Kitchen A77/-5-1

Western DX Forum ★★★★

IRCA—Serving the Broadcast Band DX'er Since 1984

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1986 DEADLINES — WEEKLY ON TUESDAY, 12 DAYS PRIOR TO PUBLICATION DATE

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IRCA ANNIVERSARY ISSUE DEADLINE - 11 MARCH 1986

GARY LARSON, 2806 LINCOLN, BURBANK, CA 91504

Hello. Well another three-letter call is gone. KHJ 930 is now KRTH "AM 930" with oldies. The story in DXM #743 on three-letter calls was very interesting.

Saw in WDXF where Tim Hall heard the 530 kHz station at the Hollywood-Burbank Airport. The call is WNCN 749 and I called the airport to ask about the station. Was told to call back the following day and ask for Mark Murphy. Their address is Burbank Airport, 2627 Hollywood Way, Burbank, California 91505. Phone: (818) 840-8840.

RW, I wonder if the KVVQ management even knows KKAR has a phone listing. If you find out anything about where the 910 transmitter will be or how many towers, let me know. Also interested in their planned format. Am sure they'll use the FM location on Hesperia Road (I think) for the new AM. The building looked new and modern.

Currently raining here 13 February.

About the bit of KOTE being automated - I meant live assist and the morning team is that, using taped music on reels and having different features at the breaks. Maybe it was my writing but KAVC FM has one tower, not two. (You're right, Gary. You'd think I'd be used to your handwriting after ten years, hi-RtH.) There's lots of land out there to put up a transmitter on 890.

Wrote to the CE at KKAR Hesperia, but not answered yet. Maybe they don't get mail delivery at the site.

Hope you all contribute to the Anniversary issue. 73.

RIC HEALD, 8539 BELLAMY WAY, SACRAMENTO, CA 95828 Tele-Forum (916) 386-8677 to 2200 PLT & ppd

Greetings from soggy Sacramento. Only 6 inches of rain in the last three days here, that's a sprinkle compared to over 25 inches from some of the foothill and mountain communities, with mountain stations getting all that rain atop the snowpack. And for once, the media hasn't been playing up a story. What you've all seen on network TV regarding the NorCal floods is altogether too true. The worst since 1955, the granddaddy of them all, but this time many more reservoirs and dams.

With that in mind, after meeting KRAK's FM drive jock at a live remote over the weekend, decided to make one more try to spot their towers. He said they were at Wilton, about four miles from where I'd been previously looking. Translation: Four miles closer to me! So out into the storm I went on President's Day, got to Wilton alright, and from the garble adjacent to 1140 I was within a half mile, but after wasting gas making numerous detours (around flooded roads), headed for home and called in my findings (road conditions, that is) to the KRAK news department.

By the way, are you looking for a great investment in media in the sixth fastest growing metro area in the nation? Well friends and neighbors, KOVR-TV is up for sale. An absolute steal at just $120 mil. Needs some minor repair work though, such as a new transmitter, new tower, new or remodled studios, but aside from those minor details, in fine shape, hi. They been laying off some of their veteren people.

Have done some dial twisting, concentrating on SSS the last week or so and was pleasantly surprised with KASA 1540 Phoenix with their 1815 MST s/off. Moments earlier heard KUAT 1550 do likewise. Both, strangely enough, nearly alone on their respective channels. Caught a KKMX 1000 the other morning, followed by KKIM blasting in from their FSA to 10 kw. Details in next week's WDXR. Also, KMYC 1410 still KMYC, but // with their FM, KRFD, which are the calls they're requesting on the AM side.

Trivia time. What was KDWN's calls before KDWN? If you said KQRX, you're right. They had the CP and were in final stages of testing before RS when one of their towers was blown over and they didn't have the financial resources to continue.

Am getting quite a collection of veries for te Anniversary issue. As the headline indicates, time is getting rapidly nearer to the deadline. Hope to hear from all of you.

Best of DX and 73 de RtH.

Additional Tuners in the MWT-1 Family

Mark Connelly —=— WA1ION DX Labs —=— 07 JAN 1986

Introduction

This is a follow-up to the MWT-1 tuner article dated 18 DEC 1985. The purpose of this article is to introduce smaller tunable RF amplifiers / active preselectors designated Mini-MWT-1A and Mini-MWT-1B. Also, two corrections to the original MWT-1 article are given.

