ANI-F-KW1

Multi-Format ANI Encoder
For Kenwood Radios

Manual Revision: 2009-02-04

Covers Software Revisions:
ANI-F: 1.2 and higher

This manual & product supports the following radios:
Portable: TK-2180/3180
Mobile: TK-5710, TK-7180/8180

SPECIFICATIONS

Operating Voltage	7.5 VDC
Operating Current	2.6 mA
Operating Temperature	-30 - +60 C
Frequency Range	280-3600 Hz
PTT Output Current	200 mA
Audio Output Level	1V RMS
Audio Output Impedance	10KΩ/22 KΩ
Tone Distortion	<1%

INSTALLATION PROCEDURE

1. Test the radio for functionality.

2. Program the ANI-F-KW1

3. Install the module into the radio per the Hardware Installation section of this manual.

4. Program the radio per the Radio Programming section of this manual.

***Midian is not responsible for any damage/loss resulting from the use of Midian's products.

GENERAL INFORMATION

Midian's ANI-F Series products encode ANI and Emergency ANI to display on ANI display decoder to identify which field unit is being keyed. The following is a list of benefits provided by ANI systems:

- Allows dispatchers to know who he or she is talking to.
- Identify system abusers.
- Identify emergency conditions.
- Assign calls fairly.

The ANI-F-KW1 offers ANI & Emergency ANI in Motorola's MDC-1200, M/A-Com's G-Star, DTMF and 5-tone. The ANI-F can be used with Midian's ADD, CAD or DDU Series products for monitoring ANI and ENI transmissions.

PRODUCT PROGRAMMING

Midian's ANI-F-KW1 is programmed WITH the KL-3 and KPI-1. Please reference the KL-3 & KPI-1 manuals for setup instructions of the programming software and hardware. From the product selection screen on the KL-3 software, select the appropriate product name from the list and click OK.

Set the parameters of the ANI-F-KW1 software to fit the application. If any clarifications on a feature are required, move the mouse cursor over the feature name until the question mark appears and right click, a definition of the feature will be shown. If 2-tone or custom tones will be used in the ANI-F-KW1, you will need to select "Enable Advanced ANI Tone Definitions" in the "ANI Tone Definitions" tab.

After entering the parameters, save the file by going to File - Save As. Enter the file name in the File Name block and click Save. Saving the file will allow for quick and easy reprogramming of units.

Plug the ANI-F-KW1 onto the KPI-1 and plug the KPI-1 into the KL-3.

To program the ANI-F-KW1 push the button on the KPI-1 click "Program Unit" in the menu bar to send the file to the ANI-F-KW1. Follow the same procedure to read the unit, but select "Read Unit" in the menu bar.

HARDWARE INSTALLATION

Be certain to follow standard anti-static procedures when handling any of Midian's products. The radio model should be specified when ordering.

TK-2180 & TK-3180:

1. Remove the battery from the radio, exposing the options door. Remove the options door and this will expose the options connector.

2. Plug the module into the options connector.

3. Reinstall the options door and battery.

TK-5710:

1. For this radio the module should be ordered with MOD-1408.

2. Remove the battery from the radio, exposing the options door. Remove the options door and this will expose the options connector.

3. Plug the module into the options connector (CN-755).

4. Reinstall the options door and battery.

TK-7180 & TK-8180:

1. Remove the cover and lid from the radio.

2. It is first necessary to isolate pin 5 of CN-403 (radio options connector). Depending on the radio model there might be a 0 Ohm resistor off this pin next to R-483 that can be removed or cutting the trace leading up to the options connector. If cutting the trace be extremely careful not to cut too deep so as not to cut into other layers of the PCB. Note: The 0 Ohm resistor described above is not shown on the pictorial in the TK-7180/8180 service manual so a part number cannot be given.

3. Plug the module into the CN-403 options connector.

4. Reinstall the radio's lid and cover.

HARDWARE ALIGNMENT

For the TX Audio Output in a wide band system, set the ANI modulation pot R12 to 3.3 KHz (66% of 5 KHz) of deviation per EIA specifications. For the TX Audio Output in a narrow band system, set the ANI modulation pot R12 to 1.65 KHz (66% of 2.5 KHz) of deviation per EIA specifications.

