

Brikvision User Manual

December 15, 2023



The screenshot displays the Brikvision web interface with a dark theme. On the left is a navigation sidebar with icons for Home, System, Collections, Applications, Downloads, Trash Bin, Logs, Power, and Help. The main content area is divided into several sections:

- Chassis Information:**

Model	MB3PRT-01
Serial	2
GPS	Locked
- Brik Information:**

Model	Scorpion
Serial	93
PS Temp	44 C
Input Voltage	11.875 V
Input Power	48.7 W
- Recorder Storage Information:** A donut chart shows 9% usage. Text indicates: Total Space: 26.33 TB, Used Space: 2.54 TB, Free Space: 23.79 TB.
- Recorder Information:** A message states "Currently no active channels".

At the bottom left, there is a "LS Record" button with a green status indicator and a "RELEASE: 230829" button.

Contents

1	Overview	1
1.1	MB3 Stand Alone	1
2	Connecting	2
2.1	Connection Messages	2
3	Home	3
4	System->Driveset	4
4.1	Driveset Information	5
4.2	Driveset Encryption	5
4.2.1	Driveset Unlock	5
4.3	Driveset Formatting	6
4.4	Driveset Reallocation	7
5	System->Network	7
5.1	Link Status	7
5.2	Static	8
5.2.1	Last Static	8
5.3	DHCP	8
5.4	MTU	8
6	System->NTP/Time	9
6.1	NTP Client	9
6.2	System Date/Time	10
7	System->GPS/Timecode	10
7.1	Timecode Status	13
7.2	GPS State	14
7.3	GPS Information	14
8	System->Security	14
8.1	Peer Authentication	15
8.2	Local	15
8.3	Corporate	15
9	Collections	16
9.1	Toolbar	16
9.1.1	Labels	17
9.2	Search	18
9.2.1	Recording Name	18
9.2.2	Label	18
9.2.3	Comments	19
9.3	Recordings Table	19
9.3.1	Status Icons	19
9.4	Recording Details Dropdown	19
9.4.1	Toolbar	20

9.4.2	Spectrum	21
9.4.3	Comments	21
9.4.4	Info	21
9.4.5	Download	21
10	Applications	22
10.1	Re-tasking	22
10.2	Available Applications	22
10.2.1	HS Streaming	22
10.2.2	HS Record	25
10.2.3	LS Record / LS Anyrate Record	25
10.2.4	RF Record	26
10.2.5	Network Apps	26
10.2.6	Analog Playback	32
10.2.7	Network Tester	35
10.2.8	Taskmaster	35
10.3	Common Recording Application Elements	35
10.3.1	Starting a Recording	36
10.3.2	External Tuner Settings	38
10.3.3	Gain Control	39
10.3.4	SBT Control	41
10.3.5	Spectral Plot	42
11	Downloads	44
12	Trash Bin	45
12.1	Toolbar	45
13	Logs	45
14	Power	46
15	Help	46
16	Status Bar	46
16.1	Status Icons	46
17	Admin	47
17.1	Versions	47
17.2	System Services	48
17.3	Chassis	49
17.3.1	Chassis Identify	50
17.3.2	Chassis ID	51
17.3.3	Chassis Config	51
17.4	Driveset	51
17.4.1	Setup	52
17.4.2	Clear	52
17.4.3	Lock	53
17.4.4	Unlock	53

18 Release	53
19 Troubleshooting	55
19.1 GPS/Timecode Page	55
19.1.1 No GPS Lock Status	55
19.1.2 PPS-Only Timecode	55
19.1.3 No PPS Detected	55
19.1.4 No 10MHz Reference Detected	56
20 Debugging	56
21 Fallback Page	56
21.1 Downloads	57
21.2 Logs	59

List of Figures

1	Brikvision Home Page	3
2	Recorder Information	3
3	Playback Information	4
4	Transfer Information	4
5	Driveset Information	5
6	Driveset Locked	6
7	Driveset Formatting	6
8	Driveset Reallocation	7
9	System->Network Page	9
10	System->NTP/Time NTP Client	10
11	System->NTP/Time System Date/Time	10
12	System->GPS Initializing	12
13	System->GPS Locked	13
14	System->Security Page	15
15	Collections Table Page	16
16	Recording Details Dropdown	20
17	Recording Download Tab	22
18	HS Streaming Top	22
19	HS Streaming HS Controls	23
20	HS Streaming XGE	23
21	HS Streaming SBT	24
22	System Sample Rate	25
23	LS Mode Toggle	26
24	MB Transfer	27
25	Network Record	29
26	Network Record XGE Status	30
27	Network Record RX Config	31
28	Network Record Active Recording	32
29	Playback Page	33
30	Playback Active	34
31	Recorder Panel	36
32	Tuner Settings Panel	38
33	Variable Attenuation vs Input Power	40
34	SBT Control	41
35	Wideband Plot	42
36	Frequency Domain Plot	42
37	Time Domain Plot	43
38	Auto Adjust, Show/Hide, and Reset	44
39	Downloads Page	44
40	Trash Bin Page	45
41	Admin Versions	48
42	Admin Services	49
43	Admin Chassis	50
44	Admin Chassis Identify	50
45	Admin Driveset	52
46	PPS-Only Timecode	55

47	No PPS	55
48	No 10MHz Reference	56
49	Fallback Home	57
50	Fallback Downloads Page	58
51	Fallback All Logs	59

1 Overview

Brikvision is a web hosted interface that allows users to interact with and control various MB3 hardware. Currently, Brikvision supports the following MB3 Chassis types:

- MB3DSP-01
- MB3MPK-01
- MB3MPK-02
- MB3PRT-01
- MB3PRT-02
- MB3PRT-03
- MB3CVT-01

Some features of Brikvision may not be available for all Chassis types. Where possible, differences will be noted.

Additionally, there is the ability to run a software suite, called *MB3 Stand Alone* (MB3-SA), on a non-MB3 host. This suite runs a version of Brikvision that has a subset of options described in this manual. One example of this suite is called *MB3 Server*, which can be run on a Linux server. See the section below for more details.

Brikvision should run in any web browser that supports Javascript, but currently the officially supported browsers are Chrome, Firefox, and Edge, running on Linux or Windows. Chrome is the recommended browser.

NOTE: MB3DSP Chassis do not have drives, therefore, the *System->Drives, Collections, Trash Bin* and *Applications* Pages will be unavailable. Also, the *Home Page* will not have the *Recording Information, Playback Information, nor Recorder Storage Information* sections.

1.1 MB3 Stand Alone

MB3 Stand Alone (MB3-SA) is a suite of software that allows a subset of MB3 software to be run on non-MB3 hosts, such as a Linux server. The main functionality is to provide the ability to transfer recordings to and from MB3 Chassis, and other MB3-SA hosts.

Brikvision Stand Alone (Brikvision-SA) is a subset of the main Brikvision software that is used on MB3-SA to provide abilities similar to what is available on MB3 Chassis using the full Brikvision software.

See the separate MB3 Stand Alone user manual for additional information about MB3-SA, such as installing and running it.

