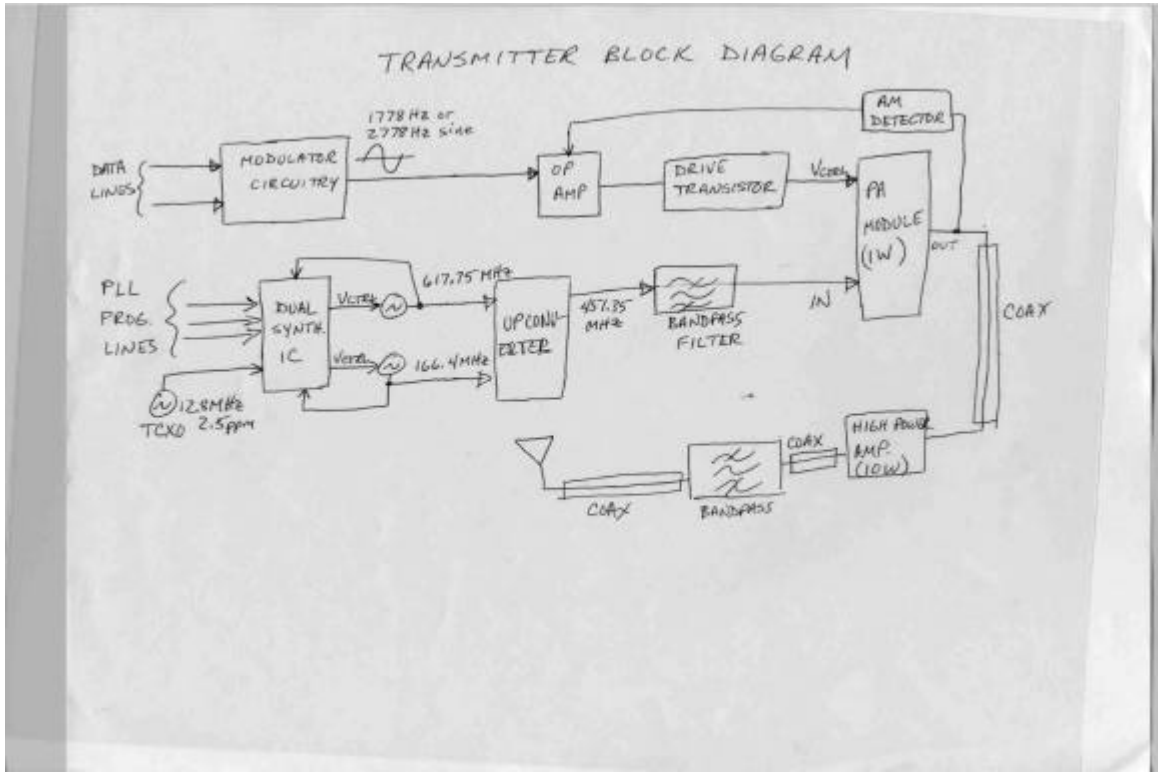
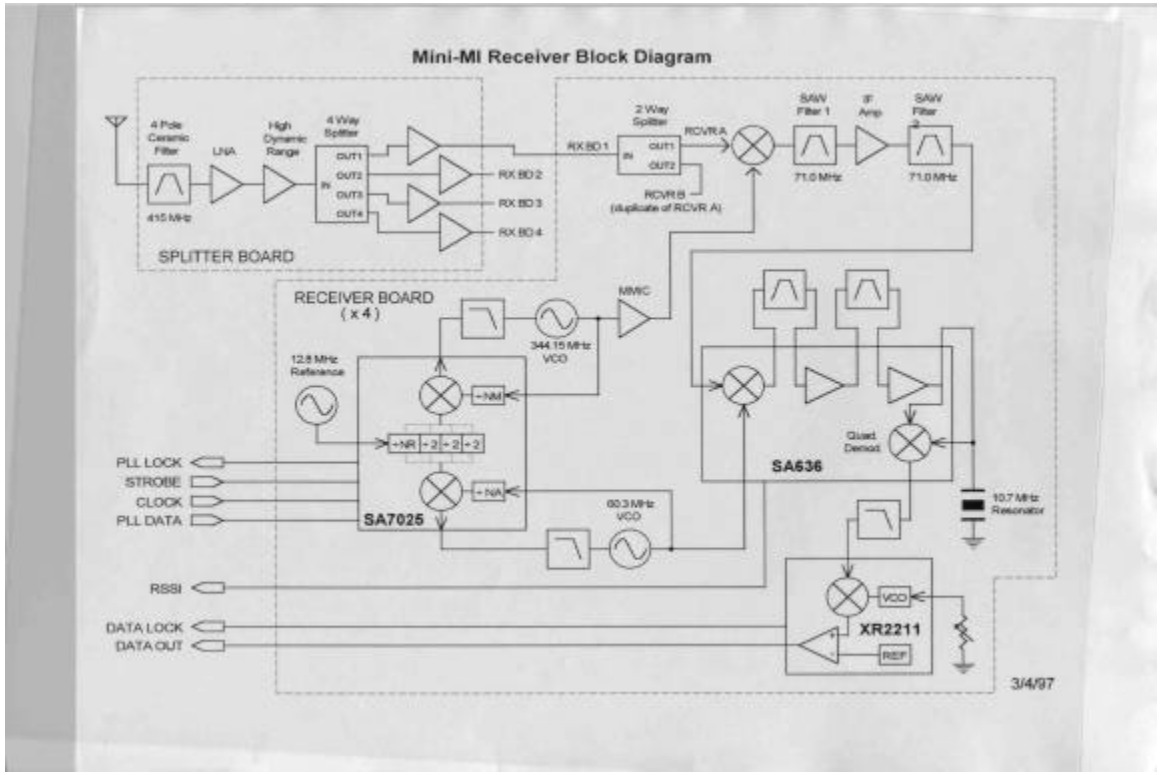
