EXHIBIT 6

INSTRUCTION MANUAL FOR SSBXL20-10MED

XX WARNING XX

ANYONE ATTEMPTING TO MAKE THIS MODIFICATION MUST READ ALL INSTRUCTIONS AND WARNINGS TO INSURE COMPLIANCE TO THE FCC REQUIREMENTS

The SSBXL20-10MED Kit is comprised of a MEDEX P617, 8VSB Digital Processor, EMR Low Pass Filter, a Meter Calibrator Circuit, Labels, Manuals and Attenuators. Do not attempt this conversion without a digital 8VSB signal and the following test equipment:

Spectrum Analyzer

Resistive Dummy Load at least 20 Watts

Soldering Iron

Digital Milivolt Meter

A Camera to document your tests

Installation Steps: Refer to the SSBXL20-10MED Manual for parts locations.

1. Turn off the XL Translator, remove the top cover.
2. Remove the following modules: Input Amplifier (TP1) or Downconverter (UVCA), the AGC Amp (TVA2), Oscillator (ULO), and Mixer (Upconverter).
3. Install the BNC to N Adapter. On the input of the 1 Watt Amp, connect the BNC

input cable to the connector.

4. Turn to pages 19, 20, & 21, Meter Calibration.

5. Remove the cable from the isolator (blue box on output of last amp). Install the EMR filter to the isolator and connect the cable to the filter. The filter is now stalled between the isolator and the 3 Pole filter.

6. Warning: Be sure the level control on the P617 is turned counter clockwise to the stop, all the way down. Install the 10 dB attenuator on the output of the P617, then connect the cable from the attenuator to the translator.

7. Connect the spectrum analyzer to the BNC test jack on the front panel.

8. Install the Dummy Load on the translator output connector.

9. Turn on the P617, set the input channel, the channel number should stop blinking and the lock light should be lit.

10. Set the output channel on the P617.

This completes the installation. Next is the test phase of the update kit. Turn to page 22.

Steps to Calibrate Power Meter for Digital on the Power Meter Board

1. Remove the power metering board, with the BNC Connectors to the left

2. Move the right end of R922 (10K) to the right end of R924 (10K). R922 is located next to Pot R921. (See drawing XL4140-1 and XL 4140-2). Solder a ½" high wire to the junction of R918 and R919, located between the 2 IC;s for a test point.

3. Set S902 to average power and replace the board. Set S901 for forward power (on the front panel).

4. Bolt the calibrator to the box on the front right cover with the lid bolt. Connect the 9V battery. With a digital volt meter, with the + lead to ground, measure the output wire and set the calibration pot R3 for the following levels:

5. {XL20 for 5 watts of digital = 250 MV
{XL10 for 2.5 watts of digital = 150 MV.

6. Connect the output wire of the calibrator to the wire test point on the power metering board. Turn on the translator, with out input signal.

7. Adjust R921 (forward) and R923 average for a reading of 10 watts on the visual Power Meter scale. This represents100% digital power for the level set in step 5.

To set reflected power

8. Remove the BNC connector J904, move the BNC Connector J902 to the J904 jack.

9. With the switch S901 (on front panel) in the reflected position, adjust R936 reverse calibrate for a reading of 10 watts.

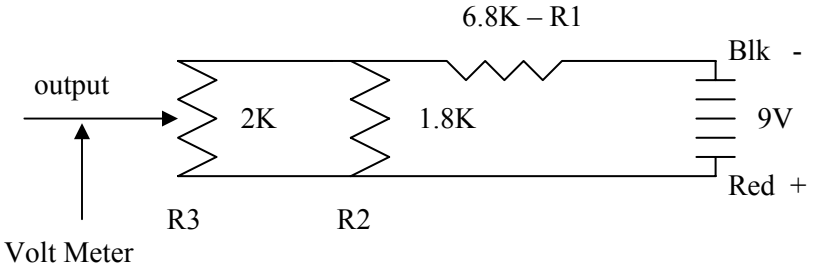
10. Turn off the Translator.

