

## SATELLINE-2ASxE / SATELLINE-3AS

# Radio Modem Set Ups for a SCADA network

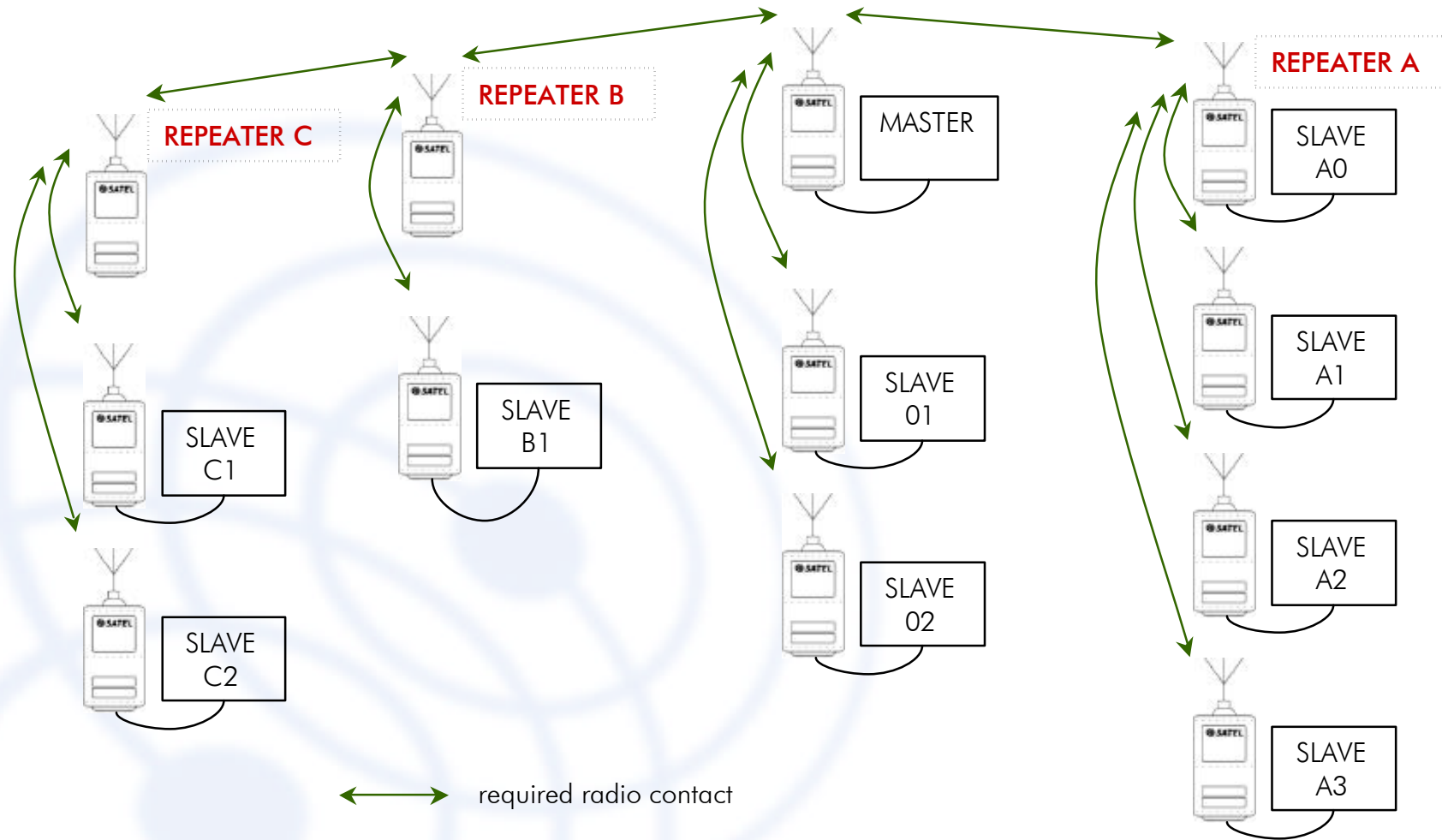
solution based on

**Dual Addresses**

and

**TX Start Delays**

# Network Configuration



# Presumptions

- 👉 one RF channel
- 👉 all stations may hear signals from any other station
- 👉 unique slave addresses
- 👉 only one slave responds to a request
- 👉 RF channel: 12.5 kHz
- 👉 Serial interface settings: 9600, 8, N, 1
- 👉 Data messages: 50 B (request), 100 B (reply)
- 👉 FEC set off for 3AS modems

## Limitations

- ✎ Max. size of data messages: 135B (2ASxE) and 1kB (3AS)
- ✎ No group polling allowed
- ✎ Slave terminal which is connected to the serial interface of a repeater has to be capable of setting an additional response delay to wait until the repeater has sent the request message forward.