NOTE: Below is a list of notable exclusions, or differences, in Brikvision when running in MB3-SA mode:

- MB3-SA does not have a BRIK, therefore there is no *Brik Information* section on the *Home Page*
- The *Driveset* Page will only display **Allocated** and **Unallocated** information
- The *Network* Page will only display available network interface information

- MB3-SA does not have a GPS, therefore there are no *System->GPS/Timecode* nor *System->NTP/Time* Pages
- There is only a single application, called *Network Transfer*, that is identical to the *MB Transfer* Page described below
- There are no *System->Security, Logs, Power, nor Help* Pages
- The *Downloads* Page is limited to just a few, select applications
- Many status icons will not be displayed, such as drive status, gps status, etc.

2 Connecting

Before connecting Brikvision to a Chassis, the IP address of that Chassis must be known. To connect, from a host with a (supported) web browser, enter the IP address into the browser. Once connected, the user can be then use Brikvision to control the operation of the MB3 Chassis. The main use of the web browser is to view the spectrum and make recordings of the chassis inputs. In addition, Brikvision can be used to control playback of existing recordings.

Once one or more recordings are made, the system allows downloading of recordings through the 1G Command and Control network interface. The download options can be found on the *Collections* Page, in the dropdown element of each recording in the table.

2.1 Connection Messages

Once a connection has been established to the Chassis, various messages will appear in the browser window. Refer to the table below for additional details about each message.

Message	Description	Max Duration
Initializing... SSE Connection	Establishing initial connection to hardware	5 seconds
Initializing... API Cache	Gathering required chassis information	20 seconds

If any message appears for longer than the **Max Duration**, the browser should be refreshed. If the problem persists, then refer to the *Debugging* section below.

Once the API initialization process has completed, the MB3 Brikvision Site will appear, defaulting to the *Home* screen.

3 Home

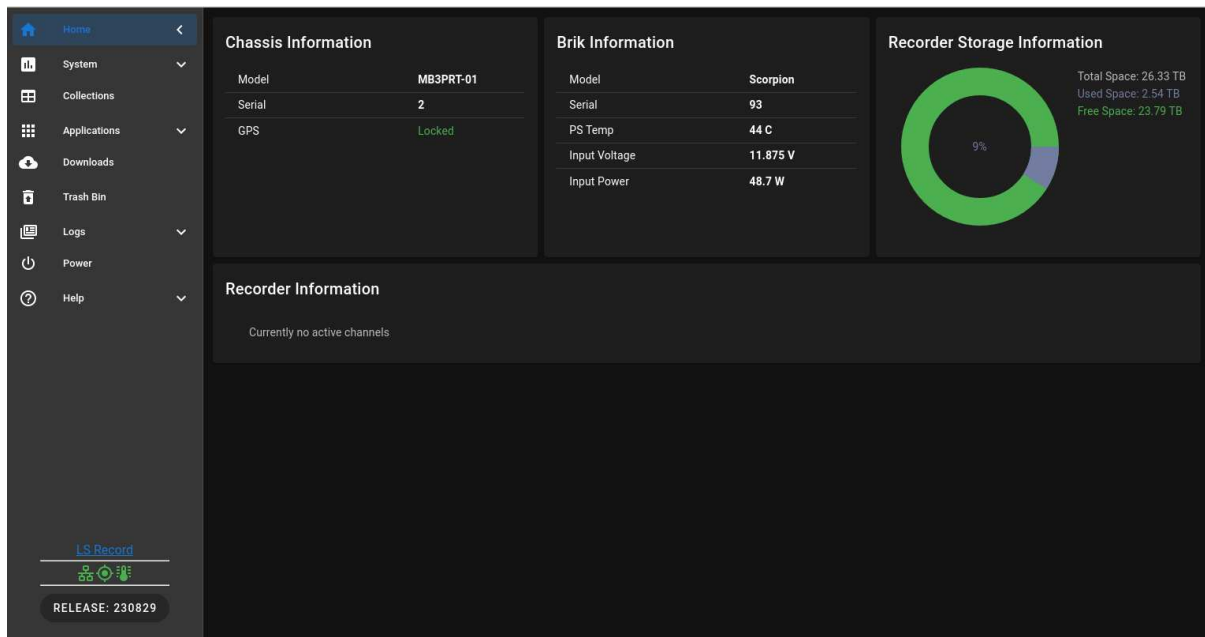


Figure 1: Brikvision Home Page

The *Home* screen shows status of various subsystems of the Chassis. It has four main sections:

- **Chassis Information** - Provides basic system information, such as model and serial number.
- **Brik Information** - Provides information of the internal BRIK inside the Chassis, including model and serial number. It also provides the current temperature of the BRIK microprocessor, and the Input Power and Voltage of the BRIK.
- **Recorder Information** - Provides information about the recorder channel status. As recordings are started, there will be a channel status associated with each recording. **NOTE:** This section will only appear on chassis that have drives, and the application has been tasked for recording.

Recording ↓	Status	Duration	Progress	Received	Rate	Bit Usage	Drops	Timecode
Group: rec_group1								
rec_group1_sbt0		00:01:00	100% / 00:01:12	80.2500 GB	1.19 GB/s	8/8	0	72
rec_group1_sbt1		00:01:00	100% / 00:01:12	80.2500 GB	1.19 GB/s	8/8	0	72

Figure 2: Recorder Information

- **Playback Information** - Provides information about the playback channel status. Once playback has started, there will be a channel status associated with each recording that was setup for playback. **NOTE:** This section will only appear on chassis that have drives, and the application has been tasked for playback.

Channel	Recording ↑	IF	Sample Rate	Status	Length	Duration	Progress	Read Rate
TX0	rec_group1_sbt0	0 MHz	150 MHz	🔄 🎧	00:00:58	00:00:28	53% / 00:00:31	0.27 GB/s
TX1	rec_group1_sbt1	0 MHz	150 MHz	🔄 🎧	00:00:58	00:00:28	46% / 00:00:26	0.27 GB/s

STOP ALL

Figure 3: Playback Information

- **Transfer Information** - Provides information about the transfer channel status. Once transfer has started, there will be a channel status associated with the recording being transferred. **NOTE:** This section will only appear on chassis that have drives, and the application has been tasked for transfer.

Current Recording	Size	Sent	Rate	Elapsed	Time Left
mb0719131249_sbt1	675.7500 GB	139.0000 GB	262.9194 MB/s	00:09:01	00:34:50

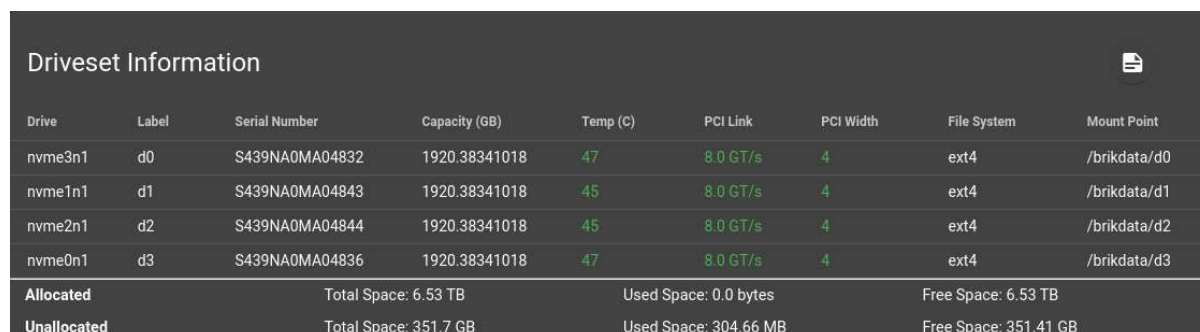
Figure 4: Transfer Information

- **Recorder Storage Information** - Provides information regarding the amount of total, used and freespace for recording storage. It will display a warning if freespace is getting low, and an error if it gets to a certain amount free. An error message will be displayed if the system is missing a drive from the driveset. **NOTE:** This section will only appear on chassis that have drives.

