

WELLINGTON VHF GROUP

MEMBERS-ONLY TRADING TABLE CASH & CARRY PRICES

MAY 2010

Non-members of the VHF Group please add 25% to all prices

Orders should be sent to Box 12 259, Thorndon, Wellington, with an additional \$5 per order for post, packing etc., for New Zealand destinations. Prices are in New Zealand dollars. Additional charges apply to export orders. Please print your name and address clearly. Please give an email address. We reserve the right to limit the quantities supplied, and to change prices without notice. For all enquiries please email: zl2wa@clear.net.nz

Sales at meetings. It is not physically possible to bring the whole Trading Table to the meeting. Please telephone or email on the Wednesday, the day before the meeting, to ensure that the parts you want are brought.

EMAIL: zl2wa@clear.net.nz

NEWLY ARRIVED ITEMS

LIGHTNING ARRESTORS

N female input and output connectors, 70 V breakdown voltage. \$25

MICREL MIC29302BU 3 Amp, low-drop-out voltage, adjustable (1.25 V to 26 V)
voltage regulator. \$1.00

74TTL ICs LIMITED QUANTITIES

GATES 30 c each, \$2-50 for 10. Types can be mixed for this quantity discount.

7400 quad 2-input nand gate
7401 quad 2-input nand gate open collector
7402 quad 2-input nor gate
7406 hex inverter buffer/driver open collector
7407 hex buffer/driver open collector
7408 quad 2-input and gate
7410 triple 3-input nand gate
7411 triple 3-input and gate
7413 dual 4-input nand schmitt trigger
7414 hex inverter schmitt trigger
7420 dual 4-input nand gate
7427 triple 3-input nor gate
7430 8-input nand gate
7440 dual 4-input nand buffer
7486 quad 2-input exclusive-or gate

COUNTERS, etc. 50 c each, \$4.00 for 10. Types can be mixed for this quantity discount.

7441 bcd to nixie tube driver
7472 j-k flip-flop
7474 dual d-type flip-flops
7475 quad bistable latches

7483 4-bit full adder
 7485 4-bit magnitude comparator
 74107 dual j-k flip flop
 74121 monostable multivibrator
 74123 dual re-triggerable monostable multivibrator
 74148 8-bit priority encoder
 74151 8-input multiplexer
 74153 dual 4-line to 1-line multiplexer
 74155 dual 2-line to 4-line decoder/demultiplexer
 74157 quad 2-input data selector/multiplexer
 74161 4-bit binary counter
 74162 bcd decade counter
 74163 4-bit binary counter
 74164 8-bit serial-in parallel-out shift register
 74165 8-bit serial/parallel-in serial-out shift register
 74174 hex d flip-flop
 74175 quad d flip-flop
 74180 parity generator/checker
 74192 presettable bcd decade up/down counter
 74193 presettable 4-bit binary up/down counter

MORE STUFF

Telephone loading coil. Bifilar wound on a toroidal core. \$1.00
 One coil: 11 mH, 2 ohm DC resistance.
 Both coils connected series-aiding: 44 mH, 4 ohm DC resistance.

2-TERMINAL CERAMIC RESONATOR

3.58 MHz ceramic resonator for Alivo transceiver \$2.50
 Used in ZL2AMJ Alivo 80 metre transceiver VCXO, as described in April 1998 and May/June 1999
 Break-In.

3-TERMINAL CERAMIC RESONATOR

3.58 MHz ceramic resonator. 3-terminal. \$2.50
 This is a 2-terminal resonator, plus two internal feedback capacitors connected to the centre
 (grounded) pin, to simplify oscillator construction. An oscillator using a CMOS inverter requires
 just the resonator and a 1 Meg bias resistor.

Reducing adaptor for RG-58/U cable, for large PL-259 connector. 50c
 UHF F+M+F Tee connector, poly insulator. \$5.00
 SO-238 Female-Female barrel connector, for joining two PL-259 cables. \$2.50

BNC male crimp connector Radiall R 141075 for RG-174/U cable.
 Farnell sells them for \$20 EACH. Our price is \$2.50 each or 10 for \$20

Belling-Lee TV antenna female chassis-mount connector. Insulated mounting flange.
 Photo in June 2009 Q-Bit. \$2.50 each or 10 for \$20

F Crimp Connector for Quad Screened RG-6/U 75 ohm TV coax.
 Similar to Jaycar PP-0704. \$1.20 each or 10 for \$10

Custom-made leads, using quad-screened RG-6/U, with the above connector on each end.
Pricing: \$6.00 plus \$1.50 per metre.