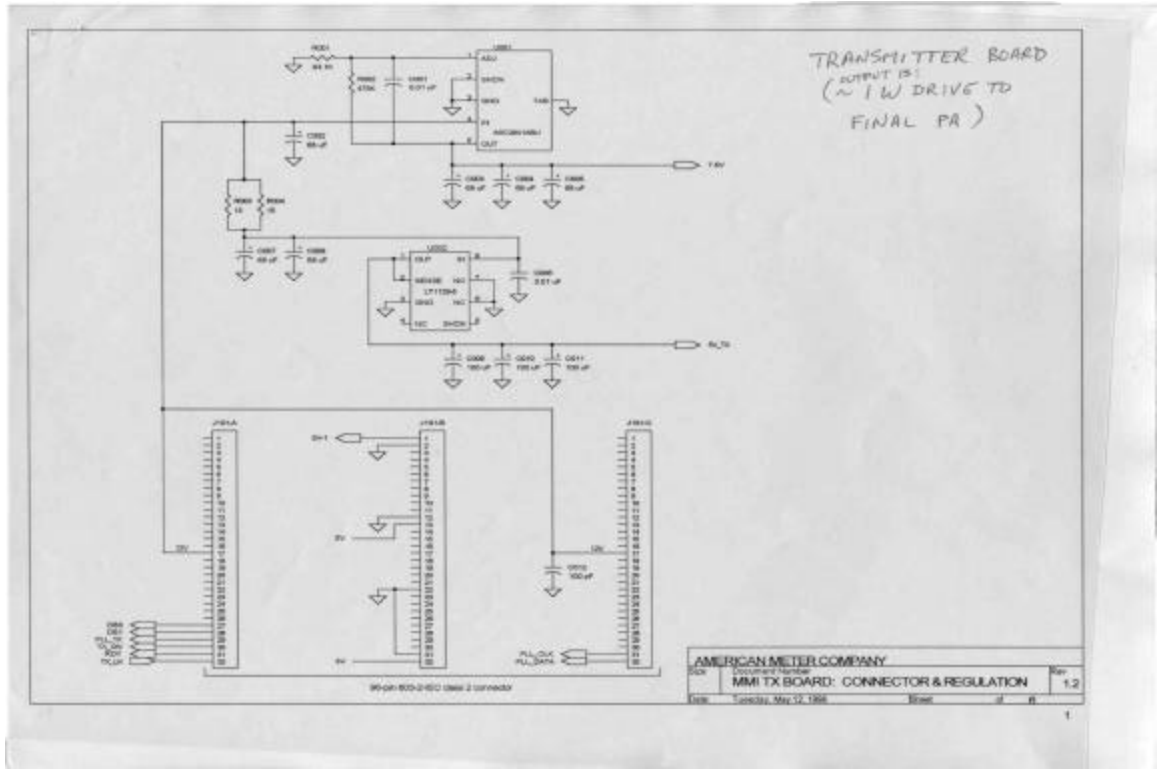
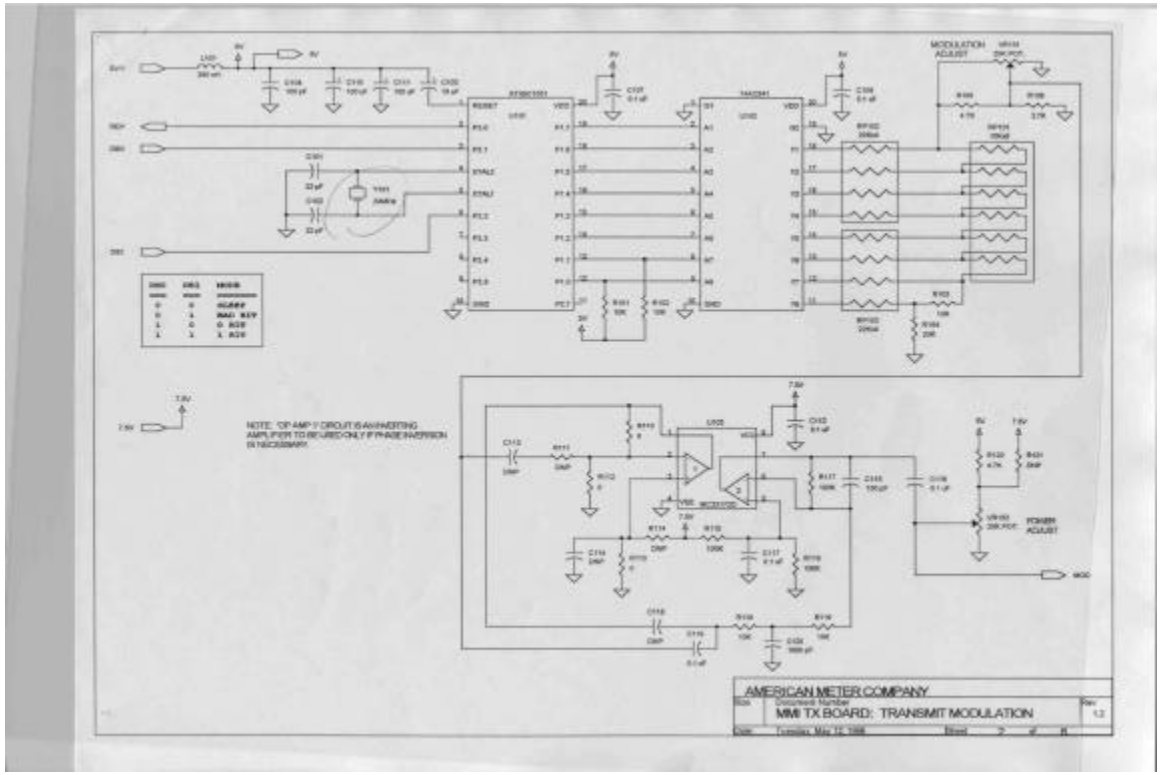
6.0 BLOCK DIAGRAM OF UI PRELIMINARY TRANSCEIVER UNIT

