36 international, PV, lighing, Zaiken, 102 Wp, 12V
- L-A, Costa Rica, 51-6
- linear current boosters, how to run 24V pump w/48V battery, DC-DC converters, 40-70
- linear current boosters, LCB 3-4-8 for Water Pumping (TtW!), 12-19
- PV deep-well, 68-16
- PV jack pump, mobile, cattle watering, 54-12
- PV pump , AC to DC deep well retrofit, 61-28

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

- PV water pumping, Dominican Republic,
- 56-16
- PV, basics, 11-15
- PV, deep wells, 6-27
- PV, intro to, 5-21

Pumps continued

- ram pump from plumbing parts, Homebrew, 76-42
- ram, Ciotti, 816 Wp, 12 V NiCd, Clivus Multrum, 28-11
- ram, Folk Ram Pumps (TtW!), 40-44 ram, Homebrew, hydraulic ram pump, 41-74 ram, RIFE ram pump, water-powered, 37-6 safety, NEC and PV-powered pumping, 26-57 Solar Slowpump (TtW!) (DC, AC available), 42-70 surface pump from off-the-shelf parts, 72-54

water pumping, PV & wind, for livestock, 57-24

amateur, communications in the country, 2-16

amateur, HP Hams for NASA Experiment,

amateur, PV powered Ham station, 33-62

antenna, The Select-A-Tenna (TtW!), 18-28

basics, remote communication options, 56-42

Citizens Band, antennas/coaxial cable, 3-36

education, amateur radio, planetary citizens,

ham radio at Midwest Renewable Energy Fair

Consci Portable Power Pack (TtW!), 42-74

education, amateur radio, PV, Boy Scouts,

ham, hydro and PV-powered, 66-26

(Q&A-Radio Help), 42-107

PV, portable charging, 38-32

Receiver (TtW!), 19-47

PV system, FM radio station, 54-6

HP's radio telephone system, , 56-50

improving reception, inverters, antennas

inverters, reducing interference, 43-107

PV, solar-powered FM station, 43-107

Sangean ATS-803A AM/FM/SW Radio

big PV system on motor home, Systems

PV-powered transmitters, public radio, 63-6

wind, world's only wind-powered station, 43-58

Veggie Van, vegetable oil fuel, diesel engines,

book reviews, Electric Burro On The Road To

PV, at camp ground, 258 Wp, 12 V L-A, 20-12

PV, Gilbert, motorhome, 750 Wp, 12 V L-A,

PV, Haeme (trailer); PV 360 Wp, 12 V L-A;

PV, travel trailer system for under \$2000,

Adventure and Freedom (sailing), 23-76

sailboats, homemade 2 Amp wind generator,

sailboats, book reviews, In Pursuit of

RFI-free lighting, LED Illuminators (TtW!),

wiring, troubleshooting, 42-93

amateur radio (HAM), and PV, 61-46

amateur, basics, history, rules, 5-31

amateur, getting started, 33-65

antenna, TV/FM antennas, 11-25

Radiant Heat Barriers

26-74

5 - 5

32-71

44-33

Radiotelephone

65-46

24-40

38-12

5-9

see "Telephone,"

Recreational Vehicles

article, 75-52 PV, Dougherty, 66-40

PV, Magleby, 53-24

PV, on VW bus, 54-16

Bogota (travel), 18-49

gen 4000 W; grid, 47-24

'98, 66-37

Radio

see "Space heating,"

Recreational Vehicles continued sailboats, Oldfield, PV and wind, 18-16 sailboats, tow-behind hydro generator (letters), 46-103

- space heating, hydronic heating system, 26-53
- Refrigeration
 - Homebrew, 12 Volt chest-type, 38-9
 - Homebrew, DC refrigerator/freezer, 21-8 Homebrew, DC refrigerator/freezer, insulation, 16-48
 - ice farming, 21-66
 - international, PV refrigerators in South America, 21-20
 - modifications, energy conservation in refrigerators (letters), 44-84
 - refrigerators, Sun Frost RF-19
 - refrigerator/freezer (TtW!), 45-34 safety, gas appliances, 24-67
 - solar thermal, ammonia absorption ice maker, Vanek & Green, 53-20
 - Sun Frost freezer, Home & Heart, 63-90
 - Sun Frost power usage, letters, 42-104
 - Sun Frost, Home & Heart, seeds, 26-75
 - Sun Frost, Larry Schussler interview, 25-22
 - Sun Frost, Sun Frost RF-12
 - Refrigerator/Freezer (TtW!), 5-33

Regulators

- 3 terminal adjustable voltage (TtW!), 6-37 Backwoods Solar's PV controller (TtW!), 7-34 beginner's look at charge controllers, 72-68 charge regulation vs blocking diodes, Q&A, 66-107
- DC-DC converters, long distance power transmission for, 28-34

Enermaxer voltage regulator, 7-19

- Heliotrope CC-20 charge controller (TtW!), 13-36
- Heliotrope CC-60 charge controller (TtW!), 8-31
- Homebrew, "latchup" shunt voltage regulator, 25-74
- Homebrew, DC power supply converter, 29-69 Homebrew, electronic field controller v.8.3,
- engine/generator, 42-28 Homebrew, NiCd battery charger wall cube replacement, 26-72
- Homebrew, power point regulator to run motor from PVs, 38-72

Homebrew, PV direct regulator, 32-46

- Homebrew, run a stereo on battery & solar power, Back to Basics, 40-105
- Homebrew, short circuit 35 Amp regulator, 28-57
- Homebrew, shunt regulator, 18-46
- PV, low cost, build your own, 70-40
- Solar Boost max power point tracker controller, TtW!, 73-70
- SunAmp Power Co's PV regulator (TtW!), 19-48

Safety

- Ananda's 400 Amp Safety Switch (TtW!), 27-58
- Ananda's Power Center IV (TtW!), 29-56
- basics, National Electrical Code (NEC), 8-27
- batteries, battery/inverter fused disconnects, circuit resistance, 21-47
- batteries, overcurrent protection devices, 27-26
- batteries, short circuit protection, 17-37 batteries, tech notes, 27-69
- Care-Cover 120 vac outlet covers (TtW!), 10-33

- Safety continued
- Chernobyl, Dangers of nuclear, Power Politics, 53-76 Code Corner, lightning protection, 57-82 disconnects, Code Corner, 53-72 disconnects, Code Corner, NEC, 19-42 disconnects, required for AC and DC systems, PV, wind, generator, 42-78 electric vehicles, design, operation & maintenance, 51-58 electric vehicles, safety disconnects, circuit breakers, fuses, 38-60 electric vehicles, safety features for the EV conversion. 50-68 electric vehicles, safety in races, 30-22 gas appliances, refrigerators, 24-67 grounding, and lightning protection, 6-16 grounding, basics, NEC, 18-26 grounding, guidelines, 25-42 grounding, isolation, NEC, 25-65 grounding, why ground, NEC, 27-47 inverters, battery/inverter fused disconnects, circuit resistance, 21-47 inverters, fuses for/wiring protection, 24-66 isolation, grounding, National Electrical Code, 25-65 lightning arrestors, , 55-72 lightning on Agate Flat, Muddy Roads, 55-68 multiwire branch circuits, danger of, Code Corner, 59-76 pumps, PV-powered, NEC, 26-57 PV, grounding/overcurrent protection/fuses, NEC, 16-31 refrigerators, gas appliances, 24-67 systems, basics of overcurrent protection, 29-38 systems, purchase of, procurement manual, specs, Code Corner, 44-66 tower safety, lightning protection, 62-40 wind, lightning protection/grounding, 24-53 Wind, towers, safety & maintenance, 57-18 wiring ALERT, Code Corner, AC multiwire branch circuits, 54-82 wiring, 12/24 Volt, plugs, NEC, 7-27
- wiring, connections, splicing, 14-36