10 GHz MICROWAVE DETECTOR KIT \$20

As described on pages 10 to 16 of October 2006 Q-Bit.
Contains all the necessary components, including the gold-plated SMA connector.

STAINLESS STEEL 2 mm diameter antenna wire.

Only the wire is supplied, complete with pre-formed anti-eye-poking loop at one end.
The purchaser supplies the mounting base. The wire is cut to 5% over length so that the purchaser can trim the length for minimum SWR, to compensate for stray inductance or stray capacitance in the mounting base.

2 metre quarterwave whip	\$1
70 cm 5/8 wave whip	\$1
70 cm quarterwave whip	50c

HIGH PERFORMANCE 10 MHz CLOCK SOURCE/COMB GENERATOR KIT

As described in February 2009 Q-Bit. \$25

HIGH PERFORMANCE 20 MHz CLOCK SOURCE \$25

RACK TRAYS – meetings and callers only.
One unit high by 230 mm deep, power coated steel. \$5

TINPLATE SHIELDS (or component trays)

Idea for stopping radiation out of, or into, stripline circuits.

76 mm x 41 mm x 10 mm high.	10c
92 mm x 41 mm x 10 mm high.	10c

Aluminium rod 295 mm long by 8 mm diameter
Ideal for Uda-Yagi antenna directors at 70 cm and all elements at Channel 39 ATV.
15c each 10 for \$1 (less than the scrap metal value)

Aluminium rod 370 mm long by 8 mm diameter
Ideal for Reflector of 70 cm Uda-Yagi antennas. Limited quantity, each one sold with nine of the 295 mm rods. 9 + 1 rod kit for \$1

Single-hole HF-VHF powdered iron core 60c each \$4 for bag of 12
9.5 mm OD 4.0 mm ID 12.7 mm Long
a = 23 nH
Inductance = n^2a Therefore 12 turns = 3.3 uH

BROADBAND (40 TO 860 MHz) CLASS-A LINEAR AMPLIFIERS

PHILIPS BGX885N TEST AT 615 MHz Requires +24 V at 230 mA \$39.60

50 ohm test: Gain 16.5 dB 280 mW CW output at -1 dB gain compression

MOTOROLA CA922A TEST AT 615 MHz Requires +24 V at 400 mA \$49.70
50 ohm test: Gain 16.5 dB 830 mW CW output at -1 dB gain compression

PHILIPS BGD802 TEST AT 615 MHz Requires +24 V at 400 mA \$59.80
50 ohm test: Gain 17.5 dB 1.5 W CW output at -1 dB gain compression

The heat sink for the BGX885N should have a thermal rating of 8°C/W, or less. The heat sink for the CA922A and BGD802 should have a thermal rating of 5°C/W, or less.

Eddystone diecast aluminium boxes, including free pre-drilled holes.

120 mm x 94 mm x 29 mm	\$4
120 mm x 94 mm x 56 mm	\$6
187 mm x 120 mm x 56 mm	\$10

75 ohm BNC female 4-hole panel mount connector	\$2
50 ohm TNC female single-hole (9.5 mm) panel mount connector	\$2

2500 ohm linear mini pre-set pots. Single-hole (6.3 mm) panel mount, complete with mounting nut, knob and 0 to 10 scale. 12 mm diameter by 12 mm long body. \$1

Heatsink 221 mm H x 100 mm W x 23 mm D (568 g) 1.8°C/W	\$5
Heatsink 116 mm H x 295 mm W x 48 mm D (735 g) 1.3°C/W	\$7
Heatsink: 150 mm long x 89 mm wide x 47 mm high	\$10

Extruded aluminium. 1°C per Watt thermal resistance. Mass 800 g.