The Mini-MWT-1A and Mini-MWT-1B tuners are designed to improve the performance of low to medium priced receivers. The two aspects of receiver performance to be addressed directly are (1) overloading / spurs in urban areas when an untuned wire antenna is used, and (2) insufficient sensitivity in weak-signal areas when a short (e. g. considerably less than 30 m./ 100') wire aerial is used. The tuners to be discussed are optimised for receivers having low to medium (e. g. 25 to 500 ohms) input impedances; nonetheless, they will also perform with car radios. Unlike the MWT-1, regeneration and passive tuning aren't offered on these miniature tuners: the main benefits of the Mini-MWT-1A & 1B are (a) small size (chassis box size approx. 5.2" x 2.92" x 2.125 ") (b) relatively low cost, and (c) simple operation. A new feature is being introduced on these tuners: vernier drive adjustment of the main 10 - 365 pF tuning capacitor (C1). Use of the vernier drive eliminates the need for a "vernier capacitor" (usually a 2 - 25 pF variable) in parallel with C1. Those familiar with the Worcester Space Magnet ferrite loop antenna know that a vernier reduction-drive knob can be quite valuable for making fine tuning adjustments. Eliminating the vernier capacitor also increases the ratio of maximum tank capacitance to minimum tank capacitance: tuning ranges are widened as a result.

Either tuner may be placed between an antenna lead and the receiver's input. Either may be used in a bypass mode, a short-antenna active mode, and a normal / long-antenna active mode. Functions are selected by switch S2. The reader should become familiar with the units' circuitry, controls, and its input / output connectors as identified in the schematic drawings (Figure 1 = Mini-MWT-1A; Figure 2 = Mini-MWT-1B).

Differences between the Mini-MWT-1A and Mini-MWT-1B

The two tuners are substantially similar; however, there are variations between them that make the -1A version better for some jobs and the -1B better for others. It is up to each prospective user to decide which model's features better serve his or her needs.

Like the MWT-1, the Mini-MWT-1A provides frequency coverages of 140 - 300 kHz and 450 - 2000 kHz. The Mini-MWT-1B gives complete 140 - 9000 kHz coverage and the ability to use an external inductor (a loophead for signal interception without a wire antenna or a moulded inductor to allow coverage of additional frequency ranges when a longwire is available).

Like the MWT-1, the Mini-MWT-1A can pot-attenuate the signals from the antenna when in the Off/Bypass mode (a useful feature for city-dwellers who want to "bandscan" without getting spurs). The Mini-MWT-1B cannot do this: it only allows attenuation in active modes.

The Mini-MWT-1A offers better matching to low-Z inputs such as a random loophead or the output of a phasing unit. Its attenuator pot can be used to improve tank Q (selectivity of the tuner) with some input loads in the normal / long-antenna active mode; the Mini-MWT-1B's attenuator pot has little effect on tank Q. The normal / long-antenna active mode on the Mini-MWT-1B provides coupling sufficiently loose to ensure a fairly selective peak with most inputs, although at reduced coupling efficiency compared to Mini-MWT-1A.

A77-S-2

Because of its inductive-divider input in the normal / long-antenna active mode, the Mini-MWT-1A provides better rejection of spurs from VHF sources (TV & FM transmitters) than the Mini-MWT-1B can do with its capacitively-coupled input scheme. This may very well be an important consideration for big-city DXers.

Note: for M1 (RFE-A) Front-End Card subassembly schematic, see Fig. 2 of the 18 DEC 1985 MWT-1 Tuner article; for M1 component-layout "roadmap", see Fig. 3 of the MWT-1 Tuner article.