RADIO PROGRAMMING

TK-2180/3180:

1. Under the “Edit” menu, select “Extended Function” and set the “Optional Board” feature to “ANI Board”.
2. Set the channels on which ANI/ENI will be sent. On the “Zone Information” screen select “Channel Edit” and set the “PTT ID” field to “On”.
3. Under Edit > Emergency Information set “Emergency ID” to “ANI Board”.

Note: This radio does not support go-ahead beeps and emergency alert tones.

TK-5710: Use KPG-95D v3.00 or higher.

1. Under the “Edit” menu, select “Extended Function” and set the “Optional Board” feature to “ANI Board”.
2. Under Personal > System > Personality set the “PTT ID” to “on” for each channel that ANI/ENI is needed.
3. If Emergency is used set the PF5 button to “Emergency” in the “Key Assignment” menu.

Note: After Emergency the radio’s power must be cycled.

TK-7180/8180:

1. Under the “Edit” menu, select “Extended Function” and set the “Optional Board” feature to “ANI Board”.
2. Set Edit > Optional Features > PTT ID Type to “ANI Board”.
3. Set the channels on which ANI/ENI will be sent. On the “Zone Information” screen select “Channel Edit” and set the “PTT ID” field to “On”.
4. For Emergency ANI button control set Edit > Key Assignment > Panel > Triangle to Emergency.
5. For Emergency ANI set Edit > Emergency Information set “Emergency ID” to “ANI Board”.

OPERATION

ANI Encode: When the PTT Input is grounded, the unit will assert the PTT Output and send the programmed ANI tones out the TX Tone Output.

ENI Encode: When the Emergency Input is grounded, the unit will assert the PTT Output and send the programmed Emergency ANI tones out the TX Tone Output.

TECHNICAL NOTES

Programming 2-tone: 2-tone ANI is programmed with the Advanced Tone Definitions. In Frame 1, Frequency 1 type in the frequency of the first tone and type the length of the first tone in Frame 1 msec. In Frame 2, Frequency 1 type in the frequency of the second tone and type the length of the second tone in Frame 2 msec. If a gap is needed set Frame 2 Frequency 1 to 0 and the desired length of the gap in Frame 2 msec. Frame 3 would then be the second tone.