4 System->Driveset

The *System->Driveset* Page shows status of the storage driveset within the system. It provides controls for formatting the drives, and adjusting the amount of storage space set aside for recording.

4.1 Driveset Information



Driveset Information								
Drive	Label	Serial Number	Capacity (GB)	Temp (C)	PCI Link	PCI Width	File System	Mount Point
nvme3n1	d0	S439NA0MA04832	1920.38341018	47	8.0 GT/s	4	ext4	/brikdata/d0
nvme1n1	d1	S439NA0MA04843	1920.38341018	45	8.0 GT/s	4	ext4	/brikdata/d1
nvme2n1	d2	S439NA0MA04844	1920.38341018	45	8.0 GT/s	4	ext4	/brikdata/d2
nvme0n1	d3	S439NA0MA04836	1920.38341018	47	8.0 GT/s	4	ext4	/brikdata/d3
Allocated		Total Space: 6.53 TB		Used Space: 0.0 bytes			Free Space: 6.53 TB	
Unallocated		Total Space: 351.7 GB		Used Space: 304.66 MB			Free Space: 351.41 GB	

Figure 5: Driveset Information

The Driveset Information table shows the drive device name as it appears in `/dev`, serial number, capacity of the drive, temperature, PCIe link speed, PCIe width, file system type, and mount point of the drive device.

The drive temperatures will be highlighted orange if any drive is operating at close to its maximum rated temperature. Performance is unexpected to be degraded when orange, but this serves as a warning. It is recommended to cool the ambient operating temperature or reduce processing on the box to avoid performance issues. If any drive exceeds its maximum operating temperature, it will be highlighted red, and it is likely that performance will be degraded.

The system expects a certain value for the PCIe link speed and width. If those values are not as expected, the system will not perform at peak performance. For this reason, if any of those drive values are not as expected, the values will be highlighted in red.

Below the table, the total amount of space used and free is provided for both the allocated and unallocated portions of the drives. Allocated space refers to recording data files. Unallocated space refers to all other files on the drives including recording metadata and user-generated files.

NOTE: The number of drives available can vary, depending upon the MB3 Chassis type. If a missing drive is detected, an error message will be displayed to let the user know.



4.2 Driveset Encryption

If the driveset supports the SED feature, the driveset may be encrypted and locked. If so, then the screen seen in Figure 6 will be displayed instead of the screen from Figure 5.

4.2.1 Driveset Unlock

Unlocking the driveset provides immediate access to the data. To unlock data access:

1. Enter the correct password in the **Driveset Password** field

- To view the password, press the  button
 - To hide the password, press the  button
2. Press the **UNLOCK** button

NOTE Access will only be unlocked until the next reboot or power cycle

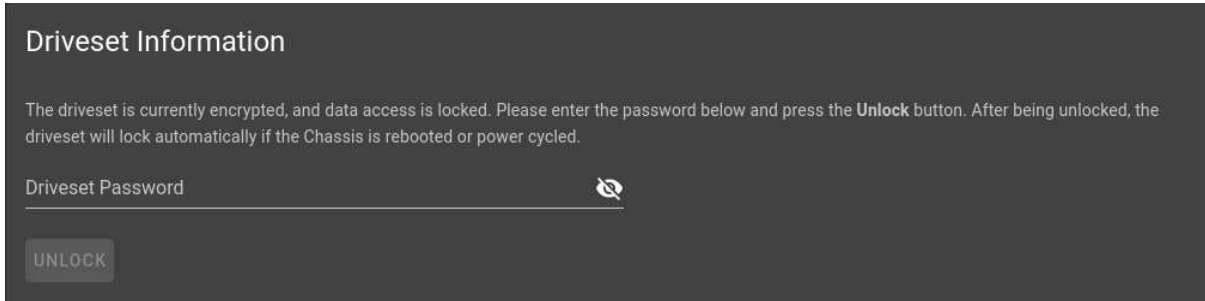


Figure 6: Driveset Locked

4.3 Driveset Formatting

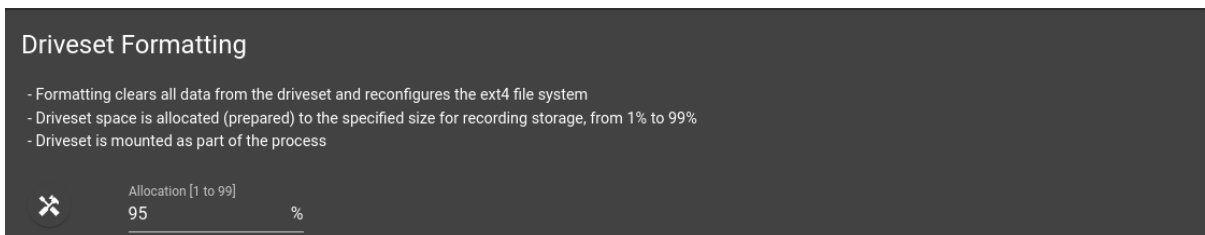



Figure 7: Driveset Formatting

The page provides the ability to secure erase and format the driveset by pressing the  button located in the Driveset Formatting section of the page. The Allocation percentage refers to the amount of space that is set aside for recording data. This percentage is user-adjustable from 1 to 99%. The default value is 95%.

4.4 Driveset Reallocation

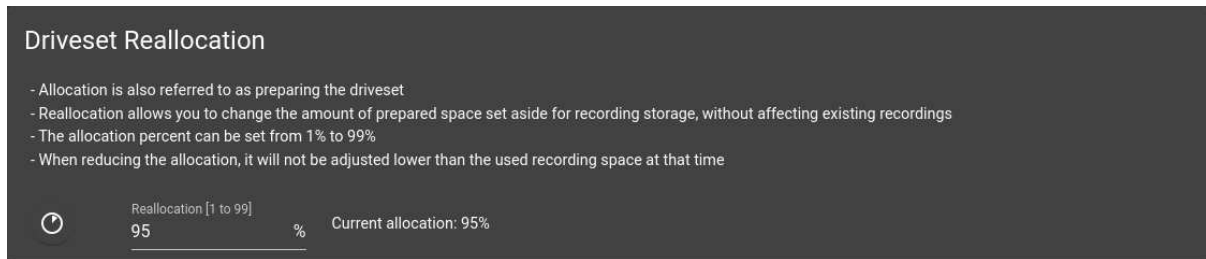



Figure 8: Driveset Reallocation

The allocation percentage can also be adjusted without affecting existing recordings. In this case, the allocation percentage will not be adjusted lower than the used recording space allows. To reallocate the driveset, adjust the *Reallocation* percentage as desired and click the  button located in the *Driveset Reallocation* section of the page.

The current allocation percentage is displayed for informational purposes.

5 System->Network


The *System->Network* Page allows configuration of the Chassis network interfaces. The interfaces available for configuration will be determined by the Chassis network configuration, and may vary. The only exception to this will be the main 1Gb C&C interface, which should always have an option to configure it.

- **CTL** - This interface is the factory default for command and control of the Chassis, and for data offloading.