Figure 1: Mini-MWT-1A schematic

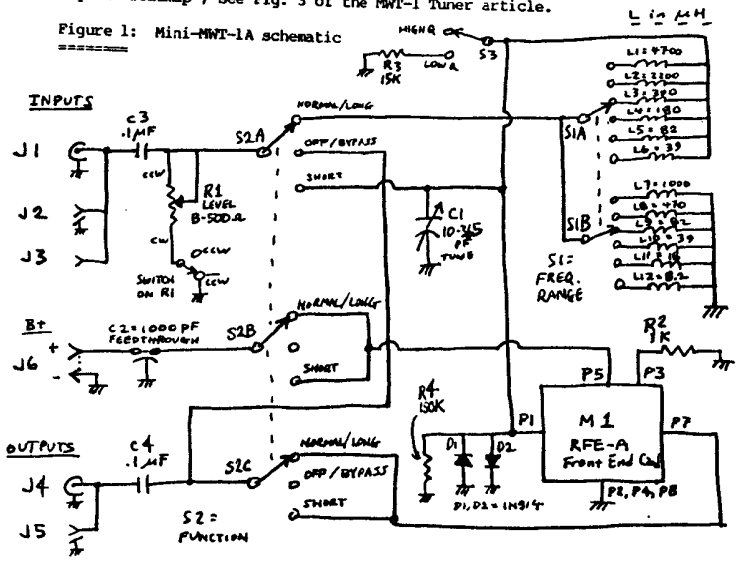


Figure 2: Mini-MWT-1B schematic

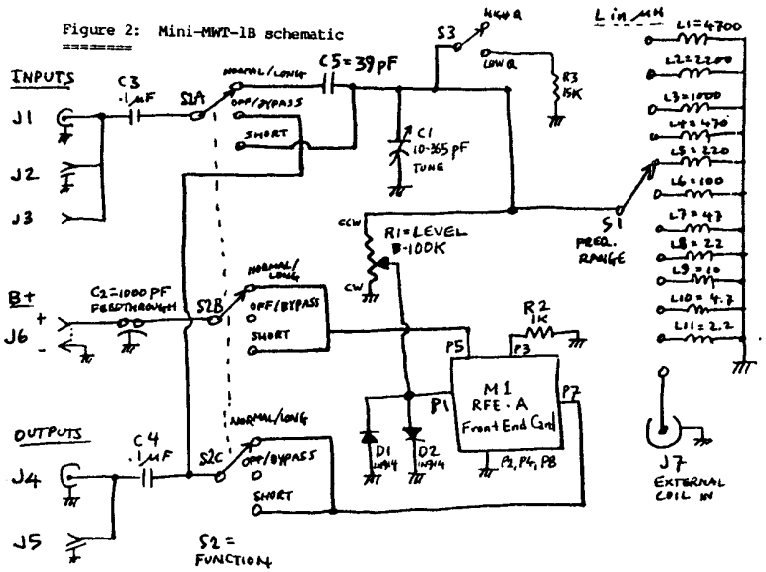


Table 1: Hole List for Mini-MWT-1A and Mini-MWT-1B Tuners

BOX USED = Radio Shack 270-238 (5.2" x 2.92" x 2.125")

X = horizontal distance, in inches, from the vertical centreline (VCL) on the side observed. Negative values of X are left of VCL; positive values of X are right of VCL.

Y = vertical distance, in inches, from the bottom horizontal edge of the side observed.

D = hole diameter in inches.

LEFT SIDE

Hole #	Comp. Desig.	Description	X	Y	D
1	J2	car ant. in - H/W 1	-1.0	1.038	0.14
2	J2	car ant. in - body	-1.0	0.644	0.5
3	J2	car ant. in - H/W 2	-1.0	0.25	0.14
4	J1	RF source in - BNC jack	0.0	0.5	0.375
5	G1	GND H/W - int.& ext. lugs	0.0	1.125	0.113
6	J3	Wire Ant.In - banana jack	1.0	0.5	0.3125

TOP SIDE

Hole #	Comp. Desig.	Description	X	Y	D
1	S2	Function switch - tab	-1.625	2.5	0.14
2	S2	Function switch -shaft	-1.625	2.0	0.375
3	S1	Freq. Range switch - tab	-1.625	1.25	0.14
4	S1	Freq. Range switch - shaft	-1.625	0.75	0.375
5	C1	Main Tuning Cap. - H/W 1	-0.463	2.25	0.14
6	C1	Main Tuning Cap. - shaft	0.0	2.0	0.5
7	C1	Main Tuning Cap. - H/W 2	0.463	2.25	0.14
8	-	C1's vernier knob - H/W 1	-0.65625	1.375	0.113
9	-	C1's vernier knob - H/W 2	0.65625	1.375	0.113
* 10	J7	External Coil In-BNC jack	0.0	0.5	0.375
11	R1	Level Pot - tab	0.9375	2.375	0.14
12	R1	Level Pot - shaft	1.25	2.375	0.3125
13	S3	Q switch - tab	2.125	2.625	0.113
14	S3	Q switch - shaft	2.125	2.375	0.25
15	M1	RFE-A Front End Card-H/W 2	1.125	1.5	0.113
16	M1	RFE-A Front End Card-H/W 1	2.125	1.5	0.113
17	M1	RFE-A Front End Card-H/W 4	1.125	0.5	0.113
18	M1	RFE-A Front End Card-H/W 3	2.125	0.5	0.113

