

NCS-C250 Parallel Operation

Introduction

Multiple NCS-C250 Mobile Multi-Switchers can be connected in a parallel configuration to share radios among multiple operating positions reducing the number of radios required in a multi-operator dispatch operation. Examples are given for various radio sharing configurations for addressing different dispatch requirements.

Examples of Parallel Operation

There are a myriad of possible parallel and series/parallel configurations. The configurations presented are simply representative of the many configurations that are possible.

Four Dispatch Positions Sharing Four Radios

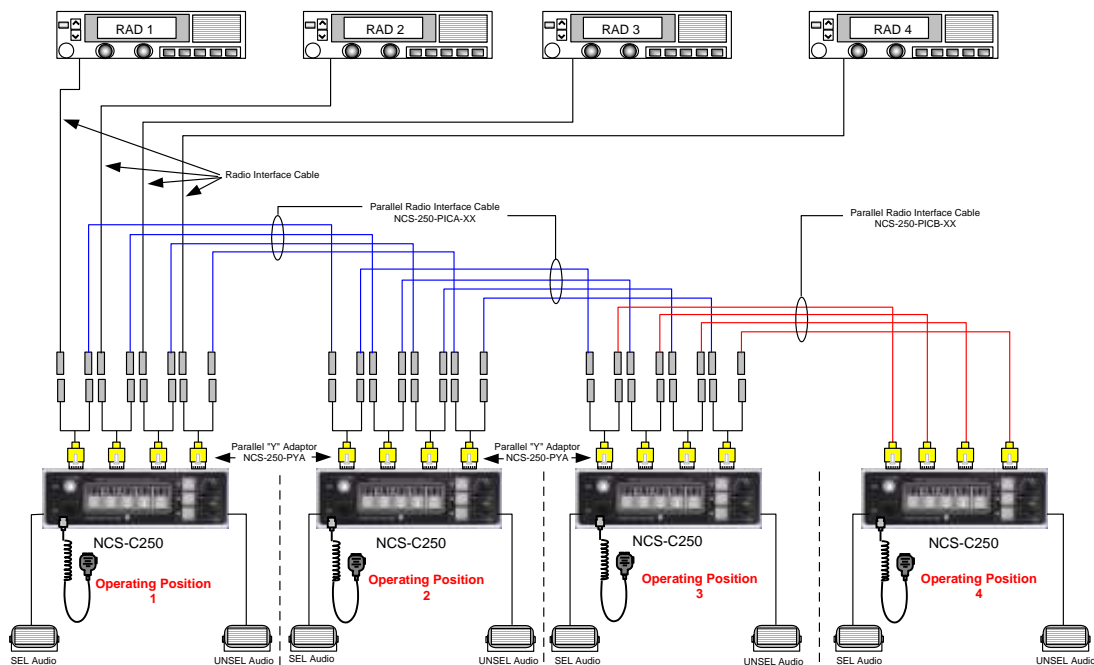


Figure 1 – Four Radios Shared with Four Dispatch Positions

The configuration shown in Figure 1 provides four dispatch operating positions that share four common radios. Each dispatcher has access to any of the four radios and is provided with Selected and Unselected receive audio. Of course, this configuration can be used for two or three operating positions as well.

Required Interface Cables

The chart below shows the cable complement required for the configuration in Figure 1. Contact Collcomm for the cable requirements for your specific configuration.

Cable Description	NCS Model No.	Qty Req'd
Radio Interface Cable	Depends on Radio Model	4
Parallel Radio Interface Cable	NCS-250-PICA-XX	8
Parallel Radio Interface Cable	NCS-250-PICB-XX	4
Parallel "Y" Adaptor	NCS-250-PYA	12

Operation

Simultaneous Use of a Single Radio by Multiple Operators

In this configuration each operator can select any of the 4 radios via the pushbuttons on the front panel of the NCS-C250. This means that more than one operator can select and transmit on the same radio. If this is problematic in your specific operation, NCS can provide a Lock-out Box that will inhibit the PTT circuit to prevent other operators from transmitting if another operator is transmitting on the *Selected* radio.

Cross-band Repeating

Each operator also has the ability to independently activate the cross-band repeat function, connecting any of the 4 radios for cross-band repeating. The operating position that is cross-banding is limited to simulcasting on the radios selected for cross-banding. (See Application Note NCS-AN-107 for more information.) All other operating positions will operate normally.

Multi-Cast Operation

Any or all of the NCS-C250s can independently operate in the Multi-Cast mode (Multi-Cast option required). This allows the operator to select up to 4 radios for simultaneous transmission.

Controls

NCS-C250 controls, such as SEL VOLUME, UNSEL VOLUME, SEL MUTE, UNSEL MUTE, AUTO MUTE and RPT/PA operate independently for each operating position.

