

403A INTERLOCK/PTT MASTER **LOCK X**

GENERAL DESCRIPTION

This device has two very important functionality in SO2R, MS and some specific Multi OP station designs:

INHIBIT

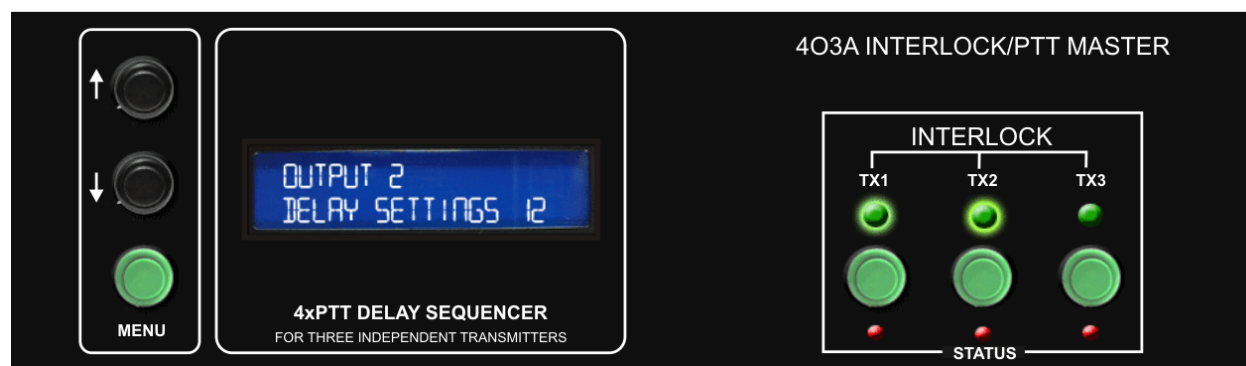
Is taking care about interlocking two or three transmitters with simple button pushing. Each of three transmitters can be interlocked with any other, or can be disabled from interlocking if not necessary.

Green LEDs are indicating which transmitters are in INTERLOCK, and RED LEDs are blinking when one of transmitters is active.

PTT DISTRIBUTION

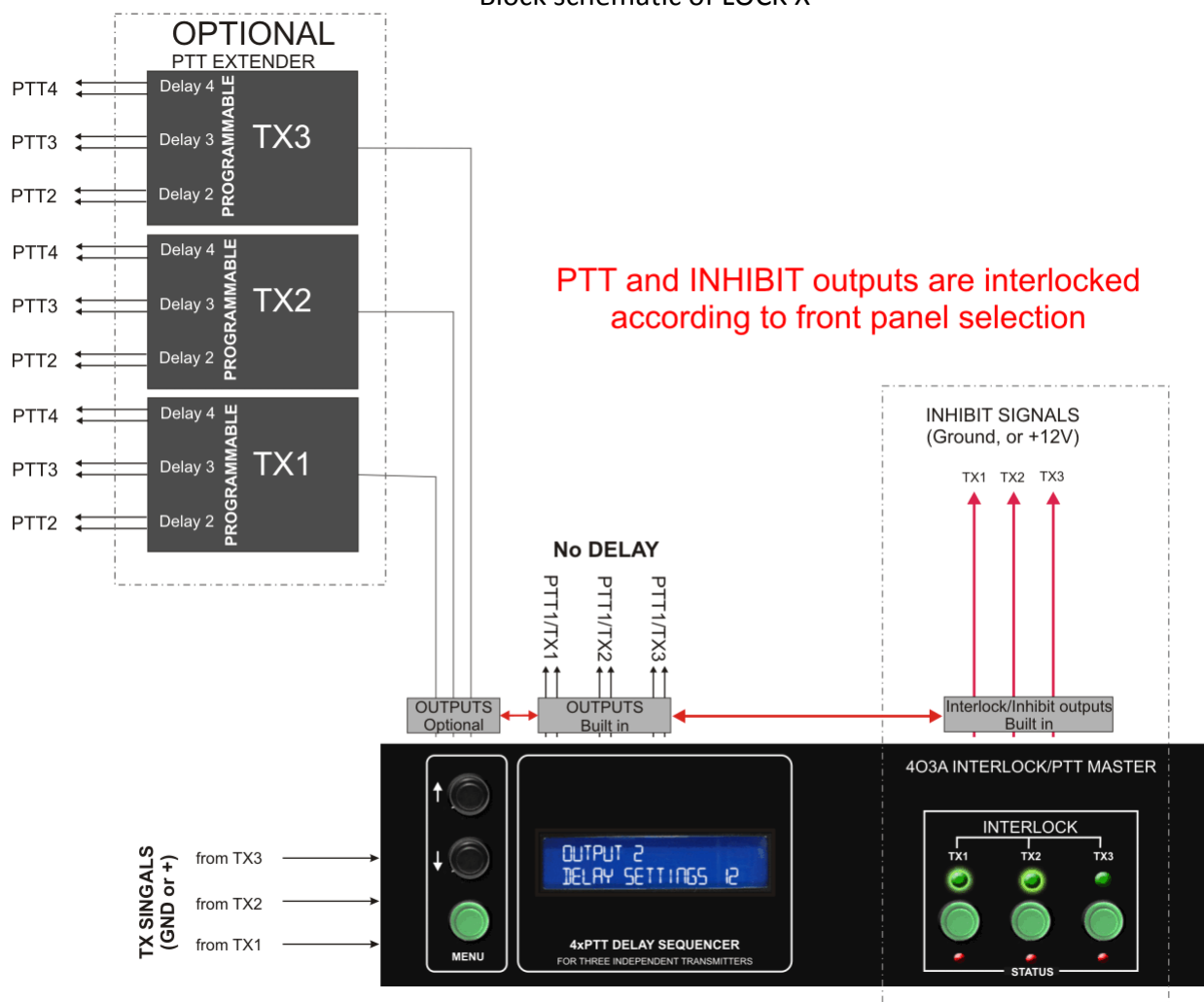
For each SO2R or Multi, EME station, of serious VHF station PTT sequencer is extremely important. LOCK X has built in PIC microcontroller and provide four independent PTT outputs, easily programmable from front panel. Each delay can be set from 0ms to 255ms.