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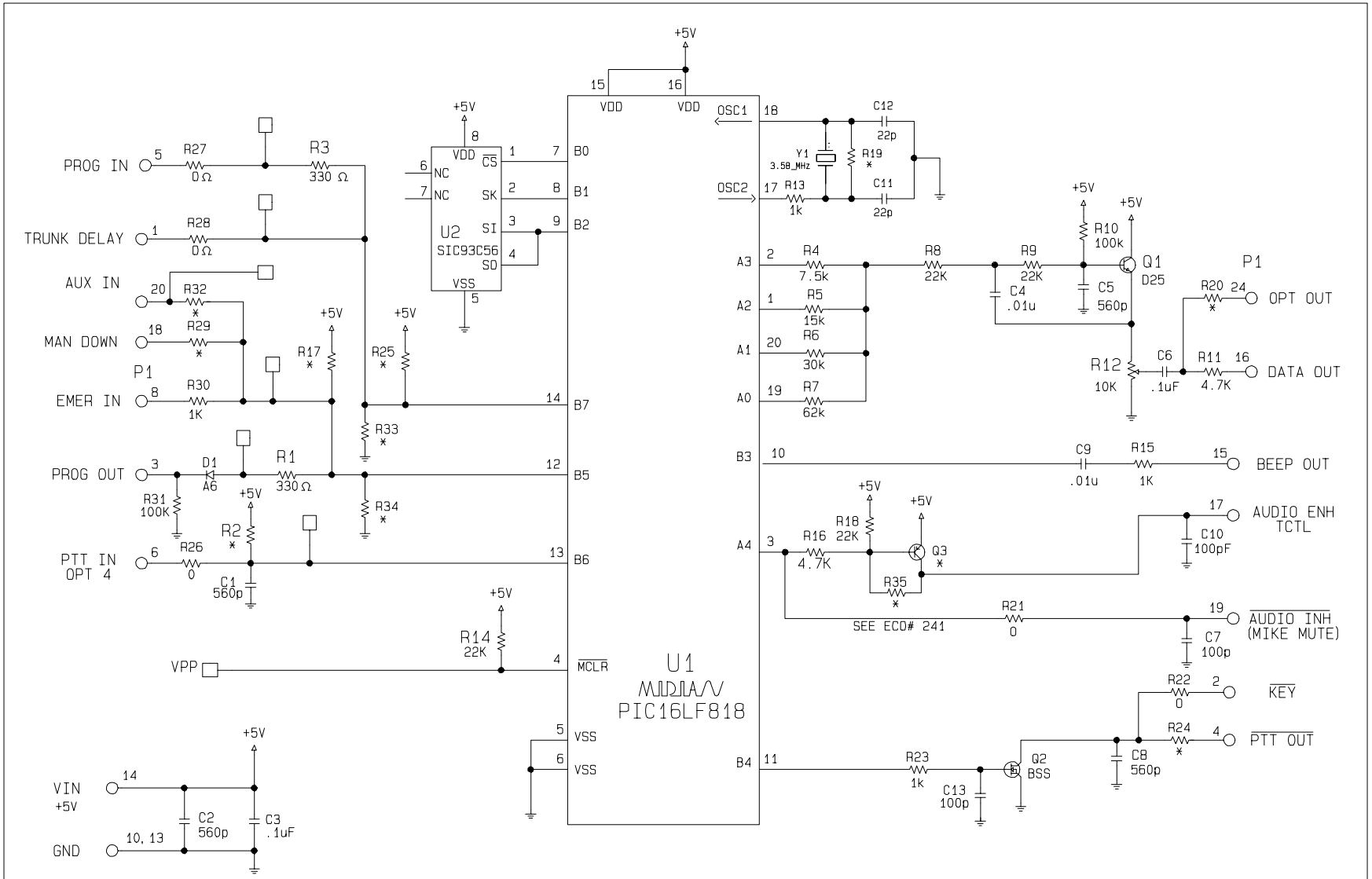

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DATE 10-04	DWN.BY AIB		APPR.
DESIGN CJS	REV. JUNE 19/07 AB		