Ideal for the output stage of a 100% duty cycle 30 Watt RF output transmitter, 50% duty cycle 60 Watt RF output transmitter, or 30% duty cycle 100 Watt RF output transmitter. A typical application, using a 30 Watt Mitsubishi RF power module, was described on pages 8 to 15 of January 2008 Q-Bit.

10-piece trimming tool set	\$7
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Hippo clip (wider mouth than crocodile clip)	20c
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7809 9 Volt 3 terminal regulator TO-220	\$1.20
Bias regulator for Mitsubishi RF power modules.	

Ex-equipment SBL-1 economy double-balanced mixer up to 500 MHz	\$5
Ex-equipment SRA-1 premium double-balanced mixer up to 500 MHz	\$15
NJ8820B Plessey synthesizer IC	\$3

5-40 pF compression mica trimmers by Hunts. Bag of five. Suitable for 2 metre RF power amplifiers.	\$1
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AWA B-Band 88-108 MHz AM Receiver module Type 2281.	\$10
AWA A-Band 68-88 MHz AM Transmitter module Type 2284.	\$15
AWA modulator module Type 2285 for the 2284 module.	\$10
Modules are supplied with a re-print from December 1996 Q-Bit.	

TNC male crimp connector for RG-316/U cable.	\$4
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Telegärtner J010B0007.

Chassis-mount square-flange BNC female connector. Kings KC-79-289-MC7.
\$2.50 each or 10 for \$20

COAXIAL CABLES

50 OHM RG-58A/U WITH BNC MALE CONNECTOR ON ONE END

One cable available of each length:

3030 mm, 3180 mm	\$3.50
5020 mm, 5870 mm	\$5
8860 mm	\$6.50

50 OHM RG-58A/U WITH BARE ENDS

One cable available of each length:

4770 mm	\$3
7430 mm	\$5
12360 mm	\$8

MACHINE SCREWS

All screws are 10 for 20c, 50 for 70c, 100 for \$1, 250 for \$2, 500 for \$3.

Mixed pricing applies. For example, buy a total of 100, say 10 of one size, 20 of two sizes, and 50 of another size, and pay only the 100 price.

SILVER-PLATED MICROWAVE CAVITY TUNING SCREWS – USA THREADS

Complete with lock nuts

2-56 (2.1 mm diameter) by 6 mm long with 5/64" A/F hex socket head
4-40 (2.8 mm diameter) by 6 mm long with 3/32" A/F hex socket head
4-40 (2.8 mm diameter) by 11 mm long with 3/64" A/F hex socket end
1/4" diameter by 9.4 mm long 36 threads per inch with screwdriver slot

STAINLESS STEEL MACHINE SCREWS – USA THREADS

Complete with spring washers

2-56 (2.1 mm diameter) by 4 mm long with Phillips head
2-56 (2.1 mm diameter) by 9.5 mm long with 1/16" A/F hex socket head
2-56 (2.1 mm diameter) by 12 mm long with 1/16" A/F hex socket head
4-40 (2.8 mm diameter) by 9.5 mm long with 5/64" A/F hex socket head
4-40 (2.8 mm diameter) by 16 mm long with 5/64" A/F hex socket head
6-32 (3.4 mm diameter) by 9.5 mm long with 3/32" A/F hex socket head
6-32 (3.4 mm diameter) by 12 mm long with 3/32" A/F hex socket head

DIGITAL 3 mm LEDs.

These LEDs include internal current-setting resistors, for direct connection to 5 V, where they draw 10 mA. The LEDs can be used on a higher supply voltage, or at lower currents, by the addition of an external resistor. Three colours available: red, yellow and green. 10 c each.

TV CHANNEL CHANGE PUSH BUTTONS

Made by Mitsumi of Japan. Spring loaded SPST switch used in Philips and Pye TV receivers. Ideal for driving CMOS and other low-current applications. Set of four complete with mounting bracket. \$1.50

Second-hand BNC 50 ohm female panel socket – single hole mount \$2
Complete with earth tag and back nut KINGS KC-79-139

MONOLITHIC MICROWAVE AMPLIFIER (MMIC)