Sanitation

- greywater, composting toilet, CCAT, PV: 450 Wp, 12 V L-A. Wind: 500 W, 32-6
- see "Composting Toilets,"
- Sewing machines
- conversion, electric to treadle, 18-48 Homebrew, converting electric to hand-
- powered, 17-59

Shunts

see "Instrumentation,"

Solar Cooking

- benefits, in Kenya, 66-56
- Capturing Heat, book review, five cooker designs, 55-99
- education, for kids, Home & Heart, 57-90 in Africa, renewable energy sabbatical, 60-50
- in Mexico, SEI bakery project, 59-50
- in Peru, 57-44

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

- Mali solar cooking update, 73-48
- models, hints, recipe conversion, Home and Heart, 65-90
- plans for Cooklt, sidebar to solar cooking in Kenya, 66-56
- Sundyne fresnel cooker, Home & Heart, 67-106
- transmission through glass, reflection and refraction based on angle, 61-60

Solar Cooking continued

- backpacking, lightweight cooker, 45-24 basics, history, 7-15 basics, how the geomentry of light affects
- design, 39-78
- book reviews, Heaven's Flame, 19-52
- book reviews, Morning Hill Cookbook (Home & Heart), 47-92
- conference, '92 World Solar Cooking Conference, 31-64
- contests, HP 1992 cooker contest results, 31-38
- contests, HP 1993 cooker contest results, 37-22
- contests, HP 1994 cooker contest results, 43-33
- crafts, use of Fresnel lenses and Solar Chef cooker (Q&A), 44-91
- education, Kid's Corner: solar cooker design, 27-74
- education, Kid's Corner: solar oven design, 30-74
- education, Spanish-language pamphlet to build cooker, 44-50
- Homebrew, 1994 cooker contest winner plans, 43-33
- Homebrew, Box Cookers, 12-14
- Homebrew, HP 1992 cooker contest results, 31-38
- Homebrew, lightweight cooker for backpacking, 45-24
- Homebrew, parabolic, "Berkeley Thermonuclear Paraboloid", 37-34
- international, Chile, how solar cooking
- changed a village, 41-28 international, Nepal, work with org's by Allart
- Ligtenberg, backpacking, 45-24 international, Peru, pamplet to teach
- construction/use of cooker (Spanish), 44-50 recipes, 20-29
- recipes, Home & Heart, 41-95
- resources, box cookers, 9-36
- SBCI's Solar Cooker Kit (TtW!), 29-60
- Solar Chef, solar cooker extraordinaire, 44-74 Solar Gourmet solar cooker kit (TtW!), 24-59
- Sun Oven (TtW!), 19-44

Solar Distillation

Homebrew, water pasteurization for developing countries, 52-44 purifying sea water, 10-29 two models of solar distillers, 36-62

Solar Food Drying

Homebrew, food dryer concepts & plans , 57-62 improving solar food dryers, 69-24 solar lumber kiln, (not food), 63-50 Home & Heart, experiences, 30-75 Homebrew, arid climates how-to, 29-64

Homebrew, humid climates how-to, 29-62

simple solar water heater for third world,

Pensol portable gas soldering iron (TtW!),

Solar Space Heating

Solar Water Heating

Soldering

16-39

hot air collector, Homebrew, 72-34 see "Space Heating, solar,"

see "Water Heating, solar,"

Homebrew, 76-36

basics, how to, 18-35

HP #1-76 Index

Listed alphabetically by subject: the first number refers to the issue, followed by the page number.

Space Heating

- Himalayan hydro for hydronic heating, 75-68 passive solar, straw bale bathhouse at Home Power (part 2), 64-46
- passive solar, straw bale bathhouse at Home Power, 63-12
- solar adobe and PV system, in CA, 61-12
- solar hot water system, low cost, 59-44
- solar mobile home conversion, passive, PV, DHW, 64-16
- solar system, hydronic space heating in Wisconsin, 49-43
- basics, radiant heat barriers, 28-43
- degree days, explanation, chart, information
- source, 46-41 electric heater, Thermal Art (TtW!), 54-71
- gas furnace retrofit, 4-21
- hydronic heating, problem solved (letters), 47-100
- hydronic, solar, active/passive, specs, sources, etc, Gimme Shelter, 46-37
- hydronic, solar/propane, with wood; also PVs/grid, Epstein (OR), 44-6
- masonry heaters, with bake oven, 4000 lbs, backup for solar, sources, etc, 46-37
- passive solar, sun room add-on, Sexton, 53-16
- passive solar, systems, w/ PV, Wildearth, 60-6
- RV, hydronic heating system, 26-53
- solar, active/passive, whole-house, sources, etc, Gimme Shelter, 46-37
- solar, air & liquid collectors, basic types, also water heating, 40-36
- solar, air collector, passive batch water heater, methane gas, 17-19
- solar, glass and glazing choices, 30-26
- solar, how hot air collectors work, 25-53 solar, hybrid PV/hot air linear concentrator,
- 5-14 solar, storage systems, diagrams, also water heating, 42-66
- solar, sunspace, trombe wall, radiant floor heat, direct gain, 32-28
- solar, unglazed transpired collector (letters), 43-101
- systems, W/ PV, Wind, & passive solar, Vogel, 56-6
- wood, radiant floor system, Simko, Whisper 1000, PV: 288 Wp, 36 V., 36-18
- wood, Simko; also wind, Whisper 1000; PV: 288 Wp, 36 V., 36-18
- wood, with hydronic, passive solar, PVs/grid, Epstein (OR), 44-6

Steam

how to, safety of, 21-55 introduction to, with references, 62-50

sources, (letters), 46-102

what it takes to do steam power, 72-60

Stirling Engines basics, with references, 61-20

System Design

- 12V to 24V conversion, 41-16
- basics, An Introduction To The Basics, 21-67 basics, concepts of system design, overview, 40-72
- basics, Efficient, Low Cost, Reliable Systems, 12-10
- basics, site survey, solar, hydro, and wind, 21-75
- basics, size, costs, batteries, inverters, PVs, hydro, wind, 22-59
- basics, sizing, how to figure energy use, 27-71 basics, The Integrated Energy System, 3-6