Sharing of Specific Radios Between Dispatch Positions

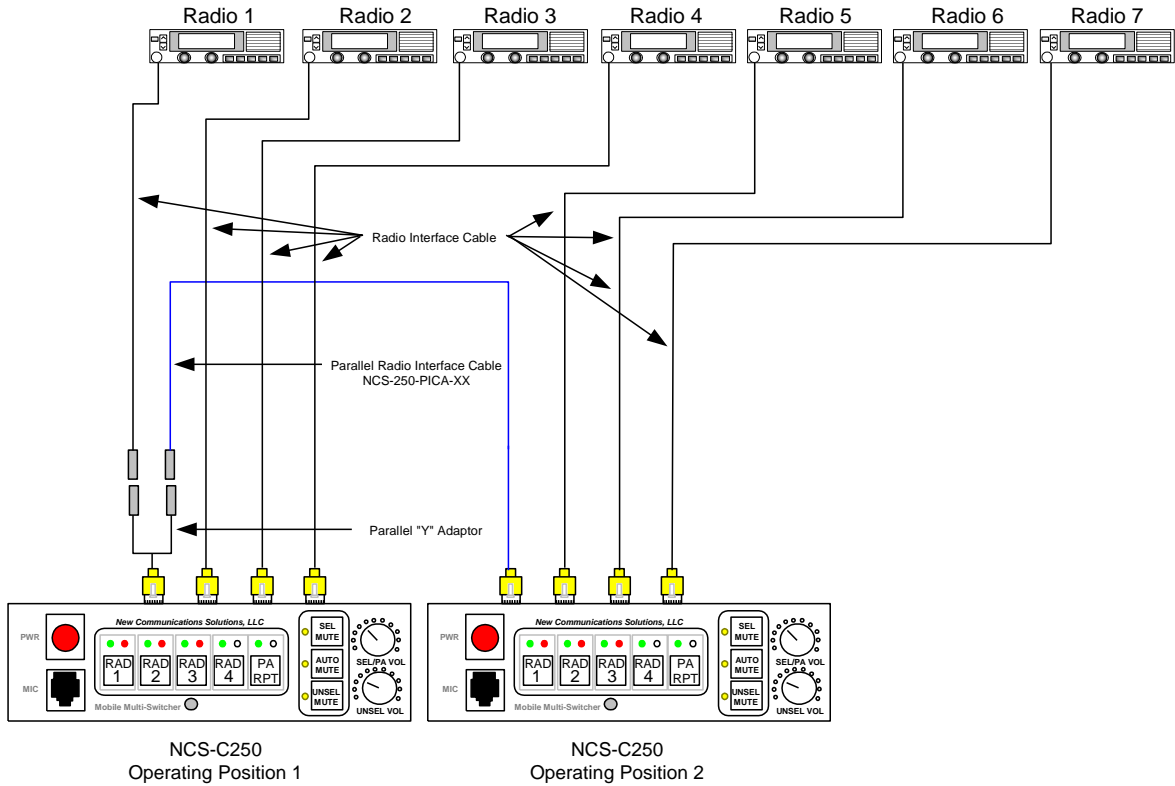


Figure 2 – Sharing of Specific Radios Between Multiple Operating Positions

The configuration in Figure 2 utilizes two operating positions with three independent radios connected to each of the two NCS-C250s and a single radio shared between the two operating positions.

Operation

Operation of this configuration is the same as that described above for the configuration shown in Figure 1.

Two Dispatch Positions Sharing Eight Radios

For operations requiring each dispatch position to be connected to more than four radios and up to eight radios, a series/parallel configuration can be used. Each dispatch position consists of a NCS-C250 and NCS-C251 connected in series via the Expansion Port. This series configuration is then connected in a parallel configuration with the second dispatch position. Additional dispatch positions can be added in a similar fashion for expanded operations. Figure 3 shows the series/parallel configuration.

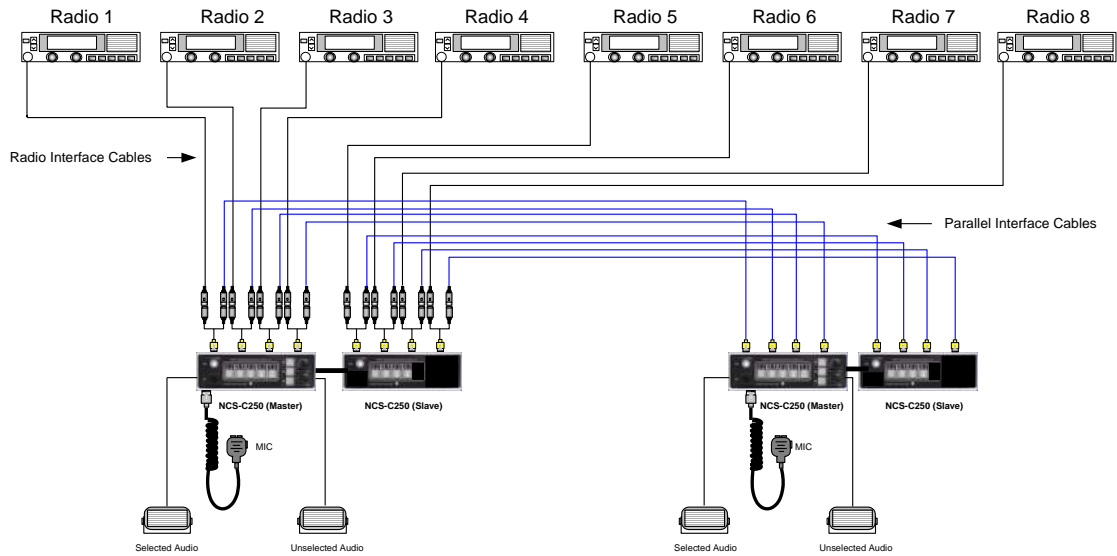


Figure 3 – Series/Parallel Operation for Controlling Up to Eight Radios

Operation

When a C251 is connected in series with a C250, only the RAD buttons are utilized on the C251. All other functions are controlled by the buttons on the C250.

All other operations are the same as described above for the configuration in Figure 1.

Contact Us

There are many variations of the examples given in this application note. If you have specific dispatch requirements let us configure your requirements into a working dispatch solution.

If you have questions regarding your specific requirements contact Collcomm at:

TEL/Fax: 888-883-5788

Email: support@ncsradio.com