LOCK X independently control PTT DELAY for 3 transmitters – four programmable outputs for each. PTT outputs are flexible, and with jumpers available on the rear panel, each output can be Ground or PLUS 12V, OPEN or Shortcut circuit. Thanks to this simple flexibility, LOCK X can be implemented in almost any existing layout of station.



TX sense inputs	<i>GND or +5V, independently</i>
PTT OUTPUTS	<i>2x Zero delay built in (GND or +12V, jumpers)</i>
OPTIONAL PTT Extender	<i>Separate device, connected with DB9 cable with LOCK X. Has 3xprogrammable PTT outputs. Up to 3 PTT extenders can be connected, for 3 independent radios</i>
PTT outputs	<i>Each can be open or short, GND or +12V</i>
Power supply	<i>External, 12V</i>

Block schematic of LOCK X



LOCK X itself has built in Interlock system, and two PTT outputs for each of three (3) transmitters.

INTERLOCK

You can interlock your transmitters on two different ways:

1. Using inhibit signals from LOCK X, to inhibit transmission on your radio
(Those signals can be selected with jumpers on rear panel, to be GND or +12V, depending on what radio are you using)
2. Using PTT outputs from LOCK X, as all those outputs are interlocked according the front panel selection.

If you do not push INTERLOCK buttons on the front panel, then all transmitters are active independently.

If you Interlock any two or all three transmitters with just pressing a buttons (Green LEDs are indicating status), then transmitters are interlocked and first one wins. Inhibit signals from LOCK X are sending signals and inhibiting transmitters, as well as disabling PTT lines for this transmitters.

INTERLOCK PRIORITY

Sometimes you need INTERLOCKING, but you need to have some of them on different level of priority.

For example, you want to allow MULT station to have priority and to STOP any current transmitting of other transmitters, as MULT is most important. With LOCK X you can set a level of priority with entering PRIORITY MODE (*Push ENTER and DOWN button at the same time*) and adding to transmitters priority levels 1, 2 or 3. Highest priority has TX number 3, then 2 and lowest priority is on level 1.

If you chose just one to have higher priority, then it will stop any transmitting and will take priority. Other two with same level of priority will have normal Interlock scenario – First one wins.

That is way to make your scenarios as you like and to have Interlocking in any possible combination.

EXAMPLE 1

TX1 – Priority 3 – STOPS transmitting of TX2 and TX3

TX2- Priority 2 - STOPS transmitting of TX3

TX3 – Priority 1 – Transmit only if TX1 and TX2 are not transmitting

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TX1 – Priority 3 – STOPS transmitting of TX2 and TX3

TX2- Priority 1 - Transmit only if TX1 is not transmitting. With TX3 is First One Wins

TX3 – Priority 1 – Transmit only if TX1 is not transmitting. With TX2 is First One Wins

PTT EXTENDER

In LOCK X device you have build in two PTT outputs, for each of three transmitters.

If you want to have PTT distribution with more PTT outputs you can externally connect PTT extender for one, two or three transmitters, depending on your needs.

One PTT extender is needed per one transmitter.

PTT extender has three groups of PTT outputs (*two PTT outputs per group*) and each group can have delay which is programmable from front panel. Delay can be set in range from 0ms to 255ms.

PTT signals can be chosen with jumpers on the rear panel to be GND, PLUS, OPEN and SHORTCUT.

Actually you can make whatever combination you need.

PTT extender is placed behind radio, and is connected with cable to LOCK X.

With distributing PTT to all radios through LOCK X you have all in clean, easy controlled and easy programmable order. All becomes to be on one front panel, reliable, and PC independent.

USE OF LOCK X

SO2R, MS, M2, MM layouts – flexible and easy programmable, INTERLOCKING and PTT distribution for proper switching of antennas, linear amplifiers, radios, preamplifiers, filters etc

Control two or three radios on the same band

VHF – proper distribution of antennas, linear amplifiers and preamplifiers. Easy control of two or three station on the same band – blocking those who are not transmitting