System Design continued book review, collection of RE product spec sheets, over 200 pgs, 50-76 conservation, appliance choices, 21-68 conservation, appliances, finding phantom loads, 14-13 conservation, heat, 10-21 controls, voltage sensing switch, charger to grid at low battery volts, 46-106 disconnects, required for AC and DC systems, PV, wind, generator, 42-78 education, workshops, MREA, 47-74 how to figure energy use, 27-71 hydro siting, for nano-hydro, 15-17 hydro siting, how to, weir measurement table, 8-17 hydro siting, overview, system, 1-7 load analysis, , 58-38 National Electrical Code, Stand-Alone PV with Generator Back-up, 48-47 PV, basics (simple starter system), 25-48 PV, economics for home power systems, 1-11 PV, sizing PV power and battery, 32-78 PV/NEC, Designing systems to meet code, 50-86 siting & mounting, PV panels, 57-32 sizing components for PV/generator system, 4-44 sizing PV power and battery, 32-78 sizing system voltage, 4-12 sizing system voltage, 5-12 tech notes, installer tips, 33-78 voltage, sizing system voltage, 4-12 voltage, sizing system voltage, 5-12 water, complete info, pump types, terms defined, 46-24 wind, generators, 14 compared/table/graphs, glossary of terms, 47-36 wind, siting, 1-16 wiring, DC sizing table, voltage drop, applications, 14-32 wiring, DC sizing table, voltage drop, apps (correct in #14), 13-32 Systems conservation, in the city, 22-11 emergency, micro system: Sovonics PV, Ovonics battery(TtW!), 15-33 emergency, micropower system, 14-9 emergency, power system, 25-33 emergency, temporary, "shorties", also wind, PV, generators, 17-46 emergency, use after fire, PV on temporary housing, 34-37 hydro, 120 vac, 13 ft. overshot water wheel, 37-6 hydro, basics and overview, 44-24 Hydro, Canadian high-head hydro system, 76-8 Hydro, Costa Rica induction hydro, 71-36 hydro, Gaydos, Hydrocharger: 40 ft/8 gpm; PV: 50 Wp, 11-5 hydro, Hermans, 240 VAC direct drive, water

- hydro, Hermans, 240 VAC direct drive, water pumping, 65-36
- hydro, Higgs, Morgan-Smith turbine, 17 ft head/ 10,000 gpm , 25-7
- hydro, Independent P&L, 210 ft/25 gpm; PV: 1450 Wp, tracker, 17-6
- hydro, Kennedy Creek, 5 systems, high head, 100 to 2200 watts, 20-7
- hydro, Kinzel/Kingsley (MI); 16ft/75gpm, FAT, 12V L-A; PV 480 Wp, 47-16
- hydro, Nicaragua, 78 ft/160 gpm, 12 V leadacid, 8-13

| Systems continued |
|---|
| hydro, Purcell Lodge, IPD pelton, 315 ft head/ 220 gpm, 12 kW, 33-12 |
| hydro, Rakfeldt, Harris turbine, 300 ft/400 gpm, 24 V, 6-5 |
| hydro, Schultze, homestead; PV, wind, solar hot water, 41-6 |
| hydro, Spencer, living with Lil Otto in Australia, 52-40 |
| hydro/Homebrew, Gima & Puttre, dirt cheap hydro, 66Wp, 12V L-A, 52-14 |
| hydro/PV, Gaydos, Hydrocharger, 40 ft/8 gpm. 50 Wp PV, 11-5 |
| hydro/PV, Lil Otto hydroworks, 40 ft/ 9 gpm, PV: 168 Wp, 15-14 |
| hydro/PV, Schultze, homestead; wind, solar hot water, 41-6 |
| hydro/PV/trackers, Independent P&L, 210 ft/25 gpm, PV: 1450 Wp, 17-6 |
| hydrogen, Pyle, et al, home-sized solar hydrogen project, 39-32 |
| international, Amazon, Yacumama Lodge, PV: 576 Wp, 24 V L-A; generator, 43-6 |
| international, Chatuco, PV: 960 Wp 24 V L-A, 10-5 |
| international, Colombia, PV: 612 Wp, 12 V nickel-iron, 32-99 |
| international, El Salvador, PV and solar ovens, 35-58 |
| international, El Salvador, PVs in, 31-28 international, Guyana, PV powered health |
| care, 20-37 |
| international, Honduras, Central America, PV, 34-14 |
| international, Nepal monasteries (2), 100 Wp, 12 V L-A, 45-6 |
| international, New Zealand, Soma 300 W, PV/wind hybrid economics, 18-21 |
| international, PV, pumping, Zaiken, 420 Wp, 12V L-A, health clinic, Costa Rica, 51-6 |
| international, PV, Wind & Hydro systems in New Zealand, 49-36 |
| international, SELFs Solar Electricity for Rural Women, 50-6 |
| international, South America, PV refrigerators, 21-20 |
| international, Sri Lanka, PV, 37-19 international, Vietnam, PV for medical clinic, |

- 38-46
- maintenance, preparing for winter, 14-7
- ownership, independent or utility?,
- Independent Power Providers, 44-58
- pedal power, basics, 23-48
- pedal power, pedal powered charging, 31-50 pedal power/PV, Haaren/Abbott, 36 W, PV: 65
 - Wp, 12 V L-A, 12-13 photovoltaics/urban, Gerosa, 85Wp, 12V L-A,
 - 49-40
 - phototvoltaics, sailboat, bicycle, Warnberg, low impact lifestyle, 52-60
 - purchase of, procurement manual, specs, Code Corner, 44-66
 - PV in a Maasai hospital, Africa, 64-36
 - PV powered lawn mower, Knapp, 28 Wp, 12V L-A, 50-72
 - PV update, Nepal, Ramsey, 56-56
 - PV water pumping, Dominican Republic, 56-16
 - PV, "shorties", 19-49
 - PV, "shorties", also wind, generators, temporary, 17-46
 - PV, "shorties", also wind, solar hot water, rainwater, cogen, 20-50

Systems continued

- PV, "shorties", on a budget, also wind, 18-44 PV, 400 Wp, w/ passive solar, Wildearth, 60-6
- PV, Ames, 190 Wp, wind: Bergey 1 kW, 4-5
- PV, Ananda, powers 4 homes, 6600 Wp, 24 V, 24-14
- PV, Andrews, 96 Wp, 12 V L-A, 13-5PV, Battagin, 204 Wp, 24 V L-A, solar welding, manual tracker. 33-6
- PV, big PV system on motor home, Systems article, 75-52
- PV, Block Island community RE system, with wind, 74-8
- PV, Bridges, 470 Wp 12 V L-A, solar hot water, 12-5
- PV, Burckhard, 1250 Wp, 24 V lead acid, 29-18
- PV, Caveney treehouse system, 73-54
- PV, CCAT need for upgrade, 43-70
- PV, CCAT, 450 Wp, 12 V L-A; wind: 500 W; greywater, 32-6
- PV, Chacon PV/wind, done without eyesight, 75-26
- PV, Chase, 658 Wp, 12 V lead-acid, 31-6
- PV, Ciotti, 816 Wp, 12 V NiCd, ram pump,
- Clivus Multrum, 28-6
- PV, Collar, Utah dome home, 65-8
- PV, Cook, 2560 Wp, 120 V, wind: Northern Power 3.5 kW, 29-6
- PV, Cunningham, earth-sheltered dome, wind water pumping, 38-6
- PV, Dankoff PV system for home and pumping, 76-26
- PV, Davenport, 320 Wp, 12 V L-A; wind: 200 W Wincharger; refrig, 21-8
- PV, Davidson, grid intertie, 68-8
- PV, Drake, 700 Wp, 12 V L-A, 21-6
- PV, Education Station, RE demo on wheels, 72-42
- PV, Elias PV install workshop for Redwood Alliance, 73-38
- PV, Elliot, machine shop & home, wind, grid back-up, 38-16
- PV, Epstein (OR), 2,000 Wp, 24 V L-A, 44-6
- PV, EVs, Heckeroth, 3 Kw, 24V L-A, intertie, 50-57
- PV, Fiji, remote resort power, refrigeration, 67-26
- PV, fire station, 57-12
- PV, Flett, 384 Wp, 12 V L-A, 13-7
- PV, FM radio station, 54-6
- PV, Ford, huge system, 70-14
- PV, Frost, 55-44
- PV, Frost, system update, 70-34
- PV, Gaydos, PV: 50 Wp; Hydrocharger: 40 ft/8 gpm, 11-5
- PV, Gilbert, motorhome, 750 Wp, 12 V L-A, 24-40
- PV, Guerrilla Solar 0001, AC module, 67-34
- PV, Guerrilla Solar 0002, PV & wind, 70-32
- PV, Guerrilla Solar 0003, PV & wind, 70-38
- PV, Guerrilla Solar 0004, with wind, 71-48
- PV, Guerrilla Solar 0005, 71-56
- PV, Guerrilla Solar 0006, with wind, 73-84
- PV, Guerrilla Solar 0007, 74-85
- PV, Guerrilla Solar 0008, with MicroSine, 75-74
- PV, Guerrilla Solar 0009, 76-84
- PV, Haaren/Abbott, 36 W, PV: 65 Wp, 12 V L-A, 12-13
- PV, Haeme (shop, trailer); 360 Wp, 12 V L-A; gen 4000 W; grid, 47-24