* = Mini-MWT-1B only

RIGHT SIDE

Hole #	Comp. Desig.	Description	X	Y	D
1	J5	RF out to car RX - H/W 1	-1.0	1.038	0.14
2	J5	RF out to car RX - body	-1.0	0.644	0.5
3	J5	RF out to car RX - H/W 2	-1.0	0.25	0.14
4	J6	battery holder - H/W 1	-0.125	1.875	0.113
5	J6	battery holder - H/W 2	-0.125	1.0	0.113
6	J4	RF out - BNC jack	0.0	0.5	0.375
7	G2	GND H/W - int.& ext. lugs	0.5625	0.5	0.113
8	C2	B+ input feedthrough cap.	1.0625	0.5	0.188

Parts Lists for Mini-MWT-1A & Mini-MWT-1B Tuners

A77-5-3

$ = part used only on Mini-MWT-1A * = part used only on Mini-MWT-1B

Table 2 = "upper level" of electrical & major mechanical components
Table 3 = small hardware

Vendor Abbreviations

DK = Digi-Key - P. O. Box 677 - Thief River Falls, MN 56701
MOU = Mouser Electronics- 11433 Woodside Ave.- Santee, CA 92071
NEW = Newark Electronics- (many locations)
RS = Radio Shack - (many locations)

Table 2: "upper level" of electrical & major mechanical components

	Component Designation	Description	Vendor	Stock #
	BOX			
	-	chassis box (5.2" x 2.92" x 2.125")	RS	270-238
	SUBASSEMBLY			
	M1	RFE-A front-end card [see Table 5 of the 18 DEC 1985 MWT-1 Tuner article]		
	CONTROLS			
	C1	10-365 pF variable capacitor	MOU	524-A1-227
$	R1	500 ohm linear pot w/ switch	MOU	31CT205
*	R1	100K linear pot w/ switch	MOU	31CT501
$	S1	2-pole 6-position rotary switch	MOU	10WW026
*	S1	1-pole 12-position rotary switch	MOU	10WW112
	S2	4-pole 3-position rotary switch	MOU	10WW043
	S3	SPDT on/on toggle switch	RS	275-326
	JACKS / CONNECTORS			
	J1	BNC jack UG-1094	RS	278-105
	J2	Motorola jack	MOU	16PJ107
	J3	banana jack	RS	274-662
	J4	BNC jack UG-1094	RS	278-105
	J5	Motorola jack	MOU	16PJ107
	J6	battery holder (Keystone 1290)	MOU	534-1290
*	J7	BNC jack UG-1094	RS	278-105
	ELECTRICAL COMPONENTS			
	B1	9 volt battery	RS	23-553
	C2	1000 pF B+ feedthrough cap.	NEW	19F2861
	C3	.1 uF monolithic cap.	DK	P4525
	C4	.1 uF monolithic cap.	DK	P4525
*	C5	39 pF disc cap.	MOU	21CB039
	D1	1N914 diode	RS	276-1620
	D2	1N914 diode	RS	276-1620
	L1	4700 uH inductor	MOU	43LH247
	L2	2200 uH "	MOU	ME434-1120-223K
$	L3	390 uH "	MOU	43LR394
$	L4	180 uH "	MOU	43LR184
$	L5	82 uH "	MOU	43LS825
$	L6	39 uH "	MOU	43LS395
$	L7	1000 uH "	MOU	43LS103
$	L8	470 uH "	MOU	43LS474
$	L9	82 uH "	MOU	43LS825
$	L10	39 uH "	MOU	43LS395
$	L11	18 uH "	MOU	43LS185
$	L12	8.2 uH "	MOU	43LQ826
*	L3	1000 uH "	MOU	43LS103
*	L4	470 uH "	MOU	43LS474
*	L5	220 uH "	MOU	43LS224
*	L6	100 uH "	MOU	43LS104
*	L7	47 uH "	MOU	43LS475
*	L8	22 uH "	MOU	43LS225
*	L9	10 uH "	MOU	43LS105
*	L10	4.7 uH "	MOU	43LS476
*	L11	2.2 uH "	MOU	43LS226
	R2	1K resistor	RS	271-1321
	R3	15K "	RS	271-1337
$	R4	150K "	RS	271-047
	KNOBS			
	-	vernier knob for C1	MOU	45KN100
	-	knob for R1	RS	274-415 (pk 2)
	-	knob for S1	MOU	45KN013
	-	knob for S2	MOU	45KN013