NOTE: Reconfiguring the CTL interface will cause a loss of network connectivity. The user will have to configure the host network properly. Brikvision will attempt to automatically reconnect at the new IP address, and reload the *Home* Page. If the auto reconnect fails, the user will have to reconnect to the Chassis, via the newly configured IP address, manually.

The configuration can be either *DHCP* or *Static*.

5.1 Link Status

There is a visual indicator icon () to provide the link status of the interface, as well as a tooltip message if the mouse is hovered over the indicator. *Green* will indicate a link is detected, *red* will indicate that there is not a link detected, and neutral, or *gray*, will indicate that the link status cannot be determined.

5.2 Static

When the configuration is set to *Static*, then the IP Address, Subnet Mask and Gateway must be provided. If there is not a Gateway available on the network, a value of **0.0.0.0** may be used.


5.2.1 Last Static

Any time that an interface is configured for a Static IP address, the configuration information is stored in a file on the Chassis local file system. This allows the interface to be easily set to that static configuration when switching from DHCP.

Only a single configuration is stored, so if the interface is already set to static, but the IP, netmask or gateway changes, the latest static configuration is what will be stored, and the previous information will be overwritten.

The option to use the last static configuration is only available when switching from DHCP to Static.

To apply the last static configuration:

1. Select the interface to configure
2. Select the “Static” option
3. Press the  button
4. The fields will be updated with the last static configuration values

5.3 DHCP

When the configuration is set to *DHCP*, Brikvision will contact the Chassis in an attempt to determine what the DHCP information will be. If available, that information will then be displayed in the network fields. Otherwise, the fields will be set to **0.0.0.0**.

5.4 MTU

A specific value for the MTU may be provided for either DHCP or Static configuration. Setting it to a value of **0** will have the effect of using whatever the OS thinks is the best value when the interface is configured.

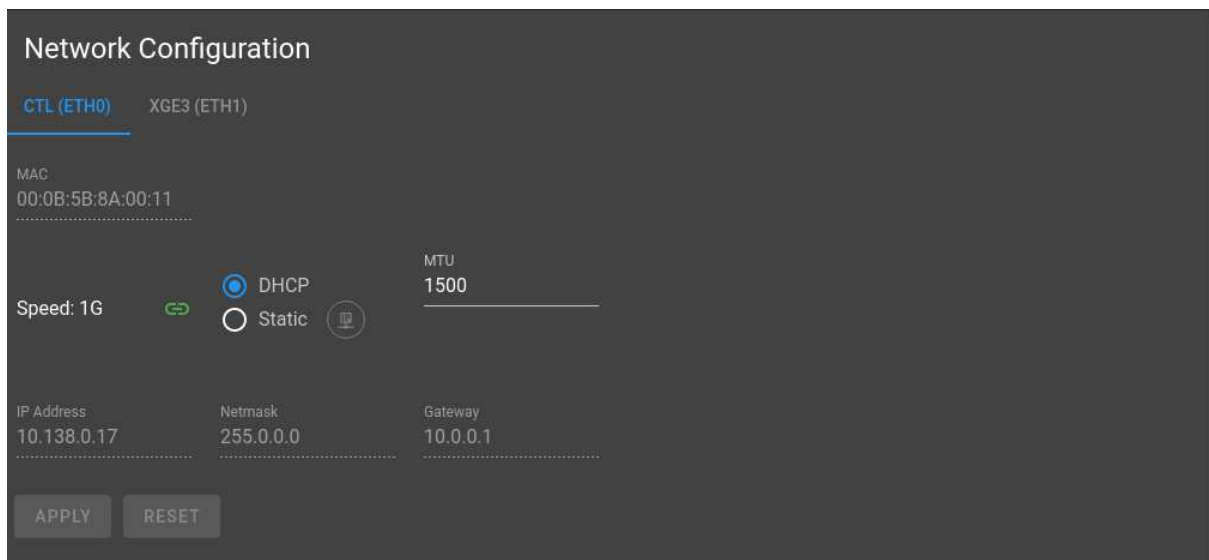


Figure 9: System->Network Page

6 System->NTP/Time

A system can have both a NTP Server and Client operating. The Server provides other clients a NTP Server to use, while the client connects to a remote server to keep the system time in sync.

At this time, the MB3 system only has a NTP Client.

6.1 NTP Client

The *System->NTP/Time* Page provides for the configuration of the system NTP client, which is NTPD. If a configured NTP server is available, and the service is enabled, then the client will keep the system clock up to date and accurate.

From the NTP/Time Page the NTPD Service can be enabled or disabled. While enabled, the NTP server IP address can be changed to point to a valid NTP server.

The current NTP status as provided by `ntpq -pn` is displayed. For more information on this status see `man ntpq`.

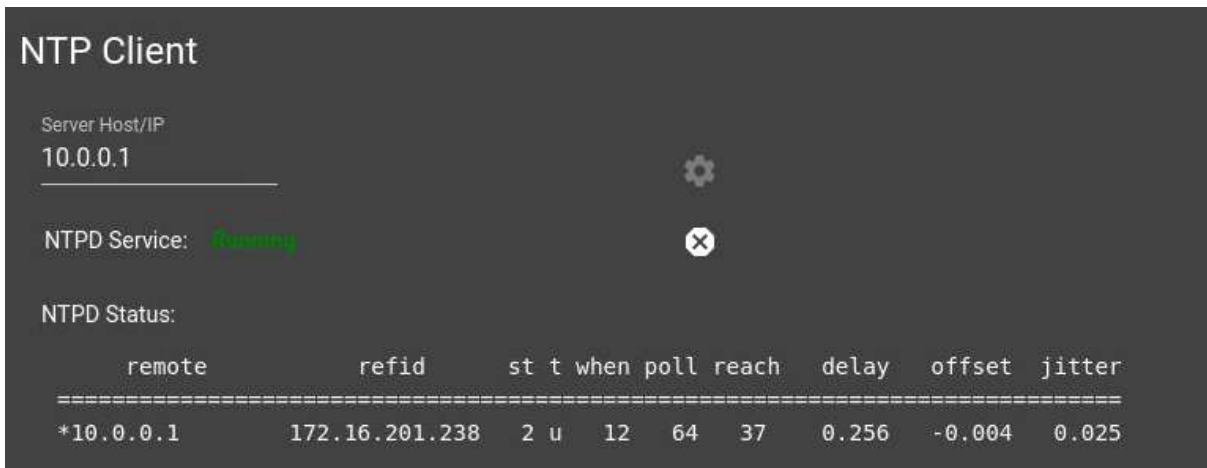


Figure 10: System->NTP/Time NTP Client

6.2 System Date/Time

The System Date/Time section displays the current system time. Note that this value only updates nominally every 5 seconds.

When NTP is enabled, a manual sync of the system time to the NTP server can be performed.

Additionally, the system date and time can be manually set when NTP is unavailable.