- Systems continued
 - PV, Hawes, straw bale home, PV: 408 Wp, 12 V L-A, 35-62
 - PV, hermit power box, portable, 48 Wp, 12 V nicad, 28-16
 - PV, Hodgdon & Burgess, 200 Wp, AC sub pump, 23-12
 - PV, Hoffman, 228 Wp, 12 V L-A, 7-5
 - PV, Home Power, 1400 Wp, wind: 800 W Survivor, 12 V nicad, 30-101
 - PV, Home Power, 155 Wp, 12 V L-A, 7-9
 - PV, Home Power, 400 Wp, 12 L-A, 16-7
 - PV, hydro, wind, BLM historical site, Bethea, 55-6
 - PV, in adobe home in CA, 61-12
 - PV, in garden cart, portable, 105 Wp, 12 V L-A, 29-14
 - PV, Independent P&L, PV: 1450Wp, tracker; hydro 210ft/25gpm, 17-6
 - PV, Kenyan bush camp PV power for training, 75-34
 - PV, Kindseth-Burbridge mobile PV trailer, 71-8 PV, Kingman (CA); PV 848 Wp, 24 V N-I; gen
 - 7.5kW propane, 46-16 PV, Kuff, 472 Wp, 12 V L-A. LCB, 700 ft from
 - PV to battery, 25-16 PV, LaChapelle & Hunt, 400 Wp, 12 V L-A,
 - 17-13 PV, LaForge, 2 PV systems—w/power sheds,
 - 40-6
 - PV, Lasley (OR), 146 Wp, 12 V L-A, generator, 44-16
 - PV, Layman, Canada, 68-58
 - PV, Linn, 880 Wp; homemade wind, 24 V NiCd, 26-16
 - PV, Lord, grid intertie, 70-24
 - PV, Markatos, dome, 735 Wp, 12 V leadcalcium gel, 32-14
 - PV, McCoy & Reisling, 360 Wp, 12 V L-A, passive solar, rain pond, 24-6
 - PV. Millard system update, 73-28
 - PV, Millard, 1300 Wp, tracker; wind: Electro 6 kW, 10-17
 - PV, Millsapps, integrating PV with Utility Power, 39-6
 - PV, mobile system, Bluesmobile, 68-50
 - PV, Murray, 400 Wp, 12 V L-A, tracker, 9-5
 - PV, neighborhood system with wind, 73-18 PV, Nekola (IL), 100 Wp, 12 V L-A; wind 500 W; grid, urban, 46-6
 - PV, Nepal monasteries (2), 100 Wp, 12 V L-A,
 - 45-6
 - PV, Nesbitt, small, Belize, 67-8
 - PV, O'Neal & Fiore, small system in the city, 37-13
 - PV, on a budget, Krush, 54-22
 - PV, on cart, portable, 10 Wp, 12 V, 31-22
 - PV, on sailboat, Oldfield, also wind, 18-16
 - PV, Papua New Guinea PV for a college, 76-74
 - PV, Pease 12 KW grid-intertie plus PVcharged EV, 72-10
 - PV, Persson, New Zealand, wind, tower, 66-8
 - PV, Phelps, 576 Wp, 24 V L-A, 24-22
 - PV, Pierson, bed and breakfast, 66-20
 - PV, pond aeration, 23-42

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

- PV, portable , on cart, 10 Wp, 12 V, 31-22 PV, portable charging, small computer or radio, 38-32
- PV, portable on trailer, WET Lab, 67-18
- PV, portable, charging small batteries for radio, 33-68

Systems continued

Wp, 28-30

21-25

34-93

20-12

38-12

26-6

62-6

76-52

38-12

29-18

city, 37-13

water, 22-6

A, 24-40

12 V L-A, 35-14

kW Jacobs, 11-9

Wp, 12 V L-A, 20-12

6 V L-A; AC: M75s, 42-18

+ NiCds, earth bermed, 35-6

PV, Sailer, 768 Wp, 6 V L-A, 42-6

water heating, 41-6

PV, Spain, Zirkel, 56-26

Wincharger, 21-14

V lead-acid, 16-35

PV, upgrade, Brethorst, 55-50

500 W; greywater, 32-6

wind 500 W; grid, 46-6

economics of, 21-25

- PV, portable, charging small computer or radio, 38-32
- PV, portable, hermit power box, 48 Wp, 12 V nicad, 28-16
- PV, portable, in garden cart, 105 Wp, 12 V L-A, 29-14PV, portable, Voltar, in pickup, tracker, 945

PV, portable, Yoder, juicer business, 65 Wp,

PV, Potts, 250 Wp, 12 V L-A. economics of,

PV, power center for 1 PV, 1 battery system,

PV, Pryor, 200 Wp, 12 V L-A; generator, 2-7

PV, Rassman, 370 Wp, 342 V L-A; wind: 2.8

PV, recreational vehicle at camp ground, 258

PV, Robishaw & Schmeck, 140 Wp, 12 V L-A

PV, Rook, 714 Wp, 24 V NiCd, log cabin, 27-6

PV, RVs, Gilbert, motorhome, 750 Wp, 12 V L-

PV, RVs, travel trailer system for under \$2000,

PV, Schatz experimental PV/hydrogen, 22-26

PV, Scott-McKean, passive solar home, 70-8

PV, SEI, stand alone, 450 Wp, 12 V NiCd,

PV, Simko, 288 Wp, 36 V; solar hot water;

PV, ski hut PV systems in Colorado, 50-24

PV, slow conversion to RE, resort in Montana,

PV, South African PV and wind hybrid system,

PV, Stillman, 400 Wp, 24 V L-A, solar hot

PV, Surber/Corrigan DC-only system, 75-18

PV, Swisher, 280 Wp, 12 V L-A; wind: 200 W

PV, tract home, Kyocera, 6372 Wp, 48 V, 325

PV, The Wizard, 48 Wp, 12 V NiCd, 15-31

PV, travel trailer system for under \$2000,

PV, urban, Buck, 371 Wp, 12 V L-A, 48-6

PV, urban, Burckhard, 1250 Wp, 24 V L-A,

PV, urban, CCAT, 450 Wp, 12 V L-A; wind:

PV, urban, Drake, 700 Wp, 12 V L-A, 21-6

PV, urban, Nekola (IL), 100 Wp, 12 V L-A;

PV, urban, Potts, 250 Wp, 12 V L-A.