Table 3: small hardware

Note: Mounting hardware is supplied with the following components: C2, J1, J3, J4, R1, S1, S2, S3, chassis box, and (on Mini-MWT-1B) J7. Hardware is required by the following component designators: C1, vernier knob for C1, G1, G2, J2, J5, J6, and M1. All required hardware is listed below:

Description	Vendor	Stock #	Qty.
screw, 4-40 x .25	DK	H142	8
screw, 4-40 x .375	MOU	572-01881	4
screw, 6-32 x .25	DK	H154	2
screw, 6-32 x .375	DK	H156	4
split lockwasher, #4	MOU	572-00649	8
split lockwasher, #6	MOU	572-00650	8
solder lug, #4	MOU	565-1416-4	4
hex nut, 4-40	DK	H216	4
hex nut, 6-32	DK	H220	4
metal spacer, 4-40 x .5	MOU	565-2332	2

Construction outline

Refer to appropriate schematic (Figure 1 or 2), hole list (Table 1), and parts lists in all of the following steps:

1. Gather parts & tools. Mark hole locations on chassis with scriber. Drill holes.

2. Assemble initial hardware for vernier knob: at top-side hole 8 and hole 9 install (at each hole) a 4-40 x .5 spacer outside the chassis box mated to a 4-40 x .25 screw inside the box. Tighten hardware just installed.

3. Tap the two mounting holes on C1 with a 6-32 tapper (these are the holes which line up with top-side chassis box holes 5 & 7). If the length of C1's shaft exceeds 0.5", shorten C1 shaft to 7/16" minimum, 1/2" maximum (use a power grinder or a hacksaw and a vise).

4. Mount C1: use a 6-32 x .25 screw and two # 6 split lockwashers at each of the two holes. The lockwashers should reside between the interior chassis box surface and the capacitor's mounting surface. Set C1 shaft to align plates to their half-meshed / half-open position.

5. Get vernier knob. Loosen setscrew; position knob over C1 shaft and knob's mounting holes over the two spacers installed in step 2. Mount vernier knob to spacers: use a 4-40 x .375 screw and a #4 split lockwasher (between screw head & knob) at each of the two mounting locations.

6. Set vernier dial to 50; make sure that C1 is still half-meshed. Tighten knob's setscrew against C1 shaft.

7. Mount J6 battery holder. +/- terminal end of holder should be positioned near the right edge of the right side of the chassis box. Hardware used at each of the two holes: 4-40 x .25 screw, #4 split lockwasher, 4-40 hexnut. (Nut & washer are to be situated inside the chassis box.)

8. Assemble M1 (RFE-A) Front End Card, per MWT-1 article (18 DEC 1985).

9. Mount M1 subassembly to inside of chassis box per hole list. Four 4-40 x .25 screws and four # 4 split lockwashers are required.

10. Mount S1 with hardware supplied.

11. Mount inductors onto S1 according to schematic and Table 4:

Table 4: S1 Frequency Range Switch Position Guide A77-5-4

Pointer designations are clock hour-hand positions. Frequency ranges are approximate: with most antenna lengths, each range is wider than that listed and there is often considerable range-overlap.

Mini-MWT-1A			Mini-MWT-1B		
Pointer	Coil	kHz	Pointer	Coil	kHz
9:30	(L1/L7)	140 - 180	7:00	(L1)	140 - 180
10:30	(L2/L8)	180 - 300	8:00	(L2)	180 - 300
11:30	(L3/L9)	450 - 620	9:00	(L3)	300 - 420
12:30	(L4/L10)	620 - 900	10:00	(L4)	420 - 610
1:30	(L5/L11)	900 - 1300	11:00	(L5)	610 - 880
2:30	(L6/L12)	1300 - 2000	12:00	(L6)	880 - 1290
			1:00	(L7)	1290 - 1940
			2:00	(L8)	1940 - 2930
			3:00	(L9)	2930 - 4200
			4:00	(L10)	4200 - 6050
			5:00	(L11)	6050 - 9000
			6:00	(J7) EXT. COIL's RANGE	

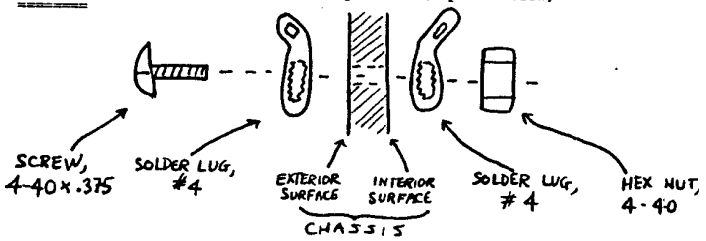
12. Mount S2 with hardware supplied.