11. Replace BNC connectors to normal.

12. Remove the power calibrator, disconnect the battery. (Save the calibrator, you may want to check the calibration again.)

13. Return to page 18, Step 5.

Meter Calibrator



4.14: POWER METERING BOARD

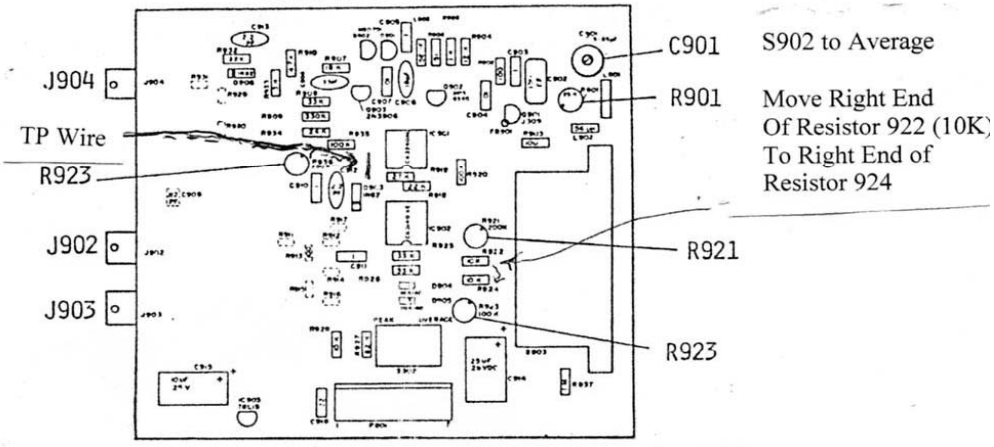
4.14.1: Specifications:

Frequency Range	470 to 890 MHz
Metering	0-40 watts peak sync forward and reverse 0-4 watts average aural
Input Level	+16 dBm input for a 40 watt indication on meter
Input Impedance	50 Ω, type BNC
Monitor Output	-14 dB referred to the input
Power Requirements	20-25 VDC @ 35 mA

Alignment

4.14.2: Alignment of the power metering board consists of calibrating the forward, reverse, and aural power metering. The board is calibrated with the directional coupler and replacement of the coupler will require recalibration of the board. An appropriate television signal calibrated by an external reference to be at a known peak sync and aural level must be used. The accuracy of the calibration is solely dependent on the accuracy of the reference. Refer to Figure 4.14.1 for location of the adjustment potentiometers. Commence the following procedure:

FIGURE 4.14.1
POWER METERING BOARD



1. Feed the input of the coupler with the appropriate television signal. It is best to set the calibrating signal to the level desired for the best accuracy of the power metering.

2. Switch the power meter position to AURAL POWER. Tune C901 for a maximum reading on the meter and adjust R901 for the aural level of the output.

3. Switch the power meter position to FWD POWER. Adjust R921 for the proper peak sync output power.

4. Temporarily connect the cable from the forward output of the directional coupler to J904. (REVERSE IN). With the meter switch in the REVERSE position, adjust R936 for the same reading obtained in step 3.