ERA-2	DC to 6 GHz 25 mW 15 dB gain @ 1 GHz +5V 80mA	\$4.90
ERA-4	DC to 4 GHz 80 mW 14 dB gain @ 1 GHz +5V 80mA	\$8.80
INA-03184	DC to 3 GHz 1 mW 25 dB gain @ 1 GHz +4V 10 mA	\$3.30
INA-10386	DC to 2 GHz 10 mW 26 dB gain @ 1 GHz +6V 45 mA	\$3.30
MAV-11	DC to 1 GHz 50 mW 12 dB gain @ 500 MHz +5.5 V 60 mA	\$6.60

MINI-CIRCUITS LABS VOLTAGE-CONTROLLED OSCILLATORS

MODEL	TUNING RANGE	OUTPUT	PRICE
POS-200	100 to 200 MHz	+10 dBm	\$31.10
POS-400	200 to 380 MHz	+9 dBm	\$36.40
POS-535	300 to 525 MHz	+8 dBm	\$36.40
POS-1060	750 to 1060 MHz	+12 dBm	\$39.00

POS-200 to POS-535 require +12 V DC power at about 20 mA, and +1 V to +16 V tuning voltage. POS-1060 requires +8 V DC power at about 30 mA, and +1 V to +20 V tuning voltage.

TYPICAL FREQUENCY VERSUS TUNING VOLTAGE

MODEL	1	2	4	6	8	10	12	14	16	V
POS-200	90	99	114	129	145	161	176	192	208	MHz
POS-400	185	202	230	259	289	322	351	382	407	MHz
POS-535	279	305	347	381	421	460	488	524	556	MHz
POS-1060	675	697	737	784	834	887	942	997	1045	MHz

SUGGESTED USES

POS-200 is useful for testing: 2-metre Amateur equipment, and Channel 4, 5, 6 and 7 TV antennas.

POS-400 is useful for testing: Channel 6, 7, 8, 9, 10 and 11 TV antennas.

POS-535 is useful for testing: 70-centimetre Amateur equipment, UHF Communications, and UHF PRS.

POS-1060 is useful for testing: 32-centimetre Amateur equipment, Channel 46 through 62 TV antennas, and UHF Communications.

MICROWAVE COMPONENTS

Microwave dummy load inserts. These consist of a graphite-composite cone, to be inserted in a suitable length of waveguide. Be careful, the pointed end is VERY SHARP.

The diameter, of the large end of the cone, is almost equal to the narrow dimension of the waveguide, so the large end can be fixed in a central position by two “blobs” of silicone rubber. Alternatively, the large diameter end has a tapped hole (used during manufacture of the conical shape), so the cone can be mounted centrally on a waveguide end wall with a suitable bolt. Three sizes are available: \$5

7.6 mm diameter by 73 mm long, for 10 GHz

4.2 mm diameter by 56 mm long, for 24 GHz

3.3 mm diameter by 40 mm long, for 47 GHz

Waveguide O-rings, to waterproof the joint between waveguide flanges. Three sizes available:

30 mm OD by 3.2 mm diameter 50c each

19 mm OD by 1.6 mm diameter 50c each

14 mm OD by 1.6 mm diameter 50c each

SMA female stainless steel connector \$2.50 each, 10 for \$20, 30 for \$50

SMA male to SMA male 0.14” Succoflex™ flexible cable. The SMA connectors have gold-plated RF mating surfaces and stainless steel threaded body. 0.14” Succoflex™ has the same electrical properties as 0.14” semi-rigid, but is much more flexible. Insertion loss at 24 GHz is 3 dB per metre, or 0.3 dB per 100 mm. Available lengths: 115 mm, 120 mm and 150 mm. Most lengths are in short supply, please give alternatives. \$10

WG20 19 GHz 5-pole bandpass filter. This can be modified for 24 GHz, by reducing the size of the resonant cavities. The filter features a WG20 flange and waveguide elbow, at one end, and a SMA connector to WG20 transition, at the other end. \$8

WG20 waveguide 250 mm long, with WG20 flange at each end. There is an E-plane bend near one end. \$10

103.33333 MHz, 5th overtone, series resonant, HC49/U holder (wire-ended cold-weld equivalent of HC-18/U). Useful for microwave frequency markers or injection frequencies, such as: 310 MHz, 620 MHz, 930 MHz, 1240 MHz, 2480 MHz, 3410 MHz, 5580 MHz, 10230 MHz, 24180 MHz. The crystal can also be used on 20.67 MHz fundamental, or 62.00 MHz 3rd overtone, in an appropriate oscillator circuit. \$5 each, \$8 for two, \$10 for three, \$25 for ten.

