



TTD-5

Single Digit DTMF Decoder

Manual Revision: 2007-01-23

Covers Hardware Revision:
TTD-5: C & Higher

SPECIFICATIONS

Operating Voltage	5.5-18 VDC
Operating Current	7 mA
Operating Temperature	-30 - +60 C
Input Level	25-500 mV RMS
Outputs	200 mA
Dimensions	1.35" L x 0.85" W x 0.3" H

GENERAL INFORMATION

The TTD-5 is a single digit DTMF decoder with 16 outputs. Each output corresponds to each of the 16 DTMF digits (0-9, *, #, A-D). The outputs can be either momentary or latched and only one output can be active at any given time.

HARDWARE INSTALLATION

Be certain to follow standard anti-static procedures when handling any of Midian's products.

Connector P1

P1-2 – Red – VIN +5.5-18 VDC – Connect to switched battery point in the radio. Connect to a regulated voltage point in a vehicular radio if engine noise is present on the battery line. Keep this lead as short as possible.

P1-4 – Black – Ground – Connect to the nearest ground plane in the radio.

P1-6 – Orange – Tone Input – Connect to an audio point in the receiver, usually the high side of the volume control or discriminator output. When using CTCSS, pick up the audio after the high pass filter.

P1-7 – Yellow – Output Tone #

P1-8 – Green/White – Output Tone *

P1-9 – White – Output Tone A

P1-10 – Gray/White – Output Tone B

P1-11 – Gray – Output Tone C

P1-12 – Orange/White – Output Tone D

Connector P2

P2-4 – Black – Output Tone 0

P2-5 – Blue – Output Tone 9

P2-6 – Orange – Output Tone 8

P2-7 – Yellow – Output Tone 7

P2-8 – Green/White – Output Tone 6

P2-9 – White – Output Tone 5

P2-10 – Gray/White – Output Tone 4

P2-11 – Gray – Output Tone 3

P2-12 – Orange/White – Output Tone 2

P2-13 – Violet – Output Tone 1

HARDWARE ALIGNMENT

Note: The TTD-5 has a time constant of 300 msec to prevent falsing on voice talkoff. It is possible to shorten this time constant by replacing C2 with a smaller value capacitor or increase the time constant by replacing C2 with a larger value capacitor.

PRODUCT PROGRAMMING

The TTD-5 is a hardware based product and no programming is required.

OPERATION

Momentary Output: With JU1 installed the outputs give a momentary output. The voltage on IC1 Pin 15 (present only with a DTMF input) is passed through JU1 to the common, pin 3 of IC-2 and IC-3. Because voltage is only present when receiving DTMF the selected output will be low only as long as DTMF is

present. All outputs will float with JU1 installed, unless DTMF is present at the input.

Latched Output: With JU2 installed the outputs give a latched output. When JU2 is installed, one of the 16 output pins will randomly latch on power up. When DTMF is decoded the corresponding output will go low and latch until another valid DTMF digit is decoded, at which time the latched output will unlatch and the corresponding output of the new DTMF digit will latch. The voltage coupled through JU2 is passed through the common, pin 3 of IC-2 and IC-3, to the output selected via the binary input on pins 9, 10 and 11. When DTMF is not present the binary number on these pins of IC-2 and IC-3 is not removed until another binary number replaces it.

TECHNICAL NOTES

Radio Compatibility: Midian has taken the utmost care to ensure the option board integrates into the radio with minimal impact to the features of the radio. However, some features may not be available in the radio when an option board is used. If a feature is not available, please contact Midian to see if the feature can be added.

