Gmail **Clare Owens <clare.owens@gmail.com>**

[Milsurplus] Western Electric 227B Marine Radio Telephone Lives!

4 messages

David Stinson <arc5@ix.netcom.com> Thu, Nov 6, 2014 at 12:17 AM
To: milsurplus@mailman.qth.net, boatanchors@mailman.qth.net

Western Electric 227B Marine Radio Telephone Lives!

Well I never did find a diagram for this little cutie, but I wasn't about to let it sit there and laugh at me and give me the finger. I by golly was gonna FIX-IT and I did! Here's a photo of the 12-Volt-operated little stinker:
http://home.netcom.com/~arc5/WECO_227B.JPG
The front panel is beautiful. Mike Hanz explained to me
how they anodized it and all. It has the look of shiny glass, kiln-fused Enamelware to me. Pretty.

It's designed to be a close-range transceiver very much like a sea-going "Command Set." 4 channels.
Transmitter is crystal control. Receiver either tunable over 2-3 MC or via xtal.
Supposed to operate as much like a regular telephone
as possible. Used for talking to harbor control or the tug next door.

The transmitter is a simple 6L6 power xtal oscillator modulated by another 6L6. It uses a very cool "stone-age" 1930s WECO E-3 handset
with a big honking carbon element.
Getting the TX running was just a matter of refurbing the vibrator supply, changing the electrolytics and one bad resistor in the modulator. Have xtals for 3885
and 3870. Going to try programmable oscillators for 3880 and 3890. PA tank/output is a lot like the tank for the BC-230 except much more "picky."
Took awhile but it's perking along at 7 Watts out,
which ain't bad for a power Xtal oscillator with
only 300 volts B+.

I scratched my head over the receiver for awhile and wondered if someone had taken "The Golden Screwdriver"to it at one time. It is a simple thing: no RF Amp,
6K8 converter, 6K7 IF, 6Q7 Detector/AVC/1st Audio
and single-ended 6V6 Audio Out. But it gets "hinky."

Receiver was dead and some of the connections made
no sense- why does the AVC line go to +70 V from the B+ voltage divider resistor stack??
Never did figger-out that one. I measured the 6K7 cathode and it was showing like 180 V to ground, so obviously I'm missing
a ground here somewhere. Didn't seem to be a "mute" circuit. So I just jumpered the "cold" end
of the IF cathode resistor to ground and the receiver arose from the dead.

Measuring the OSC freq at what should have been
the 2 MC point on the dial confirmed that the "385"
marked on the side of the IF cans was the IF freq.
The IFs tweaked-up without incident. The 6Q7 1st Audio is wired as a cathode-follower
to feed the 6V6. That threw me off for a little while.

The antenna was connected directly to the 6K8 grid
with only a single tuned tank in the grid circuit, which
was of course so loaded and low-Q that adjustments
were almost pointless. Setting the frequency range
of the receiver was just a matter of tweaking the
"band set" cap in the OSC section. Putting it up
on 3-4 MC was just a single "tweak." Of course, with the grid so loaded, the thing was deaf as a post. I suppose that was intentional, since
it was intended for very short ranges and the 2-4 MC
Maritime Band in the 1930s and 1940s could be a
mad house of QRM. You wouldn't want your
"telephone" to be all that sensitive.

I removed the antenna connection from the 6K8
grid circuit. Wound 8-9 turns on the "cold" end
of the grid tank to ground and hooked the antenna there.
The receiver came alive, the grid tank peaked sharp and it receives nicely now for so simple a design.
AVC action has a lot of range, as one would
expect in something designed for this service.
Only down-side is very "tight" or fast tuning.
Programmable oscillators provide enough drive to
run the receiver "xtal control." $4 a channel.
Beat that, International Crystals ;-)
Going to channelize the little set on 3870, 3880, 3885 and 3890 KC,
which covers 90% of the AM activity here. The oscillators will need switching and some "boost"

to run the transmitter. I have transmitter crystals for 3870 and 3885, but will need the oscillators for 3880 and 3890.