5. Replace the cables. The meter should read less than 3% of the forward power.

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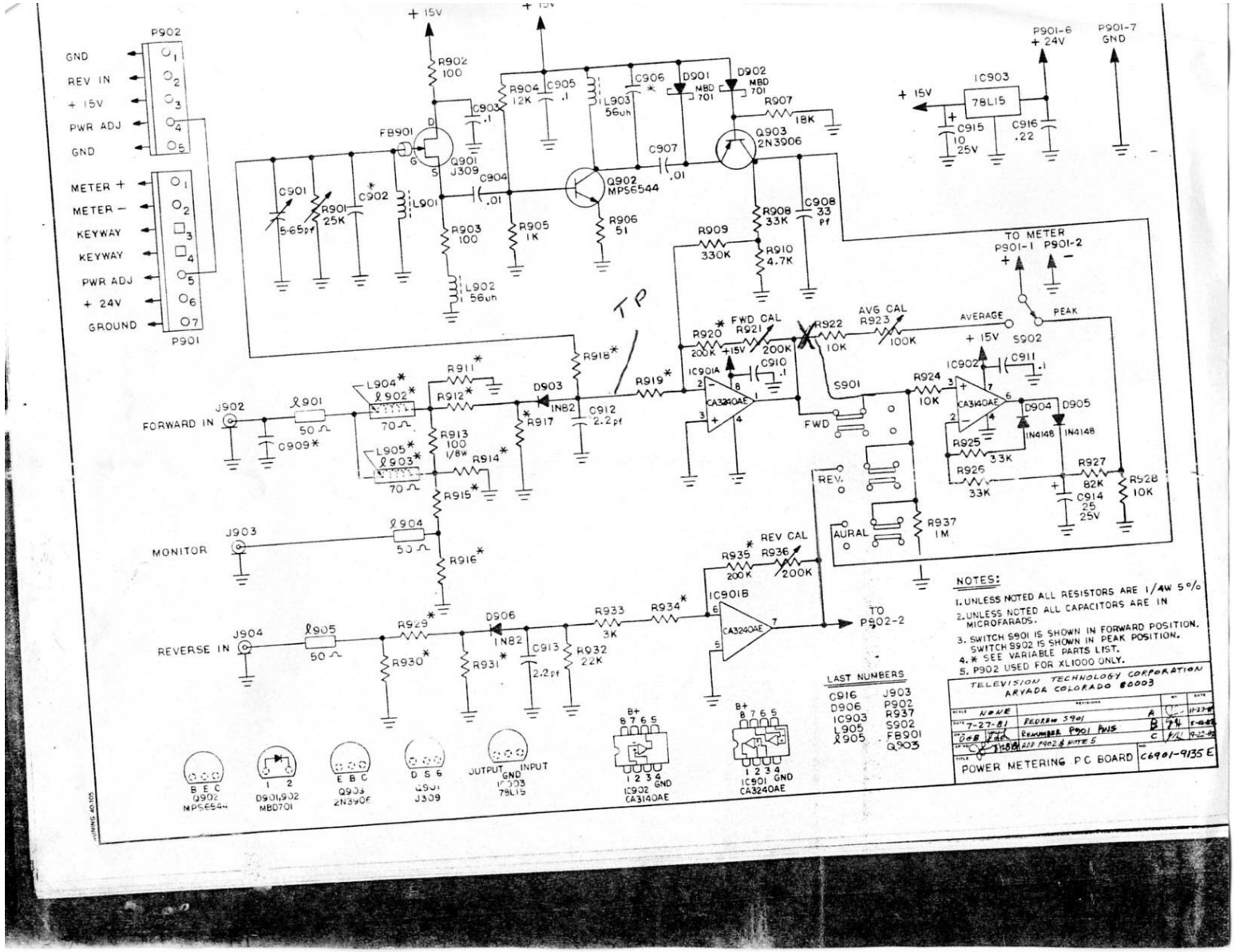
P902
GND
REV IN
+ 15V
PWR ADJ
GND
METER +
METER −
KEYWAY
KEYWAY
PWR ADJ
+ 24V
GROUND
P901
+ 15V
R902 100
C903 .1
R904 12K
C905 .1
L903 56uh
C906 *
D901 MBD 701
D902 MBD 701
R907 18K
Q903 2N3906
FB901
Q901 J309
C904 .01
Q902 MPS6544
C907 .01
C901 5-65pf
R901 25K
C902 *
L901
R903 100
R905 1K
R906 51
L902 56uh
R908 33K
C908 33 Pf
R909 330K
R910 4.7K
TP
IC903
78L15
C915 10 25V
C916 .22
P901-6 + 24V
P901-7 GND
TO METER
P901-1 +
P901-2 −
AVERAGE
PEAK
S902
S901
R920 * 200K
FWD CAL R921 200K
R922 10K
AVG CAL R923 100K
+ 15V
IC901A
C910 .1
IC902
C911 .1
R924 10K
CA3140AE
D904 IN4148
D905 IN4148
R925 33K
R926 33K
R927 82K
C914 25 25V
R928 10K
FWD
REV.
AURAL
R937 1M
FORWARD IN
J902
ℓ901 50Ω
C909*
L904* ℓ902* 70Ω
L905* ℓ903* 70Ω
R911*
R912*
R913 100 1/8W
R914*
R915*
D903 IN82
R917*
R918*
C912 2.2pf
R919*
MONITOR
J903
ℓ904 50Ω
R916*
REVERSE IN
J904
ℓ905 50Ω
R929*
R930*
D906 IN82
R931*
C913 2.2pf
R932 22K
R933 3K
R934*
IC901B
R935* 200K
REV CAL R936 200K
TO P902-2
B+
8 7 6 5
1 2 3 4 GND
IC902 CA3140AE
IC901 CA3240AE
B E C Q902 MPS6544
1 2 D901,902 MBD701
E B C Q903 2N3906
D S G J309
OUTPUT GND INPUT IC903 78L15
LAST NUMBERS
C916 J903
D906 P902
IC903 R937
L905 S902
ℓ905 FB901
Q903
NOTES:
1. UNLESS NOTED ALL RESISTORS ARE 1/4W 5%
2. UNLESS NOTED ALL CAPACITORS ARE IN MICROFARADS.
3. SWITCH S901 IS SHOWN IN FORWARD POSITION. SWITCH S902 IS SHOWN IN PEAK POSITION.
4. * SEE VARIABLE PARTS LIST.
5. P902 USED FOR XL1000 ONLY.
TELEVISION TECHNOLOGY CORPORATION
ARVADA COLORADO 80003
NONE
7-27-81
REDRAW 5901
RENUMBER P901 PINS
ADD P902 & NOTE 5
A
B
C
POWER METERING P.C. BOARD
C6901-9135 E