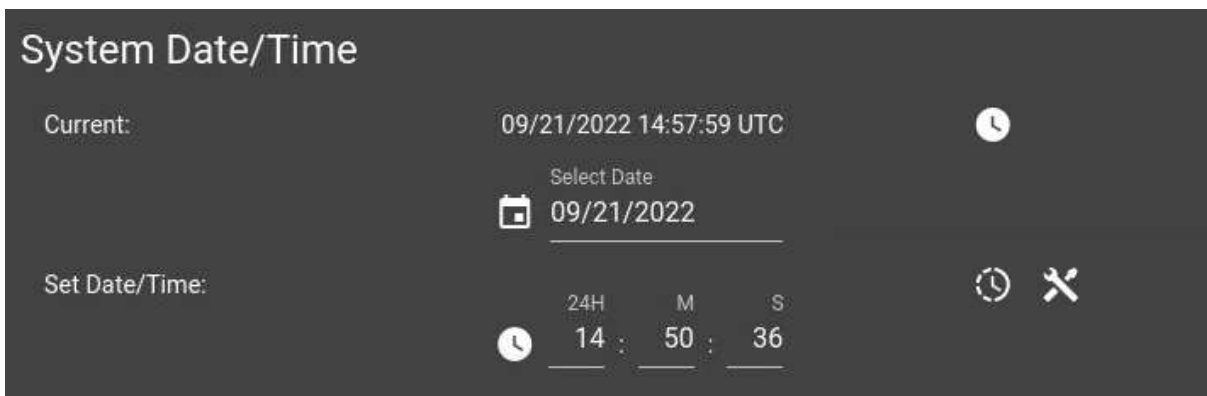


Figure 11: System->NTP/Time System Date/Time

7 System->GPS/Timecode

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3MPK-02, MB3CVT-01

Some of the MB3 systems have a GPS unit that can be used for precise timing (1PPS), and time/position information. In order to work reliably, a GPS antenna will need to be connected, and have good view of the sky to be able to track multiple GPS satellites.

For precise timecode in recordings, a valid 1PPS and 10MHz reference is needed. For MB3MPK and MB3CVT, these signals come from the internal GPS unit. For MB3PRT, the 1PPS and 10MHz can be provided externally, or the internal GPS unit signals can be looped back to provide these signals.

When the system first powers on, the GPS unit needs to perform some initialization for the 1PPS timing accuracy. The GPS time and position information is usually available much quicker.

NOTE: It can take approximately 11 to 12 minutes before the GPS is in a state where the internal timecode is ready for use. The GPS time and position is typically ready by the time the MB3 system is fully booted, which is 2-3 minutes. If after about 15 to 20 minutes the GPS status is still not locked, see the Troubleshooting Section for more details.

Timecode Status

Status	PPS-Only*	⚠
BRIK Timecode Source	NONE (0)	❌
BRIK PPS Count	102	✅
BRIK Year/Seconds	2023 / 24359409	✅
BRIK 10M Ref	EXT (1)	✅

*PPS is valid, but no Timecode source is detected. Please verify/provide a valid Timecode source, such as NMEA or NTP

GPS State

DO Status	Warmup (0)	✅
NMEA Status	Data Invalid (V)	❌
Health Status	Frequency Estimate is out of bounds (0x20) run-time < 300s (0x8)	⚠
Quality	Fix not available or invalid (0)	❌

GPS Information

GPS Time	10/09/2023 22:30:13 UTC	
System Time	10/09/2023 22:29:16 UTC	🕒
PPS Count	0	
Latitude	N 32° 13' 25.986"	
Longitude	W 110° 51' 31.230"	
Altitude	823.4 m	
Satellites Seen	12	
Satellites Tracked	8	

WARNING: From system power on, it can take approximately 11 to 12 minutes before full Timecode "Valid" status
If the uptime is greater than that, please verify/provide a valid Timecode source, such as NMEA or NTP
System uptime: 00:02:16

Figure 12: System->GPS Initializing

Timecode Status		
Status	Valid	✓
BRIK Timecode Source	NMEA (1)	✓
BRIK PPS Count	499	✓
BRIK Year/Seconds	2023 / 24358853	✓
BRIK 10M Ref	EXT (1)	✓

GPS State		
DO Status	Locked (6)	✓
NMEA Status	Data Valid (A)	✓
Health Status	Nominal (0)	✓
Quality	Differential GPS, SPS Mode, fix valid (2)	✓

GPS Information		
GPS Time	10/09/2023 22:20:58 UTC	
System Time	10/09/2023 22:20:05 UTC	🕒
PPS Count	8059	
Latitude	N 32° 13' 25.872"	
Longitude	W 110° 51' 31.290"	
Altitude	807.9 m	
Satellites Seen	14	
Satellites Tracked	9	

Figure 13: System->GPS Locked

7.1 Timecode Status

Timecode status provides various status information from the BRIK. Even with a locked GPS status, timecode will not be available until the various BRIK elements are in valid states.

Status	Indicates when timecode is available for recording on the MB3 system
BRIK Timecode Source	Identifies the timecode source for the BRIK timecode
BRIK PPS Count	PPS Count as determined by the BRIK. This count is a separate values from the GPS PPS Count
BRIK Year/Seconds	Displays the Year and Seconds as determined by the BRIK from the timecode source
BRIK 10M Ref	Identifies the state of the BRIK 10MHz reference clock

7.2 GPS State


GPS state provides various pieces of status information to identify the state of the GPS unit.

DO Status	Provides the status of the Disciplined Oscillator (DO). The DO is a primary determinant for accuracy of the 1PPS and 10MHz reference
NMEA Status	Indicates whether the NMEA messages being received from the GPS are valid or invalid
Health Status	Indicates various conditions that may occur within the GPS unit
Satellites Seen	Identifies how many satellites the GPS unit can see
Satellites Tracked	Identifies how many satellites the GPS unit is using for the position and time information

7.3 GPS Information

GPS information provides the time and position information from the GPS unit.

GPS Time	UTC Time provided by the GPS Unit
System Time	UTC Time as provided by the MB3 system
PPS Count	PPS Count provided by the GPS Unit
Latitude	Latitude in DMS as provided by the GPS Unit
Longitude	Longitude in DMS as provided by the GPS Unit
Altitude	Altitude in meters as provided by the GPS Unit
Quality	Quality of the GPS fix, as determined by the GPS Unit

Pressing the  button will perform a “best effort” attempt to sync the system clock with the GPS Clock to within +- one second.

8 System->Security

The *System->Security* Page provides for the configuration of TLS Security on the Chassis, to allow for secure communications. At this time, only TLSv1.3 is supported.

There are two different modes available for configuration, Local and Corporate.