# Definition of Addresses

 Radio modem addresses are used for

- to control the access of the message to the serial interface
- to control that the message proceeds to the wanted direction
- to prevent the reflection of the message to TX station
- to prevent messages hopping back and forth between repeaters
- to prevent messages hopping over the next repeater

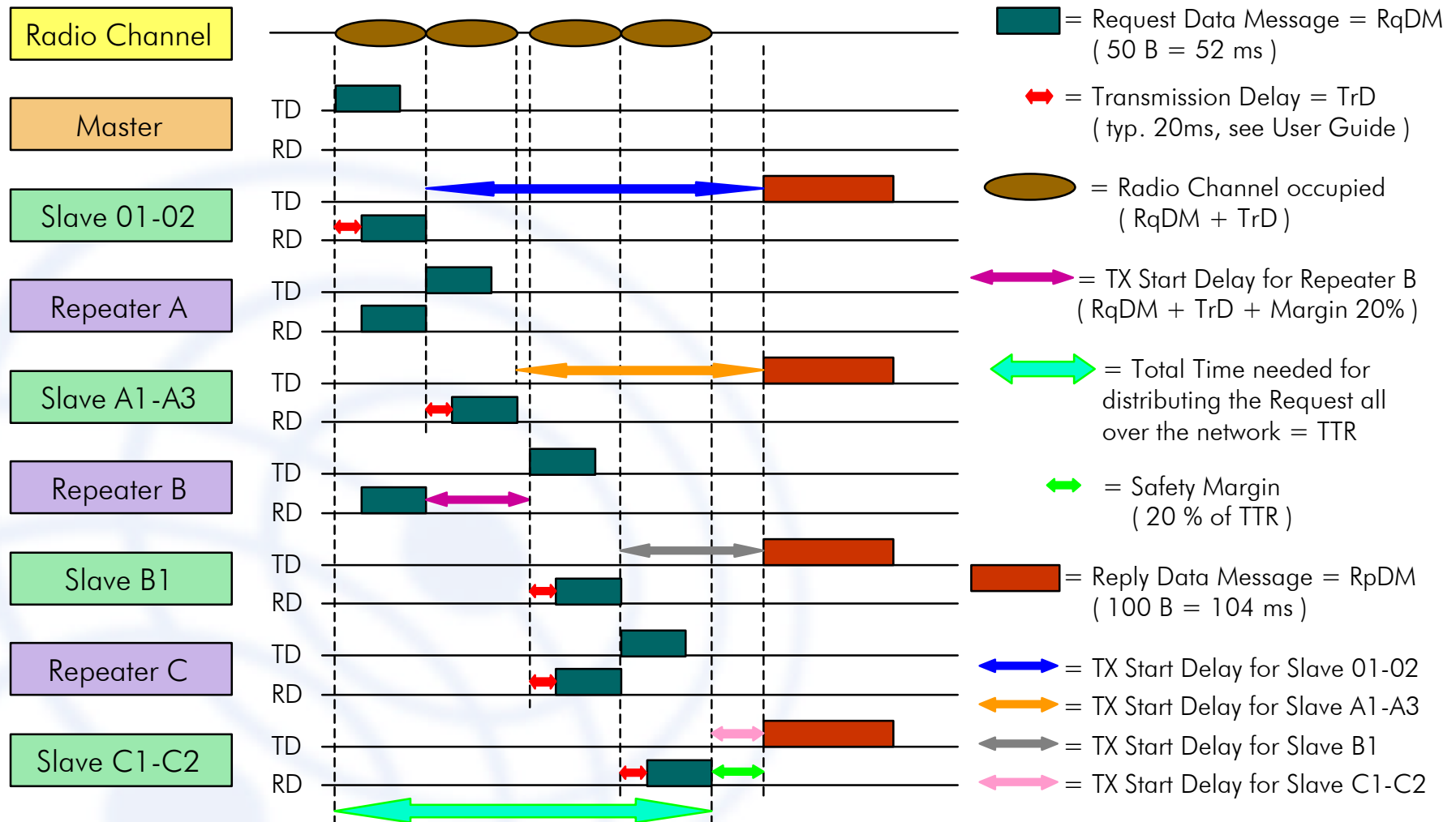
Station / Addresses	Master	Slave 01-02	Repeater A	Slave A1-A3	Repeater B	Slave B1	Repeater C	Slave C1-C2
Primary TX Address	1111	5555	5555	6666	5555	7777	7777	8888
Primary RX Address	5555	1111	6666	2222	7777	3333	8888	4444
Secondary TX Address	1111	5555	2222	6666	3333	7777	4444	8888
Secondary RX Address	5555	1111	1111	2222	1111	3333	3333	4444

Note: If secondary addresses are not in use, they are set to be the same as the primary addresses.

## Definition of TX Start Delays

- ✎ Usage of the addresses does not prevent totally collisions on the radio channel
- ✎ TX start delays are used for controlling the occupation of the radio channel
- ✎ All other slave terminals may reply as soon as they have received the whole request message. Only the slave terminal that has been connected to a repeater has to delay the answer.

## Definition of TX Start Delays



## Definition of TX Start Delays

- 👉 TX Start Delay is given as a hex value in ms for 2ASxE
- 👉 For 3AS the value may be given as a decimal number

### TX Start Delays

Station / Delay	Master	Slave 01-02	Repeater A	Slave A1-A3	Repeater B	Slave B1	Repeater C	Slave C1-C2
TX Start Delay in ms	0	292	0	220	87	133	0	61