TEST AND MEASUREMENT STEPS

1. Set the power meter switch on forward. Set the Multimeter switch on final current.

Install the Dummy load on the Output.

2. Turn on the translator. The current meter should read less than ¼ Amp, Power meter should read 0. Slowly turn up the level control until the power meter reads 10W or 100%. The channel meter should be below .75 Amps.

WARNING: DO NOT TURN UP THE POWER TOO FAR OR YOU WILL BURN

OUT THE OUTPUT TRANSISTORS.

3. adjust the bias controls on the driver and output amps. (the pots on top of the amps, closest to the back). As you adjust them, watch the analyzer, the adjustments will affect the height of the pedestal and the shoulders, the top should always be flat ± 1 dB. (Refer to the anlz picture). Adjust the bias pots for the highest pedestal with the narrowest shoulders, while raising the power level. **WARNING: DO NOT EXCEED 100% ON THE POWER METER (10 WATTS = 100% POWER).**

4. If the level control is all the way clockwise, and the power is not at 100%, change the attneuator from 10 dB to 6 dB, start with the control counter clockwise. (The attenuator pads are needed as different channels require more drive signal than others).

5. With the power at 100%, set the pedestal to the 10 dB line on the analyzer. There should be at least 36 dB on the sides before it starts to spread. At 61 dB from the top the pedestal spread cannot exceed 6 MHz on each side. (See spectrum pictures). If the sides are uneven or the spread is too wide, the amplifiers are out of alignment (refer to XL Manual to align the amps) or they need repaired. The 3 pole filter may be out of

alignment. The spectrum analyzer display has to match the picture. (If you are not familiar with tuning the 3 pole filter, please call MEDEX, LLC.) Do not run the translator if you cannot meet the mask.

Reduce the power unit it matches the picture, see copy of FCC rules # 74.796(c) on reduced power.

Please fill out the following for your records:

1. _____ is the final voltage.
2. _____ is the final current.
3. _____ is the power out 10 Watts = 100%.
4. _____ is the AGC voltage.
5. Original Manufacture Model # is _____.
6. Original Manufacture Serial # is _____.
7. MEDEX Processor Model # is _____.
8. MEDEX Processor Serial # is _____.
9. Update Kit Serial # is _____.
10. Attach the Spectrum Analyzer Plots.