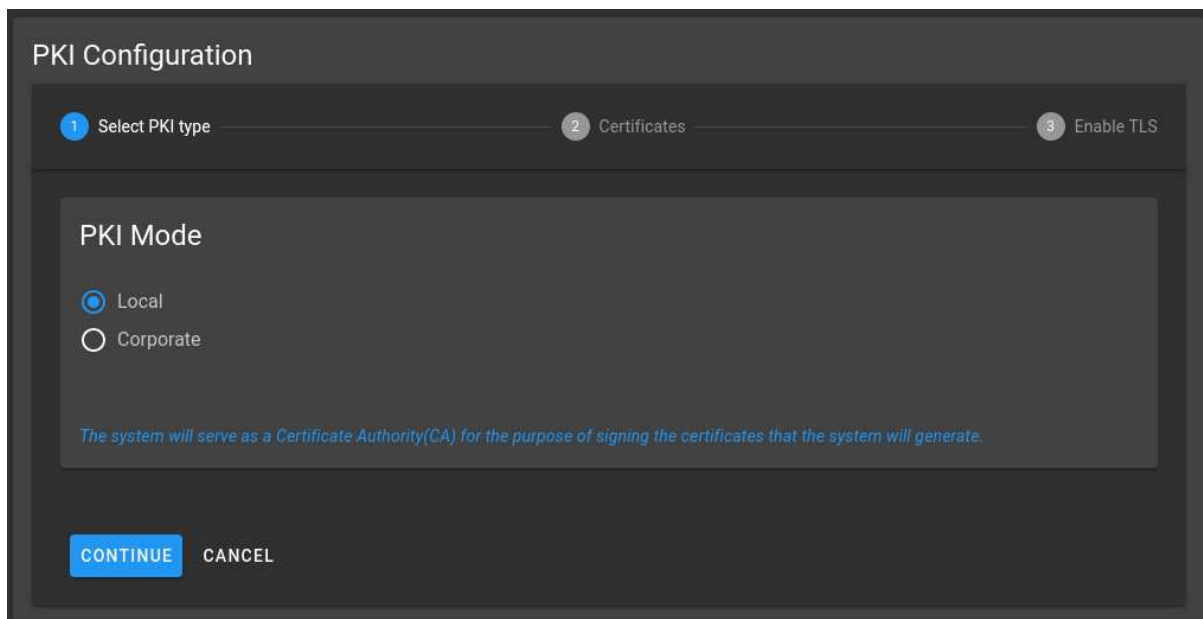


Figure 14: System->Security Page

8.1 Peer Authentication

Peer Authentication refers to having proper signed Certificates installed on both the host and the Chassis, so that a secure handshake is performed to fully enable TLS secure communications between a host and the Chassis.

Peer authentication can be used for both Local and Corporate modes.

Without peer authentication enabled, the validation of Certificates is only performed from the host to the Chassis.

8.2 Local

Local mode refers to having a Certificate Authority ("CA") being created by the Chassis, and downloaded to each host. Each host will then need to install that CA to any web browser that will be used to connect to the Chassis, when TLS has been enabled.

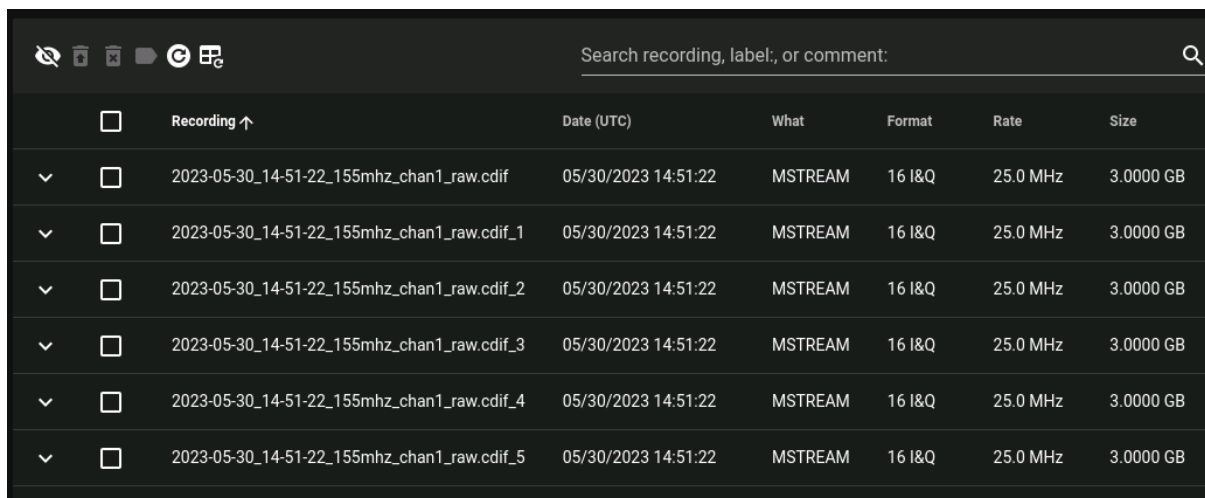
8.3 Corporate

Corporate mode refers to having a Certificate Authority ("CA") and Server Certificate ("CS") that have been created and signed by a known corporate Certificate Authority. These two files will need to be uploaded to the Chassis in order to enable TLS communication between the Chassis and the host.

9 Collections

The *Collections* Page provides a listing of all recordings available on the Chassis. The page shows recordings from all available storage sources.

The table on the page gives a list of all available recordings. Various information about each recording, including the quick-view spectrum, is available in a details dropdown under each recording. Clicking on the down arrow to the left of the recording name will activate the recording details dropdown. Pressing the up arrow will hide the details dropdown. Hovering the mouse over the recording name, will also display the quick-view spectrum, if available.










<input type="checkbox"/>	Recording ↑	Date (UTC)	What	Format	Rate	Size
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif_1	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif_2	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif_3	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif_4	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB
▼ <input type="checkbox"/>	2023-05-30_14-51-22_155mhz_chan1_raw.cdif_5	05/30/2023 14:51:22	MSTREAM	16 I&Q	25.0 MHz	3.0000 GB

Figure 15: Collections Table Page

9.1 Toolbar

At the top left of the *Collections* Page is a toolbar with several buttons that provide various operations on the available recordings.

-
-  Show any invalid recordings from the table
 -  Hide any invalid recordings from the table
 -  Move any recordings that have been selected to the Trash Bin
 -  Permanently delete any selected recordings from the disk storage
 -  Modify the labels of the selected recordings
 -  Refresh recording info for all recordings
 -  Synchronize all recording information and update the Collections table
-

9.1.1 Labels

Labels provide a way to easily group recordings together. Each recording can have multiple labels.

The label button is disabled until one or more recordings are selected from the Collections table. Any operations, such as creating, adding or removing labels will affect only the recordings currently selected.

Labels that are not common between all selected recordings will have an indeterminate checkbox () state. If that state is not changed, then that label will be neither added nor removed from any selected recordings.

9.1.1.1 Display Pressing the label button will display a list of all currently available labels.

If multiple recordings are selected, only the labels that are common to each of the selected recordings will be checked. The check boxes for any other labels that are not common to all selected recordings will be set to an indeterminate state.

To check what labels an individual recording has, select only that recording and press the label button.

To cancel any changes, press the *ESC* key, or click away from the labels, to close the label list.

9.1.1.2 Searching To search, or filter down, the list of available labels, follow the steps below:

1. Select 1 or more recordings
2. Press the label button
3. In the available text field, enter the text to filter on
 - The filter will be applied as each key is pressed

9.1.1.3 Creating To create, and add a new label to the selected recordings, follow the steps below:

1. Select 1 or more recordings
2. Press the label button
3. In the available text field, enter the new label name: i.e. "newlabel"
4. At the bottom of the label panel, an option will appear similar to: "newlabel" (create new)
5. Click on "(create new)" to create a new label
6. Click on "Apply" to add it to the selected recordings

9.1.1.4 Adding To add an existing label to the selected recordings, follow the steps below:

1. Select 1 or more recordings
2. Press the label button
3. Select any labels to add to the selected recordings
4. Click on “Apply” to add selected labels to the selected recordings

9.1.1.5 Removing To remove a label from the selected recordings, follow the steps below:

1. Select 1 or more recordings
2. Press the label button
3. De-select any labels to remove from the selected recordings
4. Click on “Apply” to remove those labels from the selected recordings

9.1.1.6 Indeterminate State If a label checkbox is currently set to an indeterminate state () , clicking that checkbox once, which will set the checkbox as selected, will have the behavior of adding that label to all selected recordings. Clicking that checkbox again, which will set the checkbox as de-selected, will have the behavior of removing that label from all the selected recordings.