1N5242B 12 volt 500 mW zener diode. 10c each, 70c for ten, \$1 for twenty, \$3 for a hundred.

74LS05M SMD 20c each, six for \$1

3-pin DIN cord audio plug (Jaycar catalogue PP-0302, usually \$1.45) 50c

12 V 0.5 A plug pack power transformer (Jaycar catalogue MP-3026, usually \$24.95) \$12

12 V 0.5 A + 12 V 0.5 A power transformer (RS catalogue 207-699, usually \$21.60) \$7.50

Bolt-in feed-through pi-section (C-L-C) low pass filters ERIE		\$1
3.15A 20x5 fast-blow fuse		20c ea
5A 20x5 slow-blow fuse		40c ea
4-cell AAA cell holder		\$1
ABS black plastic project box 82 x 53 x 30 mm.		\$2.50
2.1 mm DC power connector PCB-mount		\$1
300 ohm balanced to 75 ohm F coax VHF/UHF TV/FM balun		\$3
1 uF 50 V bi-polar electrolytic capacitor	40c each	10 for \$3
22 uF 16 V tantalum bead capacitor	70c each	10 for \$5

SECOND HAND ITEMS

The following surface-mount ICs are ex-equipment, and are supplied mounted on a double-sided G10 printed circuit board.

IAM-81008	VHF/UHF (to 5 GHz) active double-balanced mixer	\$1.50
PCF8591T	A>D and D>A converter	\$2
SA630D	Small-signal SPDT RF switch	\$1
UMA1014T	50 MHz to 1.1 GHz frequency synthesizer	\$5
33072, 34072	Dual op amps	20c
74HC4066D	Quad CMOS transmission gate	20c
VAM-6	Low noise amplifier - surface-mount version of MAR-6	\$2.50
MAR-8	Low noise amplifier	\$2.50
BC149B	NPN low noise AF	10c

NEW ITEMS

LM741	Op-Amp, 14-pin DIL package.	50c
74HCT273P	Octal D-type positive edge flip-flop with reset. 20 pin DIL.	50c
74LS377N	Octal D-type positive edge flip-flop with enable. 20-pin DIL.	50c
74HC541P	Octal buffer non-invert and line drive Tx/Rx	\$1
MC34072P	dual op-amp	\$1.50
74HC4520D	dual 4-bit binary counter (frequency calibrator Jan/Feb Break-In)	\$1

TV TRANSMITTER SAW FILTER

You should consider using one of the following filter modules, if you are building a 431.25 MHz Vision Carrier ATV transmitter. VSB filters are described in April 2002 Q-Bit.

Vestigial Sideband (VSB) Surface Acoustic Wave (SAW) filter for 67.25 MHz Vision I.F. and 72.75 MHz Sound I.F. 50 ohm input and output impedance. \$20

Vestigial Sideband filter module for 38.90 MHz Vision I.F.: SAW filter, PCB, and buffer amplifiers. ITU-R Standard Vision Carrier frequency. 50 ohm input and output impedance. This is a replacement for a coil-capacitor VSB filter – some trimming of gain and operating levels may be required, depending on the model of transmitter. SAW filter not sold separately. \$50

UHF VARACTOR (VARIABLE CAPACITANCE DIODE) BB149A 60c

Just when you thought it was safe to come out of hiding (I can't finish that project because I can't buy a decent performance varactor diode), we go and spoil your excuse. This surface mount version of the BB409 has the lowest parasitic inductance and resistance of any UHF varactor diode that we have ever come across, and hence the highest Q.

The BB149A is an ideal replacement for varactors such as BB109 and BB409. They are designed as tuning diodes for VHF and UHF oscillators, such as those in 431.25 MHz, 615.25 MHz, and 23cm ATV receive converters, and for VHF and UHF transmitters, such as 23cm FM ATV.