ANI-F KW1		REV. B	FILE NO. 344B.SCH
SCHEMATIC		ECO/SH 241	DWG.NO. 344 HCD
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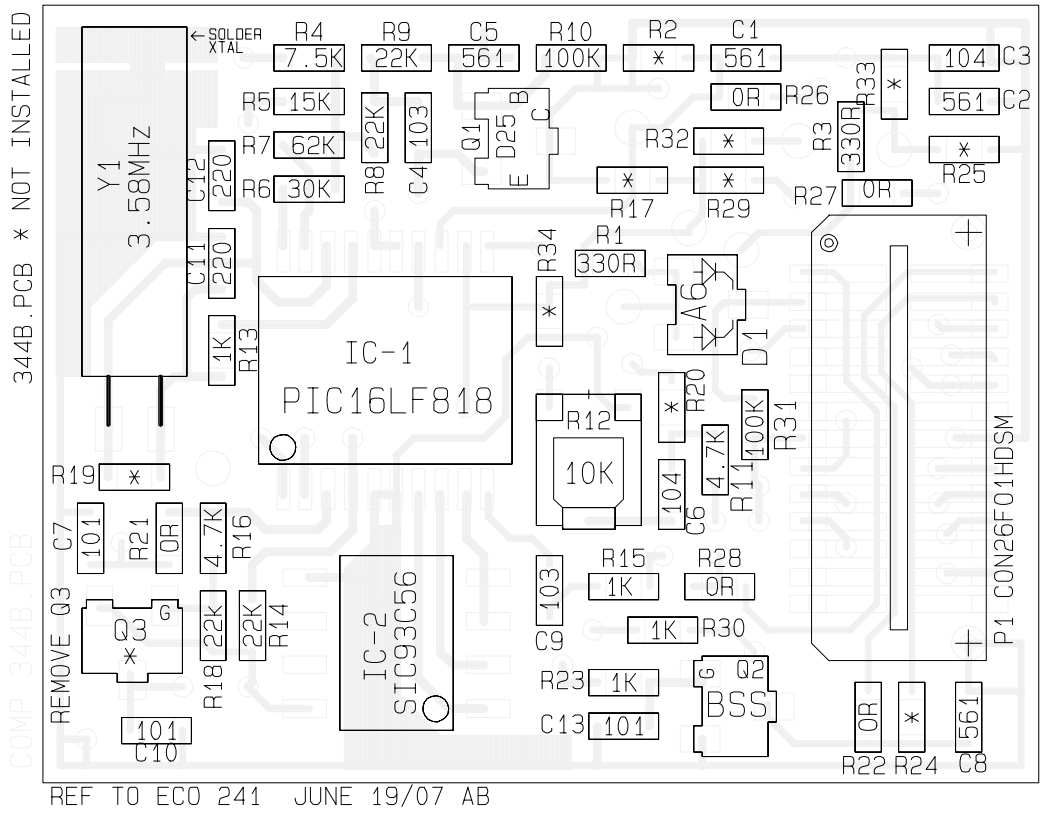
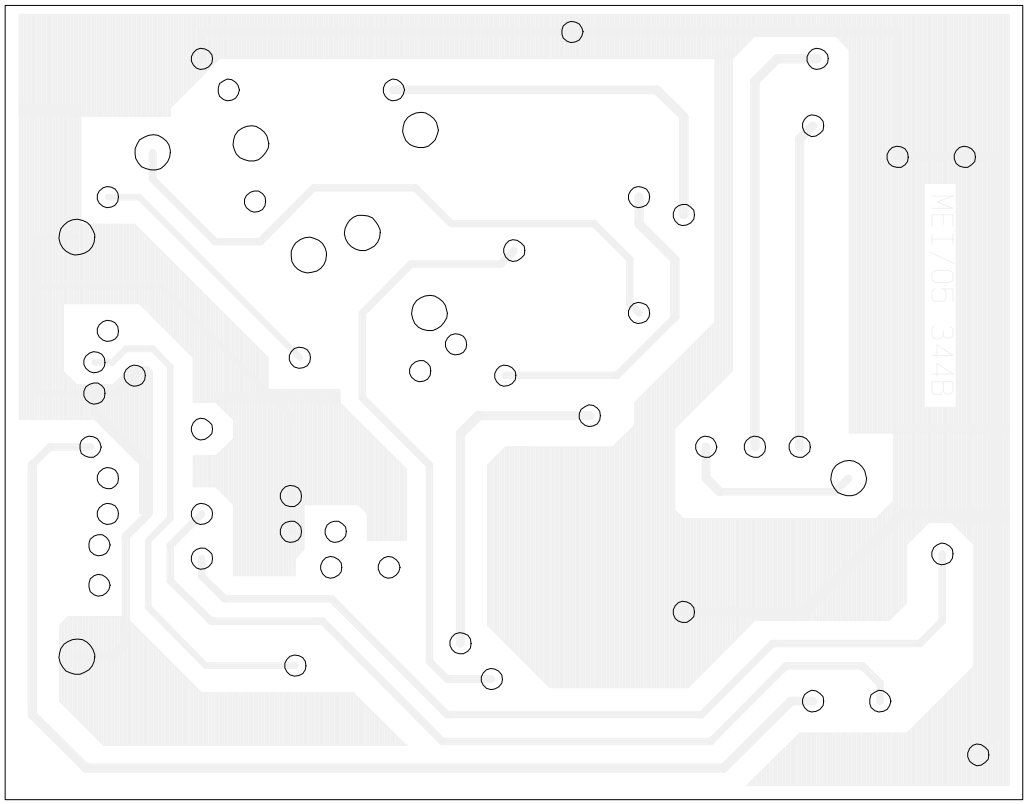
NOTES:
* - NOT INSTALLED
JUNE 19/07 ECO 241
R18 22K C10 100pF Q3 and R35 NOT Installed

C1-C13 R1-R34





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