Click on “Apply” to set the new labels for the selected recordings.

9.2 Search

The search bar at the top of the page allows recordings to be filtered by entering text. Multiple search words are not allowed. If multiple words are entered in the search, then only the first term will be used.

The filter will be applied as keys are pressed.

9.2.1 Recording Name

The default search will scan each recording and match the specified search text against the recording name.

9.2.2 Label

Recordings can be filtered by label as well. For example, to filter recordings to only display those with the label “testlabel”, enter the following in the search box:

```
label:testlabel
```


9.2.3 Comments

Recordings can also be filtered by comments. For example, to filter recordings to only display those with comments that contain the word “comments”, enter the following in the search box:










```
comment:comments
```

9.3 Recordings Table

The recordings table lists each of the recordings available on the Chassis system disk storage. The recordings can be sorted by any of the columns in the table by clicking on the column header. An arrow will indicate whether it is sorting in ascending or descending order.

9.3.1 Status Icons

There are various status icons that are used to identify the status, or state, of each recording in the recordings table. No status icons means that the recording is complete, post-processing has been done, there are no drops or errors and the recording has valid timecode data. Below shows a list of the various icons that may appear on a recording by recording basis. Hovering the mouse over any of the icons may provide some additional information in the icon tool tip.

	Actively recording data
	Performing recording post-processing
	Invalid recording
	Recording has dropped data blocks or brikdata packets
	Recording has comments
	Missing recording data, potentially due to bad or missing drive(s)
	Recording did not get stopped properly, and needs to have the Recovery operation performed
	Recording info needs to be refreshed to perform a check for brikdata packet drops
	Timecode time not available, using system time

9.4 Recording Details Dropdown

The recording details dropdown provide additional information about each recording. It also provides various actions that can be performed on an individual recording. Some

options may not be available for invalid recordings.

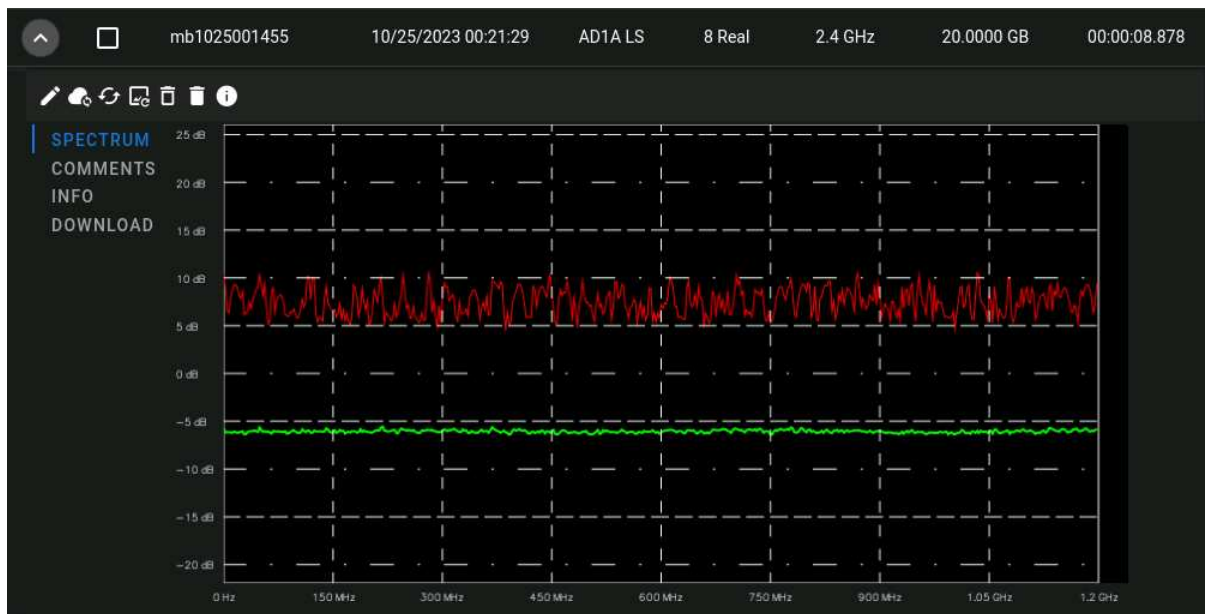










Figure 16: Recording Details Dropdown

9.4.1 Toolbar

At the top left of each recording details dropdown is a toolbar with several buttons that provide various operations on the currently selected recording. Some options may not be available for invalid recordings.

-
-  Rename the recording
 -  Synchronize the Recording Info from disk
 -  Refresh the cached information about the recording
 -  Refresh the quick-view spectrum image
 -  Move the recording to the Trash Bin
 -  Permanently delete the recording from disk storage
 -  Display the information from each tab in a single window
 -  Perform Recording Recovery Operation
-

9.4.1.1 Synchronize Recording Information The synchronize recording information operation will refresh the currently displayed recording information from the recording information that is saved on the chassis storage, in the recording information file. The information in the Collections table will be updated after the synchronization process has completed.

9.4.1.2 Refresh Recording Information The refresh recording information operation will use the recording data saved to the chassis storage to re-calculate all of the recording information, then update the recording information file. The information in the Collections table will be updated after the refresh process has completed.

9.4.1.3 Recording Recovery When a recording is suddenly stopped, while actively storing data, the recording will not have undergone the necessary post-processing steps to make the recording completely accessible. This would most likely occur when power to the chassis has been pulled for any number of reasons.

If this were to happen, then the  icon would appear next to the recording name in the Collections table, as well as in the Recording Details dropdown panel.

To perform the recording recovery, press the Recovery toolbar button. Upon success, a message will be displayed, and the Collection table will update with the correct recording information. If recovery fails, a message will be displayed with the reason for the failure.

9.4.2 Spectrum

The *Spectrum* tab of the dropdown displays a quick-view spectrum display. This spectrum is based on a small amount of data sparsely sampled across the recording. See Figure 16 for an example of a recording spectrum plot.

9.4.3 Comments

The *Comments* tab provides the ability to add notes or comments about the recording. If any changes are made in the comment box and focus is moved, a prompt will appear asking whether or not to save or discard any changes.

9.4.4 Info


The *Info* tab provides a table of more detailed information about the recording.

9.4.5 Download

The *Download* tab provides the ability to download the recording data. There are options to select either full recording, or ranged download. The ranged download allows selecting starting and ending data points by size, seconds (length), or date/time.

There is also an option to select the download format:

- **BRIK:** Proprietary brikdata packet format which is native to the Chassis.
- **BLUE:** X-Midas blue 1000 format. (*Default*)
- **PLATINUM:** X-Midas blue 1001 format.
- **RAW:** Only contains the raw samples.

Pressing the  button will begin the download process.