13. Mount S3 with hardware supplied.

14. Mount J2 Motorola jack. Hardware used at each of the two mounting holes: 6-32 x .375 screw, # 6 split lockwasher, 6-32 hexnut. (Washer and nut are to be located inside the chassis box.)

15. Mount G1 and G2 Grounding Hardware assemblies - these each look like Figure 3.

Figure 3: Grounding Hardware assembly detail (exploded view)



16. Mount J1 & J4 BNC jacks and J3 banana jack with hardware supplied.

17. Mount C2 feedthrough capacitor with hardware supplied.

18. Mount J5 Motorola jack in the same manner as done with J2 in step 14.

19. (Mini-MWT-1B only) Mount J7 BNC jack with hardware supplied.

20. Align / install knobs on controls per parts lists & Table 5.

Table 5: Control Orientation Conventions

Ensure that components are mounted and wired in accordance with this table; align knob pointers to clock positions indicated.

Control	Orientation Conventions
C1	plates half meshed = 50 on vernier knob scale
R1	CCW=maximum level (no attenuation)=7:00 CW=minimum level (maximum attenuation)=5:00
S1	set in accordance with Table 4.
S2	short-antenna active = 11:00; off/bypass = centre = 12:00; normal / long-antenna active = 1:00
S3	High Q = up; Low Q = down

21. Wire up unit. Note: Not all necessary connections are listed.

In general, connections should be made with the shortest practical length (allowing for servicing, easy assembly / disassembly) as possible. Insulated hook-up wire is usable for most connections. The schematic (Figure 1 or Figure 2, as applicable) should serve as the guide to wiring.

Twisted pairs or coaxial cables (each of approximately 6" length) must be used as follows:

cable 1

"hot" lead to go from: C4 to: S2C arm
GND lead to go from: G2 internal lug to: G1 internal lug

cable 2

"hot" lead to go from: P7 of M1 to: S2C "short" pin
GND lead to go from: P8 of M1 to: G1 internal lug

22. Inspect & clean up unit; affix labels; test it.

Operating the Mini-MWT-1A & Mini-MWT-1B Tuners

Before operating the tuner, connections must be made. The antenna or other signal source may be connected to J1, J2, or J3. Earth ground may be connected, via clip lead, to the external G1 ground lug. This is advised if local manmade RF noise levels are high and/or if the receiver is not grounded. A 9-volt battery should be connected to J6. The RF-output coaxial cable (to the receiver input) may be connected to J4 or J5.

Off / Bypass Mode (direct feed of antenna to receiver)

The following controls are not used in this mode: C1, S1, S3. Their positions are irrelevant. On the Mini-MWT-1B, R1 is not used in this mode.

Set S2 to centre (off / bypass function). If using a Mini-MWT-1B, the Off / Bypass mode set-up is now completed.

Mini-MWT-1A Operation beyond the above steps

Set R1 initially to fully CCW (the switch on R1 takes this attenuation pot out of the line).

With receiver on desired frequency, check that the wanted signal is of sufficient strength and has no spurious mixing signals or images from strong local stations. If spurs / images are present, adjust R1 until they go away. If the wanted station is now too weak, active tuning should be used.

Active Tuning Modes

Set S1 to desired frequency range in accordance with Table 4.

Set S2 to "short antenna - active" (11:00) if wire antenna length is less than 3 m./ 10'; otherwise, set S2 to "normal / long antenna - active" (1:00).

Set S3 to High Q unless the tuner is being used as an input tuner in a modular phasing system.

Adjust C1 for maximum desired-frequency signal.

If overloading-caused spurious responses QRM the desired signal when C1 is properly peaked and S2 is on the short-wire position, set S3 to "normal / long antenna - active" and re-peak C1. If, after having done that, spurs still exist: adjust R1 to make the spurs go away. Slight re-peaking of C1 may then be necessary.

An Option for Mini-MWT-1B: Extended Frequency Coverage A77-5-5

Frequency coverage of the Mini-MWT-1B may be extended considerably upwards or downwards, if desired, by using different tank coils:

If extended shortwave coverage is desired, try these values (L in uH):
L1 = 1500 L2 = 560 L3 = 220 L4 = 82 L5 = 33 L6 = 12
L7 = 4.7 L8 = 1.8 L9 = 0.68 L10 = 0.27 L11 = 0.1
This should give coverage of approximately 250 - 30000 kHz.

