

# RCP-BR Panel

## Channel Focus Protocol

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## Document Revision History

Revision	Date	Author	Changes
1.00	2011/12/20	Stas Magill	
1.01	2012/01/12	Stas Magill	Added GetSelectedChannelIDs , GetSelectedChannelNames, Heartbeat and Disconnect commands.
1.02	2013/02/21	Stas Magill	Renamed to “Channel Focus Protocol”

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# 1 Introduction

## **1.1 Purpose**

This document details the requirements for connecting to an RCP-BR, and the commands that are accepted by the channel focus protocol.

## **1.2 Intended Audience**

This document is intended for use by software engineers who need to implement the channel focus protocol for the RCP-BR.

## 2 RCP-BR Channel Focus Protocol

### 2.1 Connecting to an RCP-BR

The RCP-BR accepts TCP/IP socket connections on port 7000. Please note the following:

- Software version 4.7.208 or later is required.
- Only one connection at a time is currently accepted.
- All commands and responses are expected and sent with the Windows CR+LF line endings.
- The client software must respond appropriately to the Heartbeat commands in order for the connection to be maintained. Please refer to the documentation of the Heartbeat command for full details.

### 2.2 Channel Ganging

All channel selection commands default to use the channel ganging behaviour i.e. consecutive selection commands result in multiple channels being selected. The first selection command determines the master channel. When multiple channels are selected, the RCP-BR will only show the status of the master channel. On the panel's Channel Selector display, the master channel is highlighted in red, whilst any additional ganged channels are highlighted in white.

If only a single channel needs be selected at a time, then the `DeselectChannels` command must be issued before a new selection command.

### 2.3 Heartbeat

#### Format

```
Heartbeat
```

#### Description

The TCP/IP protocol does not actively detect closed or failed connections. The RCP-BR therefore uses a heartbeat mechanism to ensure that a connection's status is ok and to detect connection closures and failures. Once a connection on port 7000 is established, the RCP-BR will send the Heartbeat command to the connected client every 5 seconds. The client must then respond with a matching Heartbeat response also within 5 seconds. If a response is not received by the RCP-BR, it drops the TCP/IP connection. The client will then need to re-open the connection before any further commands can be sent.

#### Example

```
Heartbeat
```

### 2.4 SelectChannelID

#### Format

```
SelectChannelID [id]
```

#### Description

This command selects a channel using its ID. The channel ID is listed and defined in the Station Setup section of the RCP-BR's web interface.

**Example**

```
SelectChannelID 2
```

## **2.5 SelectChannelName**

**Format**

```
SelectChannelName [name]
```

**Description**

This command selects a channel using its name. The channel name is listed and defined in the Station Setup section of the RCP-BR's web interface.

**Example**

```
SelectChannelName News3
```

## **2.6 SelectChannelDevice**

**Format**

```
SelectChannelDevice [IP]
```

**Description**

This command selects a channel using an IP address of a device belonging to that channel. A channel can have a number of devices associated with it, and each device can only be assigned to one channel. Please see the Station Setup section of the RCP-BR's web interface for details.

**Example**

```
SelectChannelDevice 10.96.12.47
```

## **2.7 DeselectChannels**

**Format**

```
DeselectChannels
```

**Description**

This command deselects all selected channels.

**Example**

```
DeselectChannels
```

## **2.8 GetSelectedChannelIDs**

**Format**

```
GetSelectedChannelIDs
```

**Description**

This command returns a comma-separated list of IDs for all the selected channels. An empty string is returned if there are no selected channels.

**Example**

GetSelectedChannelIDs

**2.9 GetSelectedChannelNames****Format**

GetSelectedChannelNames

**Description**

This command returns a comma-separated list of names for all the selected channels. An empty string is returned if there are no selected channels.

**Example**

GetSelectedChannelNames

**2.10 Disconnect****Format**

Disconnect

**Description**

This command should be sent to the RCP-BR in order to notify it that a client connection is being closed. Please note that the heartbeat mechanism will drop inactive connections automatically, but this can take up to 10 seconds.

**Example**

Disconnect