

Using the QE-2 to test ANI decoders

QE-2 ANI encoders can be used to make test equipment specifically for testing C Plus decoders. One QE-2, a handful of parts and a project box is all you need. This equipment will test the decode function and verify that the C Plus responds to acknowledgeable messages. It is also capable of testing the mute circuits and Out1 and Out2.

Assumptions:

The proper functioning of this test set assumes that the C Plus is programmed for the same signaling type as the QE-2. The output level of the QE-2 must be adequate to be detected by the C Plus, and not so high that it is distorted by the C Plus input circuits. The loaded message table of the C Plus must map either Out1 or Out2 to the emergency message.

What is a good test?

In the first test, press and release the "PTT" button. The C Plus will detect the data burst generated by the QE-2 and activate the mute relay. This will cause the test set LED attached to "RX MUTE" to change condition (if off, it will turn on, if on, it will turn off) for a short period.

In the second test, press and release the "EMERGENCY" button. As before, there will be activity on the "RX MUTE" LED followed by the "OUT1" or "OUT2" LED. Then the "TXCTL" and the "KEY" LED will become active.

Additional Information:

The test set can be customized for your particular applications. You may need only OUT1 or you will need ManDown (GE Star® only) capabilities tested. Add pushbuttons for C Plus channel busy, PTT, RX Inhibit and Remote Clear and you will be able to exercise the "reasoning abilities" of the C Plus.

Reasoning Abilities?

If the C Plus senses an active RX Inhibit, then it will not react to received data.

If the C Plus senses that the PTT line or the Channel Busy line is active, it will hold off on sending an acknowledgment until the line becomes inactive. (The box is polite!)

Remote Clear acts the same as the front panel "Clear" button.

Acquiring the hardware:

The QE-2 and spare connectors for the C Plus can be ordered by calling Cimarron Technologies. Resistors, LED's and switches are easily available from your junk box or your local electronics supply store.

Test Fixture:

The diagram below describes the simple test fixture required to perform tests described above. The QE-2 is programmed with defaults.