Tonight, I hooked the little rig to my dipole,
put it on 3885 and made "first contacts" with it.
The little 7 watts got decent reports from Texas,
Oklahoma, Missouri, Arkansas and an extended
QSO with K4KYV in north central Tennesse.
Not bad.

Guys, when I manage to bring one of these nice
old radios back from the gathering darkness,
I feel just like this:
http://home.netcom.com/~arc5/happyboy.mp3

73 DE Dave AB5S

David Stinson <arc5@ix.netcom.com> Thu, Nov 6, 2014 at 8:45 AM
To: boatanchors@mailman.qth.net, milsurplus@mailman.qth.net

Several people now have asked me about these programable oscillators. In some applications, they have enough juju
"out of the box" to drive an oscillator stage.
In others, they'll need some help. But they're cheap so fiddling with them is easy.
Just don't hook them up backwards, pop a high DC voltage at the input or run VCC much over 6V.
If you do, they will *poof* and wing their way to
Silicon Heaven.

I like to use the EPSON 8002 series through-hole, CMOS oscillators. I get them from Digikey. I don't care about

"jitter" or "noise" or any of
that other stuff. They just work.
$4.10 each and they will do single quantities.
You tell them the freq you want *in Mhz* (they don't know KCs) in the "notes" section of the order form and they will program them for you. They've always shipped same day for me.
Here's a link to the kind I like, though many others would probably work OK:
http://www.digikey.com/short/784vdq

I've found you can run Vcc on these
up to 6 volts to get a little more "juju" out without harming
them. I use a little "buck" converter to bring the 12 volt
buss down to VCC. Dropping resistor creates too much heat and I don't like waste anyways ;-)
You can get them on Ebay cheap as dirt.
There are lots of them. Here's one:
http://www.ebay.com/itm/311161462956

The little oscillators don't put out much but you can bet the signal is spot-on. Someone wrote me about a military SSB transceiver that was going to need hundreds
of bucks in crytals.
He ordered these, piped them in and his rig is cooking.
Another gentleman is going to try them in a AN/TRC-77.
Seem to drive receiver-type circuits OK directly with only a DC blocking cap on the output- I use like .004 just because I have them.
I'd bet in sandy-state OSC circuits, they'd have plenty of drive.

GL OM ES 73 DE Dave AB5S
[Quoted text hidden]

Robert Nickels <ranickel@comcast.net> Thu, Nov 6, 2014 at 10:34 AM
Reply-To: W9RAN@oneradio.net
To: boatanchors@theporch.com, Milsurplus@mailman.qth.net, David Stinson <arc5@ix.netcom.com>

> On 11/5/2014 11:17 PM, David Stinson via BoatAnchors wrote:
> > Western Electric 227B Marine Radio Telephone Lives!

Very nice Dave, congrats! The styling reminds me of the Hudson American Privateer III, which is the prettiest-looking one I've converted:

http://i.imgur.com/ZFF9FKG.jpg

Radios like this were styled to look like they belonged on a fancy yacht. Now if I just had a Hudson American mic ;-)

73, Bob W9RAN
[Quoted text hidden]

David Stinson <arc5@ix.netcom.com> Thu, Nov 6, 2014 at 7:34 PM
To: milsurplus@mailman.qth.net, boatanchors@mailman.qth.net

----- Original Message ----- From: "Bob Moody" <bob@vanirmail.com>
Subject: Re: [BoatAnchors] Western Electric 227B Marine Radio TelephoneLives!

Thanks for writing, Bob.

> How do you change the osc frequency?
You order them with a fixed frequency programmed.
No changes- kinda like a crystal.

> Will they reach the 10 meter band?
The ones I prefer go as low as 1 MC and as high as 125 MC.

> Do they chirp on CW?
Not even a teeny bit ;-)

> Will they survive when fed from a 6 volt lantern battery?
Has worked just fine for me.

Thanks for the article link, too.

73 OM DE Dave AB5S
[Quoted text hidden]