TUNING VOLTAGE	1 V	2 V	4 V	10 V	20 V
CAPACITANCE		18 pF	14 pF	10 pF	5 pF 2.5 pF

25g reel 0.4 mm (27 swg/26 awg) enamel copper wire \$1

MORE EX-EQUIPMENT ITEMS

Colpitts crystal oscillator on double-sided PCB, complete with 65.136 MHz, 67.568 MHz, 68.784 MHz or 69.392 MHz overtone crystal \$2.50

Siemens + Matsushita surface mount inductors. 1210 body size: 3.2 mm L, 2.5 mm W, 1.9 mm H
22, 220, 470, 560 nH. 1, 2.2, 470 uH 50c each, 10 for \$4

Surface mount ferrite chokes. Body size 9 mm L, 3 mm W, 3 mm H. 2 for 30c, 8 for \$1

Surface mount resistors, 0805 size, mixed bag - our choice of values - usually includes a selection consisting of zero ohm and 10 ohm to 100 k ohm. 25 for \$1

Surface mount tantalum capacitors 2.2 uF 6 V, 22 uF 6 V. 10 for \$1

WALKIE PRINTED CIRCUIT BOARDS (undrilled)

Walkie transmit board. Use 12 MHz or 36 MHz crystal to multiply to 144 MHz. \$10

Walkie receive board. Use 45 MHz crystal to mix 144 MHz down to 10.7 MHz. \$10

9027 kHz close tolerance professional crystal, in resistance weld HC51/U holder (same size as HC6/U). Available in matched sets for use in ladder bandpass filters (CW, SSB, AM). \$4

Matched set of six, for 6-pole filter \$20

Matched set of eight, for 8-pole filter \$25

AC mains filter capacitor block - Two class X2 100 nF phase to neutral; two class Y2 4n7 phase to ground and neutral to ground. Made by Evox Rifa. 50c

HSMS-2810 \$2.20

Surface mount Schottky diode, for high efficiency detector, mixer and harmonic multiplier use. 20 V peak inverse voltage. 1.2 pF max junction capacitance.

LOW NOISE TRANSISTOR BFS17A (SURFACE MOUNT) \$1.00

The BFS17A is suggested for low noise amplification at, up to, 925 MHz, and for oscillator/multipliers at, up to, 2.4 GHz. It has better performance than BF199, BF494, BSX20, BFX89, BFY90, etc.

LOW NOISE TRANSISTOR BFG520 (SURFACE MOUNT) \$1.90

Max collector-emitter volts	15 V	Max collector current	70 mA
Max dissipation	300 mW	Typical current gain	120
Typical transition frequency	9 GHz	Typical gain	13 dB (2 GHz)
Typical noise figure	1.1 dB (900 MHz), 1.9 dB (2 GHz)		

The BFG520 is suggested for low noise amplification at, up to, 2.5 GHz, and for oscillator/multiplier at, up to, 5.6 GHz. It has better performance than BFG67, MRF901, BFR91A.

SIEMENS B 62152 A 8 - X17 MINIATURE 2-HOLE FERRITE CORES \$1

For the DJ7VY pre-amplifier, featured in VHF Communications. Two cores required for the 19 dB gain version, or one core for the 9.5 dB gain version. Original article: 50c

What's special about the DJ7VY pre-amplifier? The secret is the ferrite core. By using the correct amount of RF negative feedback: the input SWR improves, without degrading the noise figure (~1.3 dB NF at 146 MHz, ~2.0 dB NF at 440 MHz); the dynamic range is 102 dB; the third order output intercept is +33 dBm. The gain is 19 dB, from 70 MHz to 570 MHz.

1SV128 PIN diode for voltage-controlled, constant impedance, low intermodulation, IF and RF attenuators. See October 2000 Q-Bit. Not suitable for transmit/receive RF switching. \$1 each