PV, urban, Sailer, 768 Wp, 6 V L-A, 42-6

PV, urban, O'Neal & Fiore, small system in the

PV, Siebert (CA), 1122 Wp, grid, 45-18

wind: Whisper 1000, 36-18

PV, Schultze, homestead; wind, hydro, solar

PV, RVs, at camp ground, 258 Wp, 12 V L-A,

PV, recreational vehicle, Magleby, 53-24

PV, Reichenbach; DC: M78s, QuadLams,

Systems continued

- PV, urban, SEI, stand alone, 450 Wp, 12 V NiCd, 26-6
- PV, urban, Siebert (CA), 1122 Wp, grid, 45-18 PV, urban, Wausau WI, 600 Wp, 24 V L-A, 48-16
- PV, urban, Whitaker, 100 Wp, 12 V L-A, 48-22
- PV, Voltar, portable, in pickup, tracker, 945 Wp. 28-30
- PV, w/ wind on earthship, 59-6
- PV, Waggoner, 980 Wp, 24V L-A, 51-28
- PV, Walker, 480 Wp, 12 V L-A, pump, solar
- hot water, 34-6 PV, Wallin, PV system/Wattsun tracker in MT, 40-14
- PV, Ward, 90 Wp, 12 V lead-acid, 30-6
- PV, Wheeler, PV observatory & home for \$7100, 39-14
- PV, wind, passive solar, Vogel, 56-6
- PV, wind, small scale, 57-6
- PV, Witt, modifies system for utility intertie, 73-8
- PV, Yacumama Lodge, Amazon, 576 Wp, 24 V L-A. 43-6
- PV, Yago, 2.4 kWp, 24 V, 7Kw generator, 50-32
- PV, Yoder, portable, juicer business, 65 Wp, 12 V L-A, 35-14
- PV/event, 3072 Wp, 24V, 14,000AH L-A concert system, 51-22
- PV/generators, Haeme (shop, trailer); 360 Wp, 12 V L-A; gen 4000 W; grid, 47-24
- PV/generators, Kingman (CA); PV 848 Wp, 24 V N-I; gen 7.5kW propane, 46-16
- PV/generators, Lasley (OR); 146 Wp, 12 V L-A; gen, 44-16
- PV/generators, Pryor, 200 Wp, 12 V L-A; generator, 2-7
- PV/generators, Pryor; PV 200 Wp, 12 V L-A; gen, 2-7
- PV/generators, Yacumama Lodge, Amazon, 576 Wp, 24 V L-A; 6.5 kW gen, 43-6
- PV/grid, Epstein (OR), 2,000 Wp, 24 V L-A, 44-6
- PV/grid, Haeme (shop, trailer); 360 Wp, 12 V L-A; gen 4000 W; grid, 47-24
- PV/grid, Nekola (IL), 100 Wp, 12 V L-A; also wind 500 W; urban, 46-6
- PV/grid, Siebert (CA), 1122 Wp, 45-18
- PV/hydro, Gaydos, PV: 50 Wp; Hydrocharger: 40 ft/8 gpm, 11-5
- PV/hydro, Independent P&L, PV: 1450Wp, tracker; hydro 210ft/25gpm, 17-6
- PV/hydro, Schultze, homestead; wind, solar hot water, 41-6
- PV/hydrogen, Schatz experimental PV/hydrogen, 22-26
- PV/mobile ham shack, Bosbach, 86 Wp, 12V L-A, 50-38
- PV/pedal power, Haaren/Abbott, 36 W, PV: 65 Wp, 12 V L-A, 12-13
- PV/tracked, Pfleider, 763 Wp, 24V L-A in Hawaii, 49-14
- PV/trackers, Independent P&L, PV: 1450Wp, tracker; hydro 210ft/25gpm, 17-6
- PV/trackers, Millard, 1300 Wp, tracker; wind: Electro 6 kW, 10-17
- PV/trackers, Murray, 400 Wp, 12 V L-A, tracker, 9-5
- PV/trackers, Voltar, portable, in pickup, tracker, 945 Wp, 28-30
- PV/trackers, Wallin, PV system/Wattsun tracker in MT, 40-14

Systems continued

- PV/utility intertie, Elliot, machine shop & home, wind; grid back-up, 38-16
- PV/utility intertie, Millsapps, integrating PV with Utility Power, 39-6
- PV/utility, Gastrow, 888Wp, 24V L-A, 52-6 PV/utility, Sharp, 340 W p, 24 V L-A, SEI
- installed, 49-6
- PV/wind, Cunningham, earth-sheltered dome, wind water pumping, 38-6
- PV/wind, Elliot, machine shop & home, grid back-up, 38-16
- PV/wind, Nekola (IL); PV 100 Wp, 12 V L-A; wind 500 W; grid, urban, 46-6
- PV/wind, on sailboat, Cotterell, 53-12 PV/wind, Schultze, homestead; hydro, solar
- hot water, 41-6
- PV/wind, Whitehead, 53-6
- PV/wind/grid, Nekola (IL); PV 100 Wp, 12 V L-A; wind 500 W; grid, urban, 46-6
- PV/wind/hydro/DHW, Schultze, homestead, 41-6
- PV/wind/utility intertie, Elliot, machine shop & home, grid back-up, 38-16
- recreational vehicles, at camp ground, PV 258 Wp, 12 V L-A, 20-12
- recreational vehicles, Gilbert, motorhome, PV: 750 Wp, 12 V L-A, 24-40
- recreational vehicles, PV travel trailer system for under \$2000, 38-12
- shorties, PV, 19-49
- shorties, PV, wind, on a budget, 18-44
- shorties, wind, PV, generators, temporary, 17-46
- shorties, wind, PV, solar hot water, rainwater, cogen, 20-50
- solar hot water system, low cost, 59-44
- solar mobile home conversion, passive, PV, DHW, 64-16
- solar space heating, hydronic space heating in Wisconsin, 49-43
- solar thermal, D'Angelo/CMC, water/space heating, 17-19
- surplus wire & connectors, from local electric utility (letters), 44-86
- utility intertie, PURPA, equipment,
- requirements, pros & cons, 32-25
- utility intertie, rate systems, 33-49
- utility intertied, Colorado's Public Service Co, 18 Kw, intertied, 51-36
- v, SEI class, a little at a time, 60-16
- water pumping, PV & wind, for livestock, 57-24 wind. "shorties", also PV, generators,
 - temporary, 17-46
- wind, "shorties", also PV, solar hot water, rainwater, cogen, 20-50
- wind, "shorties", on a budget, also PV, 18-44
- Wind, African Windpower 3.6 m wind turbine
- with PV, 76-52
- wind, Babcock, grid intertied, 68-14
- Wind, Block Island community RE system, with PV, 74-8
- Wind, Chacon PV/wind, done without eyesight, 75-26
- Wind, Guerrilla Solar 0002, PV & wind, 70-32
- Wind, Guerrilla Solar 0003, PV & wind, 70-38
- Wind, Guerrilla Solar 0004, with PV, 71-48
- Wind, Guerrilla Solar 0006, with PV, 73-84 wind, in Falkland Islands, Wilkinson, 55-18
- wind, Islam, homebrewed, 2000W, Scotland,
- 52-20

Wind, McCorkendale Jacobs wind genny, 75-8 Wind, neighborhood system with PV, 73-18

Home Power Index • Issue # 1 (Nov. '87) thru #76 (May '00)

Systems continued

tracker. 10-17

hot water, 41-6

Wp, 342 V L-A, 11-9

36 V. hot water, 36-18

Wp, 12 V L-A, 21-14

telephones, 38-78

Wind: 500 W. greywater, 32-6

inverters, noise, eliminating, 42-9

radiotelephone, basics, 7-32

sources (Q&A), 45-90

18-16

Telephone

12-32

4-29

8-38

Terminology

sizes, 32-34

Extender, 14-35

see "Word Power,"

basics, 36-47

Things that Work!