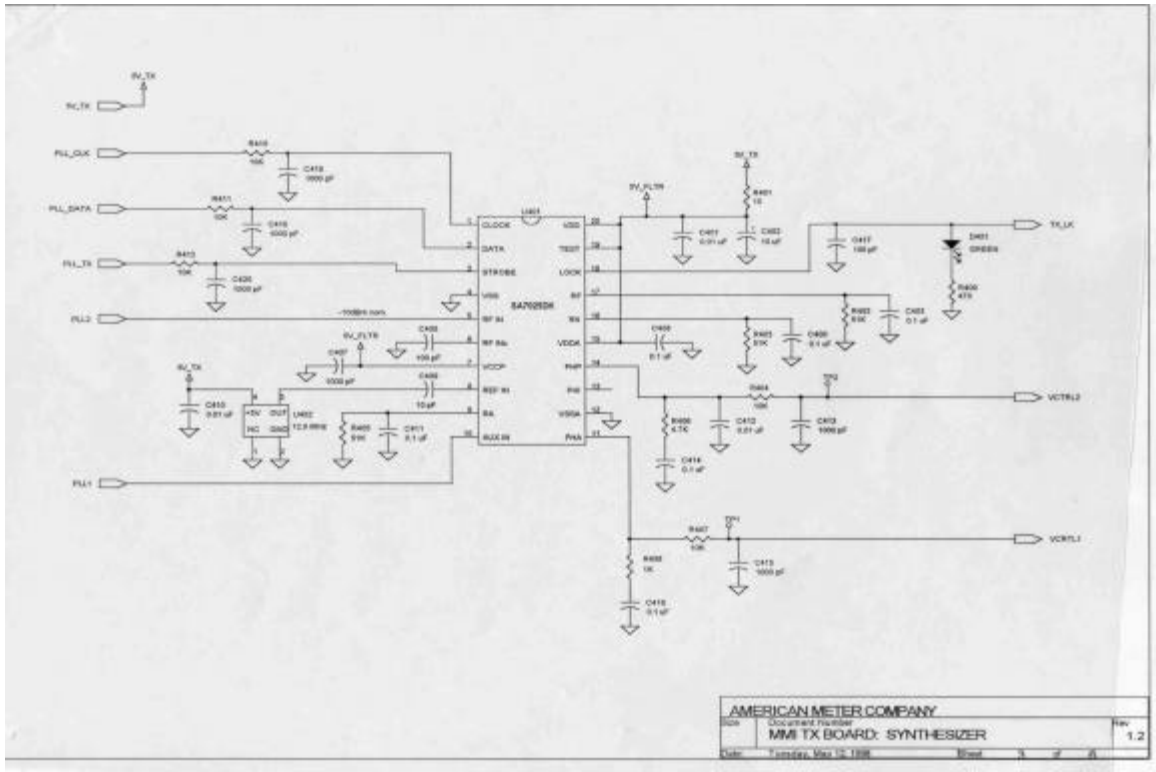
Please see following pages.