920 to 945 MHz isolator 10 watt \$23 4 GHz isolator \$23

12 V 0.5 A power transformer plus 7 V 0.1 A winding \$4

JMS-1 Double-balanced mixer 500 MHz. Surface mount. \$16.50

JMS-2 Double-balanced mixer 1000 MHz. Surface mount. \$23

TUF-5 Double-balanced mixer 1500 MHz \$28

SRA-149 Double-balanced mixer 500 MHz. High isolation. \$29

MRF660 10 W 440 MHz	\$14	2N3866 1 W 400 MHz	\$3
BF960 Low Noise UHF FET	\$1.50	BFW16A 1 W 400 MHz	\$3
836 MHz bandpass filter	\$2.90	962 MHz bandpass filter	\$2.50
SAA5020 Teletext clock	\$10	SAA5050 Teletext ROM	\$10
LC7385 DTMF RX IC & crystal	\$16	880-990 MHz VCO 404A	\$12
BAT85 hot carrier diode	60c	40347V1 40V 1A 8W NPN AF	50c
7815 15 volt regulator	\$1.50	2N4920 80V 1A 30W PNP AF	\$1

5 pF, 30 pF plastic Rx trimmers 60c 35 pF ceramic UHF Tx trimmers 90c

Jackson Brothers C801 air-variables 25 pF close-spaced or 30 pF wide-spaced \$3

Ceramic Caps and Philips polycarbonate. \$8 per 100. You can mix values to make hundreds

0.82 pF, 1, 1.2, 1.5, 1.8, 2.2, 3.3, 4.7, 10, 18, 22, 27, 33, 47, 68, 220 pF, 1.5 nF. Large disc 100 nF, 220 nF. Philips polycarbonate. 47 nF 250 V, 47n 400V, 300n 63V, 0.47 uF 250 V, 0.47 uF 400 V.

Mini electrolytics. Values can be mixed to make a 100. 100 uF 4 V, 220 uF 4 V, 100 uF 10 V, 4.7 uF 16 V, 2.2 uF 40 V, 47 uF 40 V, 47 uF 63 V. \$6 for 100

Larger electrolytics 1,500 uF 40 V		\$2 for 10
2.2 uF and 4.7 uF 35 V bead tantalum		10c
UNELCO METAL CASE MICA UHF TRANSMIT CAPS		
	27 pF, 33 pF	\$1
Six hole ferrite beads	20c	two hole balun ferrite core \$1
3 mH, 20 mH, 33 mH mini coils	50c	1 microhenry microchoke 50c
6-pin DIN plug or socket	\$2	BNC cord socket for URM43
	\$2.50	
C-type Tee connector F+M+F	\$4	C male plug for URM43 \$4
38.9 MHz TV receiver SAW filter	\$4	21.4125 MHz 18 kHz 4 pole filter \$15
BNC square flange socket	\$2.50 each, 10 for \$20, 50 for \$80, 100 for \$140	
4.433 MHz, 5.5 MHz, 6.0 MHz, 6.5 MHz Murata bandpass ceramic filter \$3		
Parallel resonant crystals 4.000 MHz, 8.000 MHz, 19.008 MHz \$3		
Series resonant crystals 17.7344 MHz (4x PAL), 65.000 MHz, 65.136 MHz, 67.568 MHz, 68.784 MHz, 69.392 MHz \$4		
ELCO (Japan) Switch mode regulated power supply. AC input 85 to 264 Volts. DC Output 5 V at 2 A, +12 V at 0.3 A, -12 V at 0.2 A. Compact size. \$30		
8-button keyboard for DTMF and similar uses. 2 x 4 matrix. \$4		
12-button keyboard for DTMF and similar uses. 3 x 4 matrix. \$5		
16-button keyboard kit for DTMF and similar uses. 4 x 4 matrix. \$6		
Dual 7 segment red LED display 10 mm high common anode \$3		
78M09 9 Volt 3 terminal regulator Surface Mount \$1.20		
TL072 Dual JFET input low noise OP-amp 8 pin case \$2.00		
LM358 Dual low power drain OP-amp 8 pin case 80c		
NE5532 Dual bipolar input low noise OP-amp 8 pin case \$2.50		
NE5534 Single bipolar input low noise OP-amp (better than NE5532) 8 pin case \$2		
2SC3358 bipolar 7 GHz fT used in our low-noise pre-amps \$3		
COMPACT HIGH EFFICIENCY SWITCHING MODE DC POWER SUPPLY		
230V AC in. +5 V 3 A, +12 V 0.3 A, -12 V 0.3 A out		\$50
12 volt 120 mA DC brushless (electronic drive) fan \$20		
ELECTRET MICROPHONE INSERTS \$3		
Loud speakers 100 x 150 (4" x 6") elliptical 4 Ohm 5 Watt usually \$16.00, now \$10		
Round replacement speakers for Japanese transceivers \$5		
Frame diameters available 8 ohm: 57 mm, 66 mm, 70 mm. 16 ohm: 77 mm. 32 ohm: 57 mm		
HIGH PERFORMANCE SHF single gate GaAsFET, MESFET and HEMT		
FHX05LG	Typical 11 dB gain, 0.8 dB NF at 10 GHz.	\$30
FHX35LG	Typical 14 dB gain, 0.6 dB NF at 3.4 GHz.	\$18
NE76084	Typical 10 dB gain, 0.6 dB NF at 3.4 GHz.	\$15
ATF-10135	AVANTEK GaAsFET - as used in QST preamps	\$28
uPB585G	Divide by 4, Input <500 MHz to >2.5 GHz.	\$13