Thermoelectric Generation

charging, 68-78

Meter, 52-30

59-40

sources, (letters), 46-102

Concorde sealed batteries, 75-88

Exeltech XP 1100 inverter, 75-76

LED flashlight, Holly Solar, 70-74

EN-R-PAK portable PV system, 72-74

- wind, on sailboat, homemade 2 Amp wind generator, 5-9
- wind, Otto (MN); 10 kW; grid, 47-6
- wind, Persson, New Zealand, PV, solar H2O, 66-8
- wind, Schultze, homestead; PV, hydro, solar hot water, 41-6
- wind/grid, Otto (MN); 10 kW, 47-6
- wind/intertie, Berger, 4 Kw, no batteries, 51-14 wind/PV, Ames, Bergey 1 kW, PV: 190 Wp, 4-5
- wind/PV, Cook, Northern Power 3.5 kW, PV: 2560 Wp, 120 V, , 29-6
- wind/PV, Davenport, 200 W Wincharger, PV: 320 Wp, 12 V L-A, refrig, 21-8
- wind/PV, Home Power, PV: 1400 Wp, wind: 800 W Survivor, 12 V nicad, 30-101
- wind/PV, Linn, PV: 880 Wp, homemade wind, 24 V NiCd, 26-16 wind/PV, Millard, Electro 6 kW, PV: 1300 Wp,

wind/PV, on sailboat, Oldfield, PV and wind,

wind/PV, Rassman 2.8 kW Jacobs, PV: 370

wind/PV, Schultze, homestead; hydro, solar

wind/PV, Simko, Whisper 1000, PV: 288 Wp,

wind/PV, Swisher, 200 W Wincharger, PV: 280

wind/PV, urban, CCAT, PV: 450 Wp, 12 V L-A.

wind/PV, wind re-install in CO, Preston, 58-6

inverters, noise, 3 ways to keep buzz out of

radiotelephone, affordable group system,

radiotelephone, basics, different types and

radiotelephone, basics, particulars, costs,

radiotelephone, RCC and IMTS comparison,

from gas-producing water well (letters), 47-102

Brand Electronics Digital Power Meter, 67-72

ES&D's Stream Engine hydro turbine, 67-68

GennyDeeCee, DC generator for battery

instrumentation, Cruising Equipment's E-

Morningstar SunSaver, PV charge controller,

radiotelephone, Telemobile system (TtW!),

radiotelephone, Telenexus Phone Line

Things that Work! continued

Solar Boost maximum power point tracking charge controller, 73-70 Statpower PROsine 2.5 kw inverter/charger, 69-60

Surrette batteries, 75-84

Tools

- DC power tools, converting from AC, 70-54 grip-hoist for wind towers, 68-24 LED flashlight, Holly Solar (TtW!), 70-74
- reviving old lawn tractors, 70-44

Trackers

- concentrating arrays, Midway PV concentrators, 40-28
- home built gas, systems, w/ PV, wind, & passive solar, Vogel, 56-6
- Homebrew, active, 17-48
- Homebrew, manual, 13-20
- Homebrew, manual, Battagin, 204 Wp, 24 V L-A, solar welding, 33-6
- systems, Independent P&L, PV: 1450Wp, tracker; hydro 210ft/25gpm, 17-6
- systems, Millard; PV: 1300 Wp, tracker; wind: Electro 6 kW, 10-17
- systems, Murray, 400 Wp, 12 V L-A, tracker, 9-5
- systems, Voltar, portable, in pickup, PV: 945 Wp, tracker, 28-30
- systems, Wallin, PV system/Wattsun tracker in MT, 40-14
- Wattsun PV tracker (TtW!), 25-56

Transportation

- "From the Fryer to the Fuel Tank," Tickell book review, 68-103
- also see "Electric Vehicles", "Go Power," "EV Tech Talk,"
- biodiesel VW Vanagon, 76-56
- biodiesel, step by step, 72-84
- future of, oil-based vs. alternative transp., 70-64
- 70-64
- synthetic lubricants, 69-50
- Veggie Van, vegetable oil fuel, diesel engines, 65-46

Utilities

- \$1 on utility bill for RE, 25-32
- also see "Power Politics," "Guerrilla Solar," & "IPP,"
- and PV applications, 35-82
- and PV, 33-70
- and PV, ownership, Independent Power Providers (IPP), 44-58
- and PV, providers or not (letters), 42-102
- and PV, subsidies, Independent Power Providers (IPP), 43-74
- and PV, subsidies, Independent Power Providers (IPP), 46-82
- birds, power politics, 46-30
- birds, power politics, wind vs. conventional, Audubon report, 47-10
- buying big wind on grid, 67-64
- buying green power (wind), also NV nuke dump, Power Politics, 63-87
- buying green power, net metering, Power Politics, 64-86
- Chernobyl, dangers of nuclear, Power Politics, 53-76
- conservation, interties (letters), 46-100 conspicuous consumption, Pacific Power's
- "houses of the future," Home & Heart, 43-93 corporate welfare, vs. loan guarantees to end users, Independent Power Provider, 46-82
- costs of RE, how people can affect, 57-39

Utilities continued

- costs, hidden, of commercial power, 16-21 deregulation, See "IPP" and "Power Politics" column, most issues
- deregulation, autopsy of CA's Prop 9, Power Politics, 69-88
- deregulation, Power Politics, 43-82
- dirty power, flickering lights, ruined appliances (Q&A), 44-90
- distributed generation, (letters), 46-101
- distributed generation, IPP, 72-108
- distributed generation, IPP, 76-124
- distributed generation, need for, types, 45-65 distributed generation, position on,
- Independent Power Providers (IPP), 46-82 efficiency, of conventional power plants, Ask NREL, 45-62
- failed dereg in CA, learning from mistakes, Power Politics, 73-106
- flawed surveys, Independent Power Providers (IPP), 44-58
- future of, use of hydrogen, 29-28
- green electricity recommendation, Power Politics, 65-86
- green electricity, or green washing? Power Politics, 60-82
- grid intertie PV, Davidson, 68-8
- grid intertie, variations in technique, 62-44 grid power emissions, in terms of EV use,
- 56-70
- grid, fundamentals of, , 54-34
- history of Redwood Alliance, Power Politics, 59-82
- home power and, IPP, 66-78
- IEEE 929 and intertied systems, IPP, 74-122
- intertid RE, myths of payback, 64-6
- intertie and net metering, IPP, WA, CA, MA, 63-76
- intertie PV system, net metering, 59-24
- intertie, net metering in CA, NY, & OR, 56-78
- intertie, net metering, IPP, 53-68 intertie, net metering, setting standards, IPP,
- intertie, policies, IPP, 54-76
- intertie, restructuring, & distributed generation, 57-78
- interties explained, safety, 71-58 interties, buy-back rates, net billing (letters),
- 43-100 interties, net billing, co-op vs. investor-owned, Independent Power Pro, 42-62
- interties, net metering explanation, California legislation, 46-72
- interties, Part 1, PURPA, equipment, requirements, pros & cons, 32-25
- interties, Part 2, rate systems, 33-49 interties, pricing schedule for independent
- power providers, 44-13
- IPP, intertie incentives and rebates, CA, AR, ME, 62-82
- IPP, net metering, financing, SCE off-grid, deregulation, 49-82
- IPP/editorial, California PV for Utilities (PV4U), 50-82
- IPP/editorial, Ontrio Hydro, CA net metering, PV growth, 52-82
- monopolies, Independent Power Providers (IPP), 47-82
- net metering in Maine, 65-52

