down, 1 second key up, followed by the recorded message. This extra 6 seconds is added to the recorded message time, but does not use and message memory. Grounding pin 3 is like pin 2 except the key down period is 20 seconds long.

If pin 1, pin 2, or pin 3 is briefly grounded, the XT-4B will go through the selected play back sequence and stop at the end of the message. Grounding these pins again will repeat the message. This mode is intended for external control, such as with a repeater controller.

Leaving one of these pins grounded will cause the XT-4B to repeat the recorded message indefinitely.

Warranty Information

Unified Microsystems warrants the components workmanship of the XT-4B CW Beacon Keyer for a period of 1 year from the date of purchase. A copy of the receipt must be included with any units returned for warranty repairs.

Unified Microsystems will, at its option, repair or replace defective units returned during the warranty period.

Unified Microsystems reserves the right to change specifications of the XT-4B at any time without notice.

For support, email w9xt@unifiedmicro.com. Please include "XT-4" in the subject line.

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UM Unified Microsystems

XT-4B Beacon Keyer

User's Manual
Revision 1.01C

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Specifications

Power: +7VDC to 13VDC, 5ma typical
CW speed: Selectable 5, 10, 15, 20, 25 WPM
Memory size: Approximately 180 Morse letters.
Output keying: Positive Keying only, RCA phono jack output
Paddle input: 1/8' (3.5mm) stereo jack input

Set UP

1) Wire up your paddle with shielded cable with two conductors. The XT-4B uses a 1/8" stereo plug. The shield wire is ground. The tip of the connector is for the dit key and the center ring is for the dah key.
2) Wire up a cable to the CW input of your transmitter. Use shielded cable with an RCA phono type connector for the XT-4B end and a connector compatible with your transmitter on the other end.
3) Wire power to J3. Be sure to observe correct polarity.

Note: The XT-4B is designed to work with solid state positive keyed radios only! Damage can occur to the XT-4B and/or your transmitter if it is used improperly!

If you are unsure of your transmitter type, plug the CW cable into the transmitter but leave the other end free. Measure the voltage across the other end of the cable. Ground the outer shell, and the inner pin is positive. The voltage should measure +5V to +12V. If the voltage is negative, or is more than 24V, do not use the XT-4B keyer with your radio.

Speed Control

Speed is controlled by the small trimpot R7. Turning the pot clockwise will increase the speed in 5 WPM increments from 5-25 WPM. Note that the "20 WPM" speed is actually set for 19.8 WPM. FCC regulations require repeater CW ID be less than 20 WPM. Setting the XT-4B to the 20 WPM will still ensure compliance.

Start with R7 fully counter clockwise. Press the dit paddle and slowly turn the trimpot clockwise. The speed will start at 5 WPM. As the pot is advanced, the speed will suddenly increase to 10 WPM, followed by 15 WPM, 20 WPM, and finally 25 WPM. Leave the pot setting at the de-

sired speed. For best results, leave the trimpot setting near the middle of the desired speed setting.

Jumper selection

Operation of the XT-4B is controlled by jumpers on J4. The pin definitions are as follows:

Pin #	Description
1	Play message
2	Play message preceded by 5 second key down
3	Play message preceded by 20 second key down
4	Not used
5	Record
6	Ground

Pin 1 is the one nearest the corner of the board. To select a function, connect the jumper wire between pin 6 (ground) and the desired function pin.

Recording

To record, briefly short pin 5 and 6 with the jumper wire or a small screw driver. The LED will turn on. The XT-4B is now in record mode. Start sending the message with the paddle. The XT-4B will start recording when you first start sending. Briefly short pins 5-6 again to stop recording. The LED will then go off indicating recording has finished. To change the message, simply record over the old one. The message is non-volatile, and will remain even if power is removed.

You can add a period of key up in the middle or at the end of your message. Simply stop sending for the desired period of time and then resume keying or stop recording.

The message length is approximately 180 Morse characters. This is over 1 1/2 minutes at 25 WPM, more than enough for most applications. If you record too long, it will start recording over the beginning of your message. If this happens, re-record a shorter message.

Message Playback

To play back a message, connect either pin 1 or pin 2 of J4 to ground (pin 6). With pin 1 grounded, the XT-4B will play back your message as recorded. With pin 2 grounded, the XT-4B will start with 5 seconds key