RF HYBRID AMPLIFIERS

M57714	440 MHz 5 W FM amplifier module	\$81
M57745	440 MHz 33 W linear amplifier module	\$231
S-AU11	910 MHz 10 W FM amplifier module	\$81
M57761	925 MHz 8 W FM amplifier module	\$81
M57768	910 MHz 13 W FM amplifier module	\$81
PF0031	920 MHz 6 W linear amplifier module	\$90
M67715	1300 MHz 2 W linear amplifier module	\$161
M57762	1300 MHz 10 W linear amplifier module	\$179
MITSUBISHI PIN DIODE TRANSMIT-RECEIVE ANTENNA SWITCH MODULES		
MD001H 25W 400-512 MHz	\$38.25	MD003 5W 800-940 MHz \$25
MD003H 25W 800-940 MHz	\$35.65	

7.488 MHz. Hermetic crystal oscillator. Divide to 3.744 MHz for low cost 80 m transmitter; divide down to data clocks of 38.4 kHz, 19.2 kHz, 9600 Hz, 4800 Hz, 2400 Hz. \$5

10.752 MHz. Voltage Controlled Crystal Oscillator (VCXO). Hermetic case. New. \$10

10 MHz. 5 ppm Temperature Compensated Crystal Oscillator (TCXO). Rakon. Non-hermetic case. Fine frequency trimmer. Requires 5 V at 1 mA; gives 1.6 V p-p AC-coupled output. Ideal for direct drive of 74HCxxx (not 74HCTxxx) ICs. Removed from equipment and tested. \$10

HT/RF feed through ceramic insulator - for passing high voltages through metal or insulated sheet up to about 7 mm thickness. Complete with threaded rod, washers and nuts. \$1

Air-variable capacitor - receive or low power transmit - various 30 pF, 60 pF maximum. Limited numbers of each type, please give substitute required. \$1

Air-variable capacitor - butterfly type push-pull VHF transmitting type. \$5

Compression mica broadcast padder. \$1

50 ohm N female connectors for IEC50-3-3 cable. \$5

2-cell AA-size battery holder. 20c

ECONOMY SWITCH-MODE POWER SUPPLY \$10

Outputs: 5 Volt at 1.2 Amp, 12 Volt at 0.6 Amp, 20 Volt at 0.2 Amp, 32 Volt at 26 mA.

Input: 230 Volt AC nominal Made by Speedy-Tech Singapore

VHF/UHF SWR bridge PCB, with standard modifications. \$15

With custom modifications for ATV, as described in January 2000 Q-Bit. \$20

Ferrite rod. VHF grade ferrite rod. 8 mm diameter x 25 mm long. 50c

RF POWER TRANSISTORS - carefully removed from equipment, and tested:

2N3733 VHF/UHF TO-60 case. 1 W input gives 12 W output at 146 MHz, and 6 W output at 440 MHz; 2 W input gives 8 W output at 440 MHz

Above performance at 28 Volts DC - reduced output at 13.6 V. \$5

2N5643 40 W RF out, 100 to 200 MHz, 28 V DC, 2 W drive at 100 MHz, 3 W drive at 144 MHz.

Reduced output at 13.8 V DC. \$10

PT9782A 100 W RF out, 30 to 200 MHz, Controlled Q, 28 V DC, 4 W drive at 50 MHz, 8 W drive