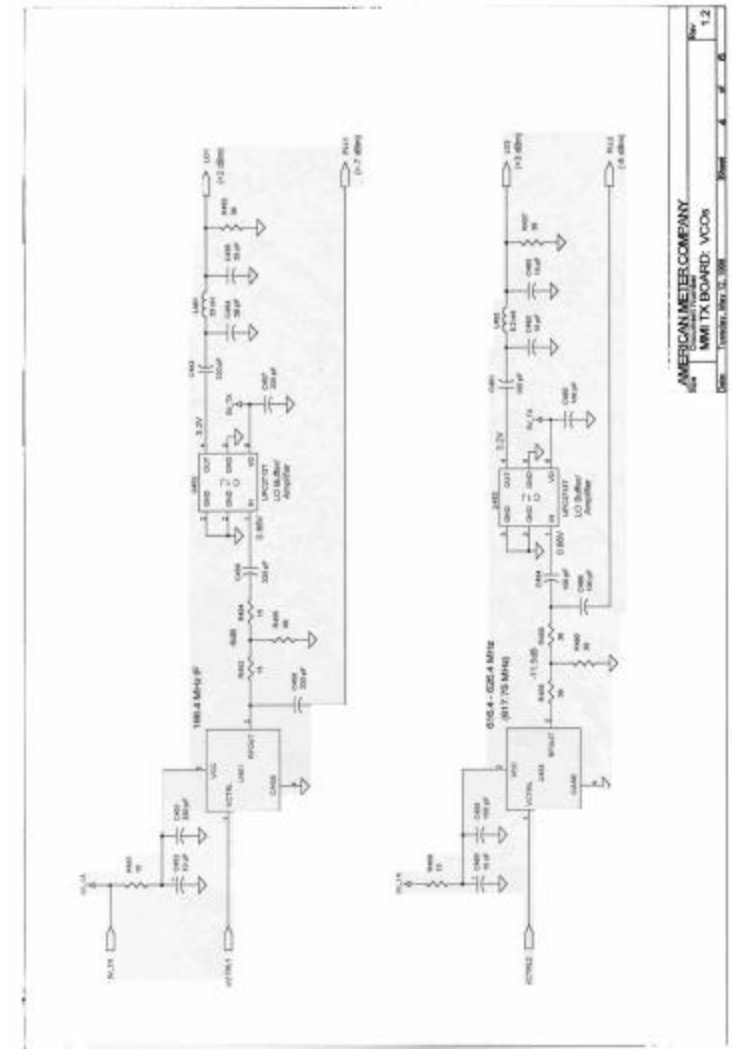

TRANSMITTER BLOCK DIAGRAM
DATA LINES
MODULATOR CIRCUITRY
1778 Hz or 2778 Hz sine
OP AMP
DRIVE TRANSISTOR
VCONT
AM DETECTOR
PA MODULE (1W)
OUT
COAX
PLL PROG. LINES
DUAL SYNTH. IC
VCTCXO
VCO1
VCO2
617.75 MHz
166.4 MHz
UPCONVERTER
457.35 MHz
BANDPASS FILTER
IN
12.8 MHz TCXO 2.5ppm
HIGH POWER AMP (10W)
COAX
BANDPASS
COAX

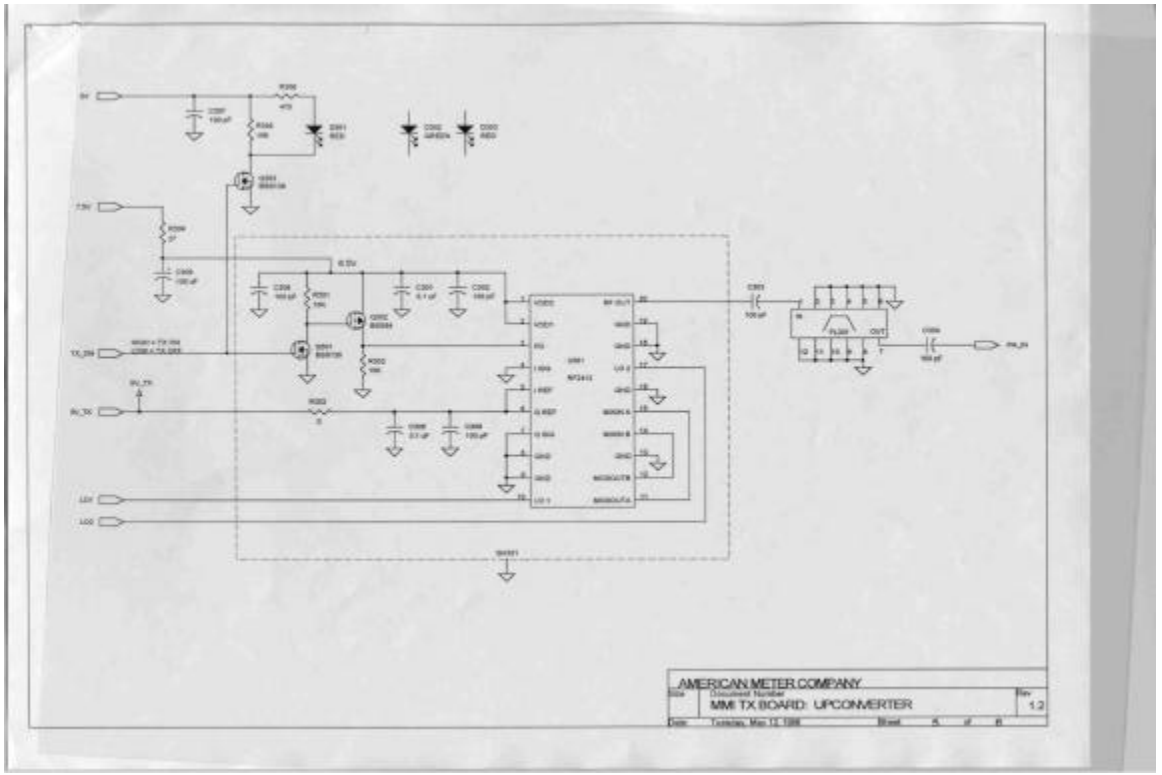

Mini-MI Receiver Block Diagram
4 Pole Ceramic Filter
415 MHz
LNA
High Dynamic Range
4 Way Splitter
IN
OUT1
OUT2
OUT3
OUT4
RX BD 2
RX BD 3
RX BD 4
SPLITTER BOARD
RX BD 1
2 Way Splitter
RCVR A
RCVR B (duplicate of RCVR A)
SAW Filter 1
71.0 MHz
IF Amp
SAW Filter 2
71.0 MHz
RECEIVER BOARD (x 4)
MMIC
344.15 MHz VCO
12.8 MHz Reference
÷NM
÷NR
÷2
÷2
÷2
÷NA
SA7025
PLL LOCK
STROBE
CLOCK
PLL DATA
RSSI
DATA LOCK
DATA OUT
60.3 MHz VCO
Quad. Demod.
SA636
10.7 MHz Resonator
VCO
XR2211
REF
3/4/97