Home Power Index • Issue #1 (Nov. '87) thru #76 (May '00)

- net metering, summer '96 outages, restructuring, IPP, 55-76
- nuclear power and Y2K, Power Politics, 70-110

Utilities continued

- Power Politics, Rate based incentives, 49-89 PV intertied, Colorado's Public Service Co,
- 18 Kw, intertied, 51-36 RAGE green energy deregulation campaign,
- Power Politics, 67-88 rate-based incentives, European examples, to
- stimulate RE purchase/installation, 44-20 rate-based incentives, implementation how-to,
- 45-72 restructuring in California, 50-90
- restructuring, & distributed generation, IPP,

Rhode Island deregulation jump-starts RE,

satisfaction with vs. RE, HP survey results,

Southern California Edison, experience with

stop the bailout, of bad assest, IPP, 61-70

value of grid-connected solar, IPP, 69-92

Alternative Energy with the Experts, three

Video/VCR Plus device, letters (see phantom

book reviews, Efficient Washing Machines,

Homebrew, converting a wringer washer to

readers' experiences, Home & Heart, 45-76

Wattevr Works washer kit, retrofit (TtW!),

DC deep well retrofit, PV powered, 61-28

pumping, mobile, PV jack pump, cattle

solar pasteurization & distillation, for the

sprinklers, automatic, Code Corner, safety,

straw bale bathhouse / greenhouse, at Home

purification on home power, 70-88

PV deep-well pumps, 68-16

developing world, 52-44

pumping with hydro turbines, Australia, 65-36

front loading, brands compared, 46-92

front-loader, 2 praised (letters), 47-92

retrofitting for high efficiency, 22-44

Staber System 2000 (TtW!), 47-70

AC vs DC pumps, Q & A, 62-107

Independent Power Providers (IPP), 44-83

59-72

vs. home power, 27-18

EVs & Hydrogen, 27-78

load killer), 42-105

see "Instrumentation,"

Washing machines

efficiency of, 23-61

DC, 40-40

25-63

also see "Pumps,"

watering, 54-12

see "Pumps,"

44-66

Power, 63-12

Water

Washing Machines

23-77

Solar Videos, 28-74

74-20

43-16

Vegetable Oil

Video Reviews

Voltmeters

restructuring, also nuke bailout, Power Politics, 61-82 restructuring, in CA, 56-86

SCE PV pilot termination, IPP, 58-76

surviving '98 ice storm disaster, 68-42

system standards, proposal (letters),

diesel fuel, pointers for using in cars,

videos: PV, Wind, Hydro, 56-93

experiences with, 45-86

by PV owner, Siebert, 45-18

HP #1-76 Index

Listed alphabetically by subject: the first number refers to the issue, followed by the page number.

Water continued

- system design, complete information, terms defined, pump types, 46-24
- systems, examples with PV, National Electrical Code, 45-66
- systems, Kingman, 24 VDC solar sub + 224 vac backup w/generator, 46-20
- systems, pumping, PV & wind, for livestock, 57-24
- systems, Reichenbach; PV, generator, well, 42-18
- systems, troubleshooting wiring and pumps, 42-93

wells, drilling, 33-54

Water Heating

- New Zealand, Persson, PV, wind, tower, 66-8 solar mobile home conversion, passive, PV, DHW, 64-16
- solar, gravity siphon system, how to build, (part 2), 64-26

solar, gravity siphon, system for DHW , 63-32

- history, water heating history, 48-40
- Homebrew, solar, passive, simple black tube svstem, 11-19
- maintenance, anode replacement (letters), 47-100
- propane, test efficiency of hot water heater, 3-27
- solar, "shorties", also wind, PV, rainwater, cogen, 20-50
- solar, active, geyser pump, Copper Cricket, 8-20
- solar, active, geyser, Copper Cricket, 21-43 solar, active, overview, 25-37
- solar, active, Thermomax; Walker, 480 Wp, 12 V L-A, pump, 34-6
- solar, active; Simko, Whisper 1000, PV: 288 Wp, 36 V, 36-18
- solar, air & liquid collectors, basic types, also space heating, 40-36
- solar, basics, 27-42
- solar, basics, comparison of various systems, 19-35
- solar, economics, 27-64
- solar, economy solar shower (homebrew), 43-30
- solar, education, workshops, MREA, 47-74
- solar, Homebrew, economy solar shower, 43-30
- solar, passive, batch solar water heaters, 31-61
- solar, passive, batch, D'Angelo/CMC, 17-19 solar, passive, coils of black ABS tubing,
- space heating, dome, 36-26 solar, passive, simple black tube system,
- Homebrew, 11-19 solar, passive, thermosiphon heat exchanger, 24-64
- solar, passive, thermosiphon system, 22-38 solar, passive; Bridges, 470 Wp 12 V L-A,
- 12-5
- solar, passive; Stillman, 400 Wp, 24 V L-A, 22-6
- solar, Simko, also PV: 288 Wp, 36 V, also wind: Whisper 1000, 36-18
- solar, storage systems, diagrams, also space heating, 42-66
- solar, system variables explored, 58-16 solar, Thermomax; Schultze,
- PV/wind/hydro/DHW, 41-6
- solar, thermosiphon system, kid's project, 31-84

- Water Heating continued
 - solar, thermosyphon, how to build, Homebrew, 58-30
 - systems, w/ PV, wind, & passive solar, Vogel, 56-6
 - tanks, maintenance, anode replacement, source for, 45-30
 - wood, heating water w/woodstove, 35-32 wood, Simko, Whisper 1000, PV: 288 Wp,
 - 36 V. hot water, 36-18 wood, Simko; also wind, Whisper 1000; PV: 288 Wp, 36 V., 36-18
 - wood, stove, 35-32

Watt Meters

see "Instrumentation,"

Watt-Hour Meter

- see "Instrumentation,"
- Welding
- MigMaster DC Welder (TtW!), 30-62 with PV, Battagin, 204 Wp, 24 V L-A, solar welding, manual tracker, 33-6
- Wind
 - "Windpower Workshop" book review, do-ityourself info, 65-92
 - & PV, on sailboat, Cotterell, 53-12
 - African Windpower 3.6 m wind turbine with PV, 76-52
 - Block Island community RE, wind and PV, Systems article, 74-8
 - book reviews, Wind Power for Home and Business, 36-88
 - buying big wind on grid, 67-64
 - Chacon PV/wind, done without eyesight, 75-26
 - do it yourself, Q&A, 69-122
 - education, workshops, MREA, 47-74
 - generators, 10 compared/table, 35-20
 - generators, 14 compared/table/graphs,
 - glossary of terms, overview, 47-36
 - generators, 29 compared, Sagrillo, 65-18 generators, Bergey's BWC 1500 (TtW!), 29-46
 - generators, blade balancing, 14-17
 - generators, decibel level, 47-11
 - generators, Homebrew, 1.5kW 24VDC; and tower. 42-38
 - generators, Homebrew, 12-29
 - generators, Homebrew, a guide to plans, 17-28
 - generators, Marlec Furlmatic 910 (TtW!), 43-64

generators, rewinding alternators for, 19-24 generators, Rutland Windchargers (TtW!), 43-64