If extended longwave coverage is desired, try these values (L in uH):
L1 = 560000 L2 = 220000 L3 = 82000 L4 = 33000 L5 = 12000 L6 = 4700
L7 = 1800 L8 = 680 L9 = 270 L10 = 100 L11 = 39
This should give coverage of approximately 12 - 2000 kHz.
The inductors used for extended longwave coverage are physically larger than the standard values; a larger chassis box might be required.
It is recommended, as part of the extended-LW-coverage option, that C5 should be increased to 56 pF or 62 pF to permit improved coupling.

APPENDIX -=- TWO CORRECTIONS TO THE MWT-1 ARTICLE (ISSUED 18 DEC 1985)

1. Schematic showed both the vernier-tune capacitor and the B+ input feedthrough capacitor as C3. The vernier-tune capacitor is really C2; the feedthrough capacitor is C3.

2. Under "Operation" subheader of "Mode (3) simple active tuning" header: Statement "At that point, use R3 to eliminate ...." should read "At that point, use R1 to eliminate ....".

/* end */

Sale of KSCO could end big-band era in Santa Cruz

San Jose Mercury News
January 17, 1986
via Robert Wien

By Lee Quarnstrom
Mercury News Staff Writer

Come, let's step back in time a bit, maybe a couple of decades, or three or four, back to the days when Santa Cruz was somehow quieter, when there were no hippies or bums, no out-of-town students running things from the voting booths.

Let's go back to a time when Santa Cruz, California, was, perhaps, a more decent town, when couples cut a rug to the tunes of big bands down at the Cocoanut Grove, when Pacific Avenue was a two-way street lined with haberdashers and druggists and creameries where you could order a Black Cow or a Dusty Road.

Let's go over to Corcoran Lagoon at the edge of Monterey Bay, where a sea green art deco building stands as more than a monument to those wonderful days: it is, really, a time machine with its dial tuned to 1080 and its destination set for 1947.

1947: That was the year Vernon Berlin and his two partners — the McPherson brothers: Mahlon, a physician, and Fred Jr., publisher of the Santa Cruz Sentinel — started broadcasting on AM 1080, radio station KSCO.

Radio Santa Cruz, as the corporation that evolved from that partnership is known, started by broadcasting what Berlin proudly calls "independent local news," contemporary big band music and sounds of the sort that have come to be known as mood music.

It was a good formula in 1947, and it's a good one today. These days, KSCO plays easy-listening tunes and a smattering of swing, cocktail music and old standbys.

Santa Cruz has changed so much in 39 years that KSCO — with its target audience of "25 and up," mostly "and up," seems oddly out of step with a city with a socialist mayor, a major university campus and a reputation for oddball local residents.

Oh, there have been changes at KSCO, lots of them. Berlin has added KSCO-FM, for instance, which has just started beaming its signal into the Santa Clara Valley from the top of Loma Prieta on a frequency of 99.1. And Berlin gradually has updated his electronic equipment, although he still has much of the original KSCO vacuum tube machines stored in the bomb shelter in the basement, backup equipment the station might use to broadcast news in the event of a nuclear attack.

(There is also a tiny bunk room with four cots and a supply of K rations, enough to nourish a skeleton crew of broadcasters beaming out emergency bulletins over the local airwaves.)

If the bombproof studio ever has to be used, it isn't likely that Berlin will be down there. After almost 39 years at the helm, Berlin and his partners are putting the station up for sale.

"All three of us want to get it sold before one of us dies," Berlin said. He said the partners and his wife and co-worker Julia to have a comfortable retirement.

He said he will make sure that whoever buys KSCO will continue the commitment to "independent local news." But he said the KSCO format might change. While he doesn't think anyone can make a buck broadcasting either hard rock music or talk shows in Santa Cruz, he said he wouldn't be surprised if new owners want to switch away from songs by the Ray Conniff singers and toward "cowboy music" or something more in tune with the times.

Berlin, who got into the radio game because he operated a radio repair shop and was able to provide the McPhersons with some technical know-how, was born just up the road from Santa Cruz, in Aptos. He is a conservative man, a local political analyst who has not shied away from expressing his views to his generally more liberal colleagues in the county pressroom on election nights.