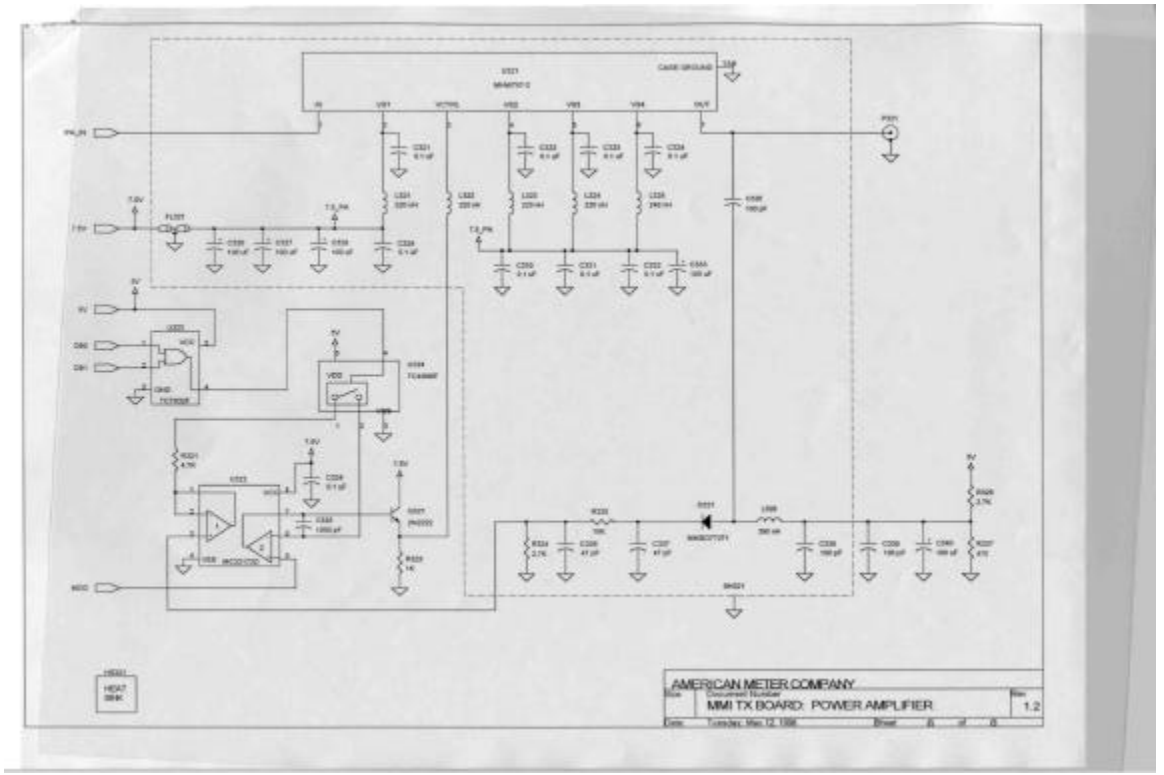

TRANSMITTER BOARD
(~1W DRIVE TO FINAL PA)
AMERICAN METER COMPANY
MMI TX BOARD: CONNECTOR & REGULATION
1.2


MODULATION ADJUST
NOTE: "OP AMP 1" CIRCUIT IS AN INVERTING AMPLIFIER TO BE USED ONLY IF PHASE INVERSION IS NECESSARY.
POWER ADJUST
AMERICAN METER COMPANY
MMI TX BOARD: TRANSMIT MODULATION
Tuesday, May 12, 1998


5V_TX
PLL_CLK
PLL_DATA
PLL_TX
PLL2
PLL1
SA7025DK
CLOCK
DATA
STROBE
VCTRL2
VCTRL1
TX_LK
AMERICAN METER COMPANY
MMI TX BOARD: SYNTHESIZER
1.2


AMERICAN METER COMPANY
MMI TX BOARD: VCOs


AMERICAN METER COMPANY
MMI TX BOARD: UPCONVERTER
1.2


AMERICAN METER COMPANY
MMI TX BOARD: POWER AMPLIFIER
1.2