- generators, Whisper 1000 wind generator (TtW!), 20-42
- generators, Wincharger and Jacobs, 11-13 generators, Windseeker II (TtW!), 14-15
- grip hoist tower raising, 68-24
- grounding, guidelines, 25-42
- grounding, lightning protection, 24-53
- guerrilla 0002, with PV, 70-32
- guerrilla 0003, with PV, 70-38
- Guerrilla Solar 0004, with PV, 71-48
- Guerrilla Solar 0006, with PV, 73-84
- history of wind generator use in U.S., 27-14 home built / restoration, , 56-32
- Homebrew, Dailey, Cheap Towers, 52-24 Hugh Piggott interview on wind genny design,
- 74-94 international, China, number of installed generators, 43-61
- intertie, Berger, 4 Kw, no batteries, 51-14

Wind continued

intertied wind, Babcock system, 69-14 interview with Steve Hicks, 70-82 McCorkendale Jacobs wind genny, Systems article, 75-8 neighborhood system with PV, Systems article, 73-18 New Zealand, Persson, PV, wind, solar H2O, 66-8 odometers, Homebrew, 26-64 odometers, NRG Sou'wester & 2100 Totalizer (TtW!), 28-55 odometers, Trade Wind's Wind Odometer (TtW!), 22-53 ordinances, in communities, sample, 47-12 people, Elliott Bayly, founder, World Power Technologies, 43-58 PicoTurbine, small wind genny demo, Homebrew, 71-102 power politics, birds, 46-30 resource across the US, map, table and references, 44-30 SEI workshop, PV and wind system upgrade, 71-24 Southwest Windpower factory tour, 74-74 system design, generators, 10 compared/table, 35-20 system design, generators, 14 compared/table/graphs, glossary of terms, 47-36 system design, generators, basics, 5-18 system design, generators, overview of, hybrids, PURPA, 22-15 system design, power formula, wind vs PV, 34-32 system design, siting, 1-16 system design, siting, how to estimate wind speed, 40-86 system design, siting, Part 1, how to estimate wind speed, 40-86 system design, siting, Part 2, nine rules, 41-60 system design, siting, site survey: solar, hydro, and wind, 21-75 system design, towers, basics, 23-32 system design, towers, Economics 101, 37-30 system design, towers, Economics 102, height vs cost & performance, 38-27 system design, towers, Economics 103, effects when not high enough, 39-26 system design, towers, height, 21-64 systems (re-install), w/ PV, in CO, Preston, 58-6 systems, Cunningham, wind water pump, PV, earth-sheltered dome, 38-6 systems, Elliot, machine shop & home, PV; grid back-up, 38-16 systems, in Falkland Islands, Wilkinson, 55-18 systems, Islam, homebrewed, 2000W, Scotland, 52-20 systems, Otto (MN); 10 kW; grid intertie, 47-6 systems, PV/Wind, Whitehead, 53-6 systems, Schultze, Whisper 1000; PV/hydro/solar hot water, 41-6 systems, w/ PV & passive solar, Vogel, 56-6 systems, w/ PV on earthship, 59-6 systems, w/ PV, Hydro, BLM historical site, Bethea, 55-6 systems, w/PV, small scale, 57-6 Tehachapi Wind Fair '98, 67-52 tour of Tehachapi wind farm and Zond plant, 67-56 tower safety, lightning protection, 62-40

towers, grip hoist, 68-24

Wind continued

- towers, Homebrew, utility pole & pipe tower, 28-26
- towers, Homebrew; also 1.5kW 24VDC generator, 42-38
- towers, safety & maintenance, 57-18
- towers, tilt-up conversion of Rohn, 56-38
- towers, tilt-up, LMW&S kit (TtW!), 58-50
- using car alternators, Q&A, 66-107
- what to expect from your RE dealer, basics of buying, 61-40
- wind speed relationship to power, measuring your resource , 62-34

Wiring

- Ananda's Power Center IV (TtW!), 29-56 back to basics, wire sizing table, 33-86 batteries, basics/L-A & NiCd w/wiring
- diagrams, 27-30
- book reviews, Wiring 12 Volts For Ample Power, 20-61
- cables, build for battery/inverter, 7-36 Code Corner, Standards, affects on cost & performance, 55-82
- conductors and cables, NEC, Code Corner, 66-82
- connections, splicing, 14-36
- DC, sizing, table, voltage drop, applications, 14-32
- DC/PV, sizing, tables, 18-31
- disconnects, Code Corner, 53-72
- gauges, metric conversions, 57-98
- ground fault protection, PV systems Checklist,
- Code Corner, 58-82 Homebrew, build cables for battery/inverter, 7-36
- inverters, wiring to mains panel, 11-23

Wiring continued

- low voltage wiring techniques, sizing, 2-33 multiwire branch circuits, danger of, Code Corner, 59-76 NEC PV module wiring methods & cables, 51-86
- NEC, load circuits/wiring, 22-68
- pumps, troubleshooting, 42-93
- PV, installing/wiring/mounting, 2-11
- PV, wiring non-identical panels, 27-22
- SAFETY ALERT, Code Corner, AC multiwire branch circuits, 54-82 tech notes, interconnects, 33-46 wire sizing table, 33-86
- working with Romex cable, 27-38

Wizard Speaks

- energy in free space, 71-143 environmental problems and solutions, 75-142 fuel cells, 76-142 global warming, 74-140 gravity as an electro-magnetic phenomenon, 68-112 nature of the mind, 65-97 organic and inorganic environmental omens, 70-128 origin of universe, big bang, 67-112
- quantum energy field, 69-111 resource depletion; causes and effects,
- 72-130
- time, space, and other axes, 73-127 zero point field, 66-96

Women

- alternative building techniques, Home & Heart, 54-89
- in RE, biographies, Tewa, Fischer, Sainyeye, Brown, 62-61

Women continued see "People,"

systems, SELFs Solar Electricity for Rural Women, 50-6

Wood Gasification

how to, safety of, 21-55 intro to, 8-22

Wood Heat

overview of masonry stoves, 51-42 see "Space heating, wood" and "Water heating, wood,"

Word Power

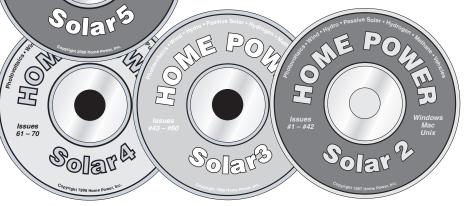
Amp defined, 69-82 Amp-hour defined, 70-98 battery defined, 73-100 inverter defined and described, 74-116 P-N junction explained, 76-116 PV cell defined, 75-114 Volt defined, 68-82 Watt defined, 71-114 Watt-hour defined, 72-98 Wrench Realities DC GFCI and the NEC, 65-82 diverting excess power, 72-118 grounding realities and the NEC, 66-86

\$



In Adobe Acrobat PDF[®] format (reader included): Color • Indexed • Searchable • Exportable Printable • Acrobat Readers included Plus: video, audio RE lectures, RE system

analysis software, RE business database, & nationwide data on solar insolation and weather



SunWorld, the official magazine of the International Solar Energy Society says, "Together these CDs offer the largest collection of useful and practical information on achieving energy independence ever available."



(International orders add \$3) Home Power PO Box 520, Ashland, OR 97520 Phone: 541-512-0201

Web: www.homepower.com

Save Paper! Check out *Home Power*'s back issues on CD-ROM

- *Solar2* Issues #1–#42
- Solar3 Issues #43-#60
- Solar4 Issues #61-#70
- Solar5 Issues #71-#76

For credit card orders call *Home Power* at 800-707-6585

Issues 71 – 76