When a listener phoned the other day to complain about KSCO playing the notorious Ozzy Osbourne song, "Suicide Solution," it was almost laughable. Berlin not only doesn't play songs with "filthy, disgusting lyrics," he doesn't play hard rock at all. He [illegible] caller that he must

In the late '40s and early '50s, Berlin never thought about things like dirty lyrics. Back then there was live music aplenty in Santa Cruz, and KSCO broadcast a lot of it.

"On Saturday nights we'd broadcast five live big bands," he said. "First, we'd go out to the Rio del Mar Hotel and broadcast the band out there. Then we'd hurry over to the Casa del Rey, then to the Cocoanut Grove, then up to the Brookdale Lodge and finally to the Colonial Inn."

Those venues of the big band sound are mostly memories. While the Brookdale Lodge still stands, its glory days came to a halt when mud cascaded into the dining room during a storm a few years back. The Rio del Mar Hotel burned, the Casa del Rey is a retirement hotel, the Colonial Inn has gone through a reincarnation as a Mexican restaurant and has just reopened as a stylish bistro, and the Cocoanut Grove still plays host, but only rarely, to remnants of the big bands.

Berlin recalls only one instance in which a performer refused to be aired over KSCO. That was Nat "King" Cole, who reported that he didn't feel the small-town station's broadcasting equipment would do justice to his singing. Well, it didn't do justice to his singing for many years. Berlin told Cole's manager that he was going to get rid of all his Nat Cole records and not play the singer again for 20 years. Berlin admitted that he put Cole back on his play list after the singer's death.

The highlight of Berlin's career came during the December 1955 flood that wiped out much of downtown Santa Cruz. Berlin broadcast from the police department, putting out requests for boats or gasoline for generators or fuel for lanterns. While much of downtown was washed by water spilling over the banks of the San Lorenzo River, KSCO stayed on the air.

"That," he recalled, "is when the community finally recognized that we were worth something."

During the disastrous storms that brought flooding and fatal mud slides to the county four years ago, KSCO newsman Dick Little, 48, a 19-year-veteran with the station, kept local radios tuned to 1080 AM for disaster updates.

Whoever buys KSCO from Berlin and his partners will get more than the 8,000 records in the library, the state-of-the-art and the antique broadcasting equipment and the sea green studio. The buyer will get a total of 20 acres, much of it under water. Corcoran Lagoon, the coastal estuary adjacent to the station, belongs to Radio Santa Cruz and, in fact, serves an important function for the station.

Berlin explained that the salt water helps beef up the KSCO-AM signal by serving as part of the ground for the system. He said each of the three 320-foot-tall broadcast towers on the property has 120 copper "radials" — wires — extending from its base. The salt water that covers many of those copper wires allows the 10,000 watt station to have more power than many 50,000 watt stations, Berlin said.

KSCO has regular listeners not only throughout the Monterey Bay area, but throughout much of the San Francisco Bay Area as well, he said. And folks over in the San Joaquin Valley often listen to KSCO weather reports before deciding whether to visit their summer homes along the coast. In fact, Berlin said he has received letters from people who have picked up the signal as far away as Guam and Australia.

As for a possible buyer for KSCO, Berlin said he has "lots of lookers," mostly East Coast people "who look outside, and it's snowing, and they say to themselves, 'I think I want to buy a radio station in California.'

"But I won't sell to anybody who won't maintain service to the community. And a responsible fellow would know that he's go to do that if he wants to make a living here. An intelligent person will maintain the local news."

Berlin said he doesn't know whether new owners would continue programs with tips for local retirees on how to maintain their gardens. He doesn't know whether Dr. Stuart McBirnie's "Voice of Americanism" show will be continued, either. ("I don't buy his garbage," the conservative Berlin said of the right-wing McBirnie, "but he pays good, and he pays regular, and he has a right to be heard.")

In 1948, Berlin flew twice over a huge forest fire above the San Lorenzo Valley, once recording his impressions on a wire recorder for rebroadcast, then broadcasting directly via short wave radio. His station broadcast from the Goodyear Blimp and from a hot air balloon. He used to have local fisherman Stago Stagnaro broadcast live fishing reports from the Municipal Wharf. KSCO was the first radio station in California with a musical promotion jingle.

Those were the days!

"I wish," said Vernon Berlin, sitting in the KSCO waiting-room furniture that during his career has progressed from new to art deco collectable, "that I had tape recordings of all of that, of all of those days.

"But," he sighed, "back in those days they didn't even have tape recorders."

Vernon Berlin, standing, with, from left, KSCO employee Pat Henry, band leader Harry Owens and singer Hilo Hattie in 1950