MIDIAN CONTACT INFORMATION

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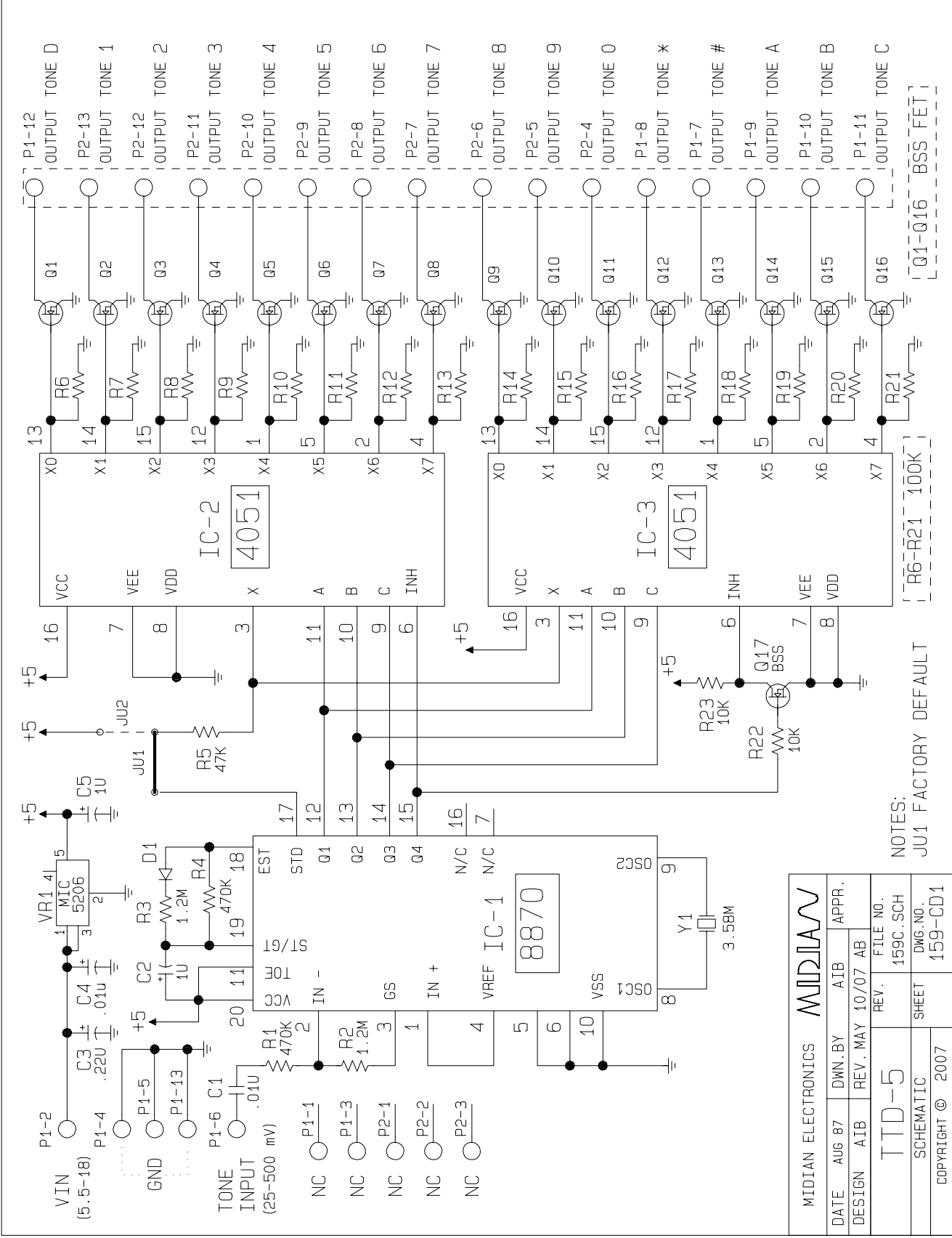
Orders: 1-800-MIDIANS

