

# TMC SPECIFICATION

NO. S 1283

REV:

COMPILED: B. NAP

CHECKED:



APPD:



SHEET

OF

TITLE:

KIT368

MODIFICATION OF MMXM-2 to MMXA-2A

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SHEET 1 OF 3

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## Modification of MMXM-2 to MMXA-2A

### I. FRONT PANEL

- A. If changing front panel to LD2463/MS5989 remove the old front panel. Splice two lengths of MWC22(7)U2 to the red wires from XF101. Mark rear and side wires. Extend along cable to approximately 1" past LSB pot breakout.
- B. Attach the MS5990, BRKT, RES, MTG to the RF GAIN pot to recess the control.
- C. (If applicable) Remove the LSB pot. Splice the two YEL wires and cover with shrink tubing. Splice the two VIO wires and cover with shrink tubing. Tie the breakout back to the main trunk.
- D. Remove the CARRIER REINSERT pot from the panel. Connect R201 thru R209 to S116 (SW466) as per the schematic. Use Term 5 as ground tie point with TE111-2. Disconnect coaxial cables #10 and 11 and the RED and WHI/BLU wires from the pot. Connect the RED wire to Term 7 of the switch. Connect the WHI/BLU wire to Term 6. Connect coaxial #10 to Term 12. Connect coaxial #11 to Term 1.

### II. MAIN CHASSIS

- A. Cut the ORN, VIO and two coaxial cables from Z119 (A4/51). Remove the board. Mount the new Z119 (A4885) in its place. Terminals 1 thru 10 face the bottom of the MMX. Use TE0440AEO.250R3 to mount the board. Install the standoffs first using Glyptol on the screw threads holding them to the chassis. Connect the coax jumper from J115-B to Z119 Term 11, shield to Term 12. Connect the VIO wire to Term 2, Connect the ORN wire to Term 5. Connect the coax from the wiper of the RF GAIN pot to Term 6, shield to Term 3. Disconnect the coax from J112-RS and connect to Term 7, shield to Term 9. Connect a coax jumper from J112-R shield to S to Z119 Term 4, shield to Term 1.
- B. Remove coax #6 from J108-2, B and S114B rear Term 8. Remove jumper from Term 8. Remove coax #3 from J109-F, E and S114A rear Term 5. Leave jumper on Term 5. Remove coax #9 from J107-S, R and S114C rear Term 4. Leave jumpers on Term 4.
- C. Remove XK101 and K101. Cut the wires with enough length to splice to a new cable. Remove the WHI/ORN wire from XK101 to TB103 Term 6. Cut the WHI/YEL wire J109-2 to S114B front Term 4. Cut back to harness and clear the terminals. Do not remove the jumpers on Term 4.

### III. REAR PANEL

- A. Remove the heat sink from the rear panel. Replace the nuts holding the 1 ohm 20W resistor with the TE102-2 and one ground lug. In line with

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the lower two heat sink mounting holes drill an 11/64 hole 2-3/8" away from the mounting hole near R107. Mount the TF418, with the leads facing 20W resistor, with a 632 screw in this hole. The other side of the TF418 will be mounted with the heat sink. Remount the heat sink and shield. Care should be taken to see that the screw head does not short the transistor socket. The leads of the coil will be connected to the two standoffs when the cable is installed.

B. Mount the MS5914, BRKT, CONN, MTG, to the panel.

#### IV. SIDE PLATES

A. Remove the right side plate.

B. Remove the left side plate. Mount Z120 (A4888) to the rear end of the side plate. Mount the board so that Term 1 thru Term 20 face the rear and the two mounting studs on that end are 3/4" from the inside lip. Center the board up and down.

#### V. ADDITION OF CABLES AND SWITCHES

A. Connect CA1634 to Z120. Remove the board from the side plate until final re-assembly. Use the cable drawing for proper connections and colors.

B. To MS5402, BRKT, MTG, SW mount MS5403 and MS5404, BRKT, MTG, REL, Mount the MS5404 in the set of 0440 holes next to MS5403. Mount the TS171-2 and 3 to MS5403. Use a TE149-120 when mounting the TS171-3. Mount two RL143-4 to the top and bottom of MS5404. Use two TE149-120, facing away from the cover, under the relay mounting screws. Mount the third RL143-4 to the second set of 0440 holes with the hooks facing the switch holes.

C. Using WL100-7 and PX104-1-034 make the following jumpers on the relays:

XK105 Pin 1 to Pin19 Do not Solder Pin 1  
XK105 Pin 7 to Ground lug  
XK104 Pin 10 to Ground lug  
XK104 Pin 5 to K102 Pin 1  
XK104 Pin 6 to K102 Pin 5  
K103 Pin 7 to Ground lug  
K102 Pin 7 to Ground lug

On the RL143-4 the dot is Pin 3.

D. Using the 1N2484 diodes, connect both cathodes to XK104 Pin 9. Route one on each side of the socket and connect the anodes to Pins 2 and 3. Do not solder Pins 2 and 3.

E. Connect the jumpers on SW467, SW468, SW469, SW470 and SW471 as per CK1881. Mount the switches to the bracket. Connect CA1632 and CA1633 to the relays and switches using the schematic and the cable prints for connections.

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F. Mount the switch and relay assembly to the MMX. It may be necessary to remove the power supply.

G. At the old K101 location splice the following wires:

| Old Cable        | New Cable |
|------------------|-----------|
| ORN              | ORN       |
| VIO              | VIO       |
| WHI/GRN(S114BR1) | GRN       |
| WHI/GRN(J109-H)  | WHI/GRN   |

Cover with shrink tubing individually and tie back.

- H. On the rear panel connect the WHI/BRN wire with the WHI/BRN wire on C111. Connect the WHI/ORN wire with the GRY wire on C126. Connect each of the choke leads to a standoff. Connect the WHI/GRN and WHI/YEL wires to the standoffs. Wire the positive side of the 15 mfd capacitor to the stand-off with the WHI/YEL wire. Wire the negative to ground.
- J. Remove Z120 from the side plate and connect to CA1632 as per the schematic and cable print. Mount J119 to the rear plate. Replace the rear and side plates.
- K. Connect CA1632 to Z119, J109 and the front panel as per the schematic and cable prints. Remove the GRN wire from S113 (PTT) common and splice to the cable GRN wire. Connect the WHI/GRN to the common terminal. Connect a jumper between the N.O. and N.C. on the same side of the switch (Only for Mackay Marine or if the customer wants to control the FSK mode with the remote PTT line). Remove the YEL wire from S114A Front Term 8 and splice to the YEL cable wire. Connect the WHI/YEL to the switch. Remove the WHI/BLK wire from S114A Front Term 2 and splice to WHI/BLK cable wire. Connect the WHI wire to the switch. Connect the WHI/VIO wire to S114A Front Term 4. Do not remove the wire already there. Connect the BRN wire to S114B Front Term 4. This completes the installation of CA1632.
- L. Connect CA1633 as per cable print and schematic.
- M. Check to see that PC board components clear the shafts. Check to see that Q5 on Z108 does not short to the shaft.