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Fax: 520-884-0422

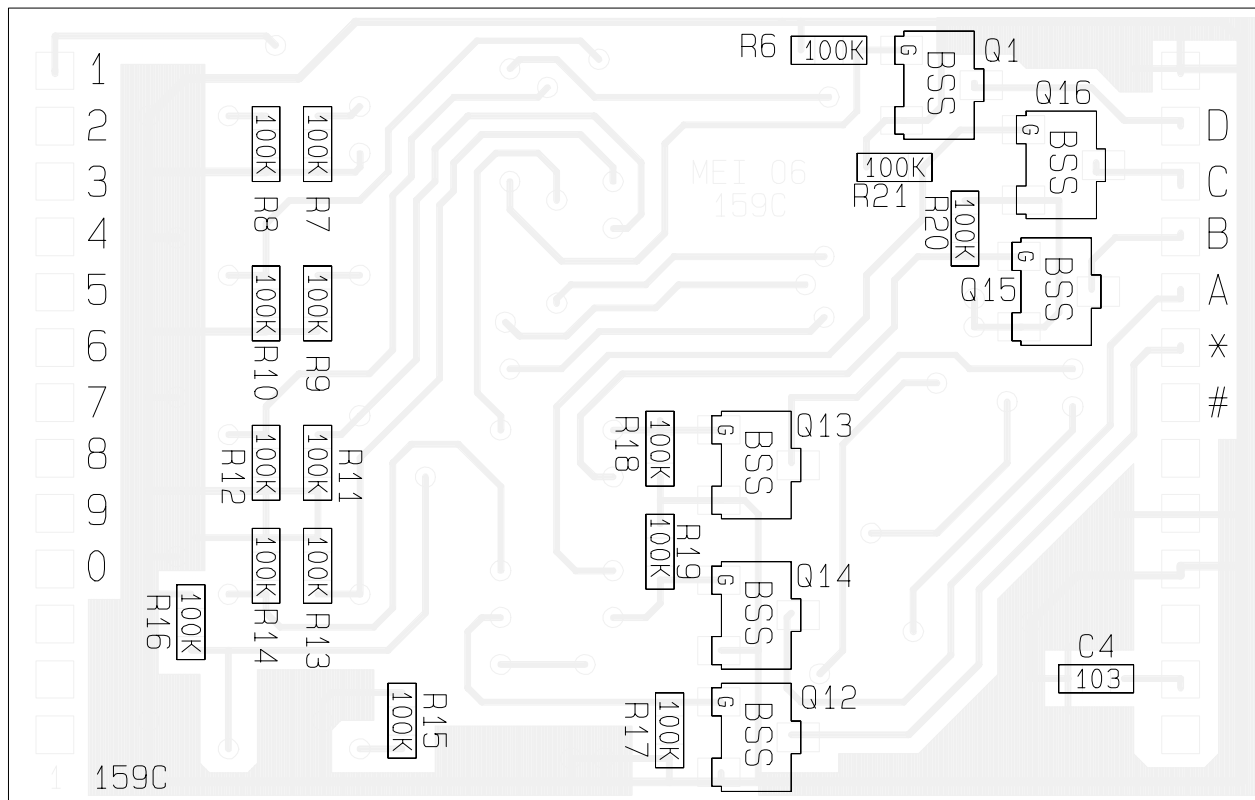
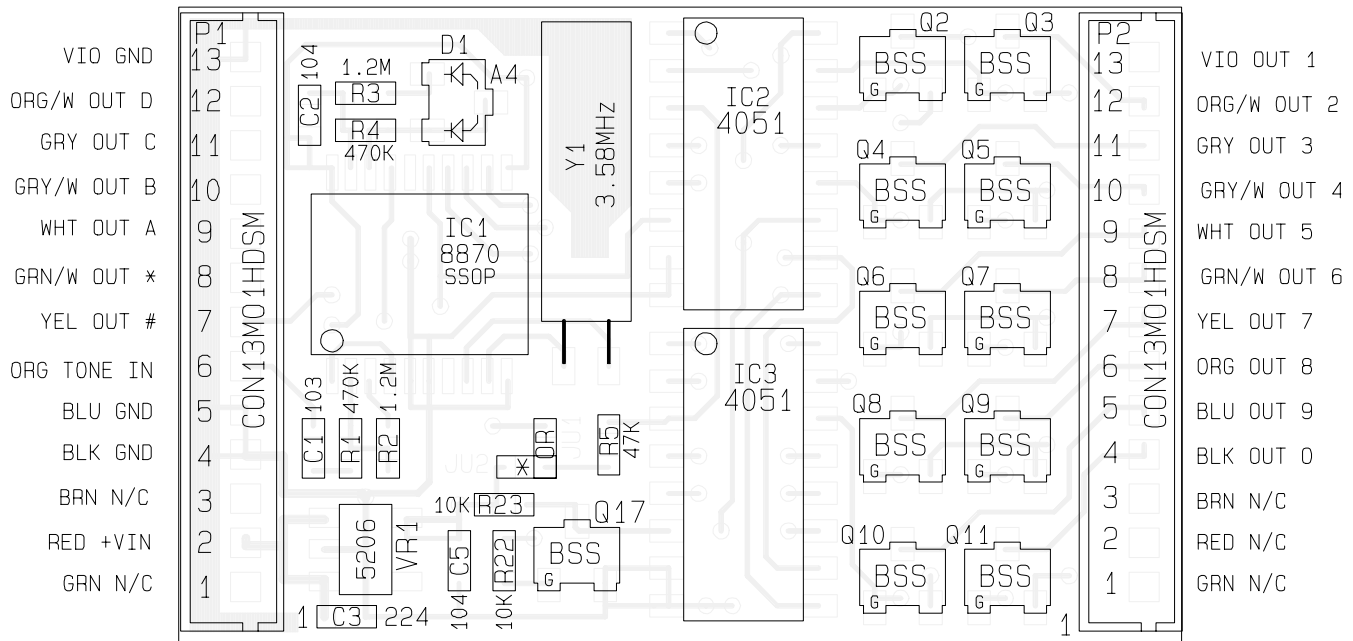
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NOTES:
JU1 FACTORY DEFAULT

MIDIAN ELECTRONICS		MIDIAN	
DATE	AUG 87	DWN.BY	AIB
DESIGN	AIB	REV.	MAY 10/07 AB
TTD-5		FILE NO.	159C. SCH
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