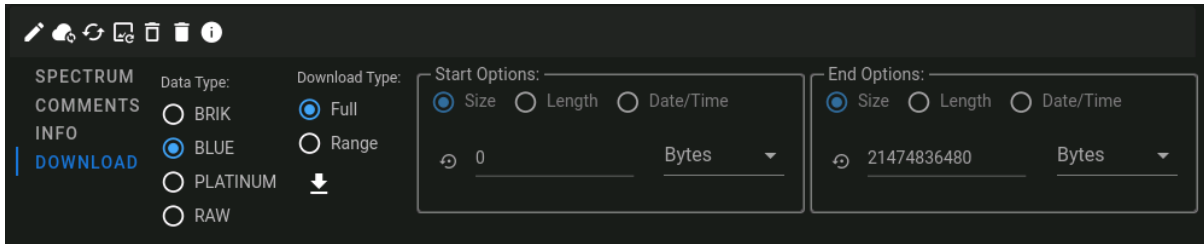


Figure 17: Recording Download Tab

10 Applications

The applications are the main web based control interface to the Chassis. The applications available will vary depending upon the Chassis type.

10.1 Re-tasking

In Brikvision, switching between the various applications is called “Re-tasking”. Each application is a separate core, therefore requires reprogramming of the Chassis BRIK to utilize the new core.

Clicking on an application link will let the user know if a re-task will be required to run that application. To initiate a re-task, click the RE-TASK button and wait for the GUI to return. **NOTE:** the system may not be responsive over the network during a re-task.

10.2 Available Applications

The existing applications are described below, more applications may be added in the future. Note that only a subset of these applications may be available on any given chassis.

10.2.1 HS Streaming

NOTE: MB3PRT-01, MB3PRT-02, MB3MPK-02, MB3CVT-01

This application allows streaming sub-band tuned (SBT) data from the high-speed (HS) inputs on various platforms.



Figure 18: HS Streaming Top

The top-most controls area provides the following control and status items that relate to the entire application:

- File: Allows saving and restoring GUI settings via YAML configuration file
- XGE Mode: Allows switching all interfaces between 10GbE and 25GbE
- PPS: Provides a count of PPS events
- A current date/time indicator showing the application timestamp
- API: Provides API version information for the application
- HDL: Provides HDL version information for the application



Figure 19: HS Streaming HS Controls

There are two HS inputs in the application. Each HS input has the following controls:

- Invert: When enabled, the wideband is spectrally inverted around a 1.2GHz center frequency
- Bit-usage indicator showing the number of HS sample bits being driven
- Attenuation: Provides control of the analog variable attenuator within the chassis
- Wideband histogram shows a histogram of wideband samples when refresh button is pressed



Figure 20: HS Streaming XGE

There are four XGE outputs in the application.

NOTE: the interfaces are referred to as `xgige#` in the application regardless of the XGE Mode setting.

Each XGE section of the GUI provides a link status indicator as well as a packet count for that interface.

NOTE: This packet count increments for all packets on the interface including non-data packets such as ping and context.





In addition, each XGE section contains four SBTs which are described further below.




Figure 21: HS Streaming SBT

Each HS input has eight SBTs available with four SBTs for each XGE output. The GUI groups the SBTs based on which HS input and XGE output they use.

For each SBT, the following controls are available:

- Tune Frequency: Controls SBT center frequency from 0 to 2400 MHz
- Bandwidth: Controls SBT passband bandwidth, available values are 80, 40, 20, 10, 5, or 2.5 MHz
 - **NOTE:** The SBT sample rate is 25% higher than the bandwidth, e.g. 100 Msps in 80 MHz mode
- Gain: Indicates the current gain setting with a  button to automatically set the gain
 - **NOTE:** Gain adjustments are only available when the SBT is streaming
- Bit usage indicator showing the number of SBT sample bits being driven
- Dest IP and Dest Port: Controls the IP and UDP network settings
- Smart Stream: Toggle enables an out-of-band ping which attempts to reach Dest IP and disables the stream if Dest IP is unreachable
 - **NOTE:** This can be used to prevent network spam due to ARP table entries aging off in network switches
- Clicking  button will start the SBT streaming if it is currently stopped
 - **NOTE:** changing some settings will result in streaming being stopped
- Clicking  button will stop the SBT streaming if it is currently started
- Clicking  button will reset the SBT

Less frequently used settings are nested under the  menu:

- VITA, V49A, or SDDS selects the packet format
- REAL or COMPLEX selects the data format
 - REAL outputs real-valued samples at twice the SBT sample rate and the SBT center frequency is tuned to $F_s/4$
 - COMPLEX outputs complex I/Q samples at the SBT sample rate
- 8 or 16 selects the number of bits per sample
 - **NOTE:** since there are two samples per output in both REAL and COMPLEX formats, this bit width is effectively doubled
- Dest Mac: Setting Dest IP attempts to ARP this, but it can also be entered manually
- SID: Stream ID for VITA format

10.2.2 HS Record

NOTE: MB3PRT-01, MB3PRT-02, MB3MPK-02, MB3CVT-01

This application allows recording the high-speed (HS) inputs on the various platforms.


There are two wideband plots. **NOTE:** MB3PRT-01 systems have only one wideband plot. By default, each wideband input operates at 4.8 Gbps. Any one wideband input can be recorded at a time. Wideband recording is described in further detail below.

There are two SBT plots available. Each SBT can be sourced from any HS wideband input. Any two SBTs can be recorded at a time. SBT configuration and recording is described in further detail below.

10.2.3 LS Record / LS Anyrate Record

NOTE: MB3PRT-01, MB3PRT-02, MB3MPK-01, MB3MPK-02, MB3CVT-01

These applications allow recording the low-speed (LS) inputs on the various platforms.

These applications allow the system *Sample Rate* to be changed, using the “System Sample Rate” field found at the top of the Application Page. To revert the value to the system default value, press the  button.

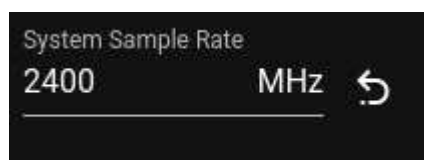


Figure 22: System Sample Rate

These applications operate in either wideband or sub-band tuner (SBT) mode. The following toggle is used to choose the mode:



Figure 23: LS Mode Toggle

When in wideband mode, there are four wideband plots available. By default, each wideband input operates at 2.4 Gsps. For LS Record, up to two wideband inputs can be recorded at a time. LS Anyrate does not support wideband recording. **NOTE:** MB3PRT-01 systems have only two wideband plots.

When in SBT mode, there are four SBT plots available. Each SBT can be sourced from a subset of the LS wideband inputs. Any four SBTs can be recorded at a time. SBT configuration and recording is described in further detail below.

10.2.4 RF Record

NOTE: MB3PRT-03

This application allows recording the RF inputs on the MB3PRT-03 platform.

There are four wideband plots. By default, each wideband input operates at 250 Msps. Any four wideband inputs can be recorded at a time. Wideband recording is described in further detail below.

The MB3PRT-03 platform features a built-in four-channel RF tuner within the chassis. This tuner is configured using the External Tuner Settings menu for changing gain, tune frequency, and bandwidth. Unlike other external tuner controls, this built-in tuner cannot be unloaded from the GUI. The External Tuner Settings menu is described in further detail below.

10.2.5 Network Apps

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3MPK-01, MB3MPK-02, MB3CVT-01

This application allows the transfer of data in and out of the chassis via the 10G network interfaces.

Various tasks can be accomplished within this application:

- MB3 Chassis to MB3 Chassis transfer of recordings
- MB3 Chassis to MB3 Stand Alone transfer of recordings
- Network record
- Network playback (future)

Each task is managed from its own tab within the Network Apps webpage. These are described further below.

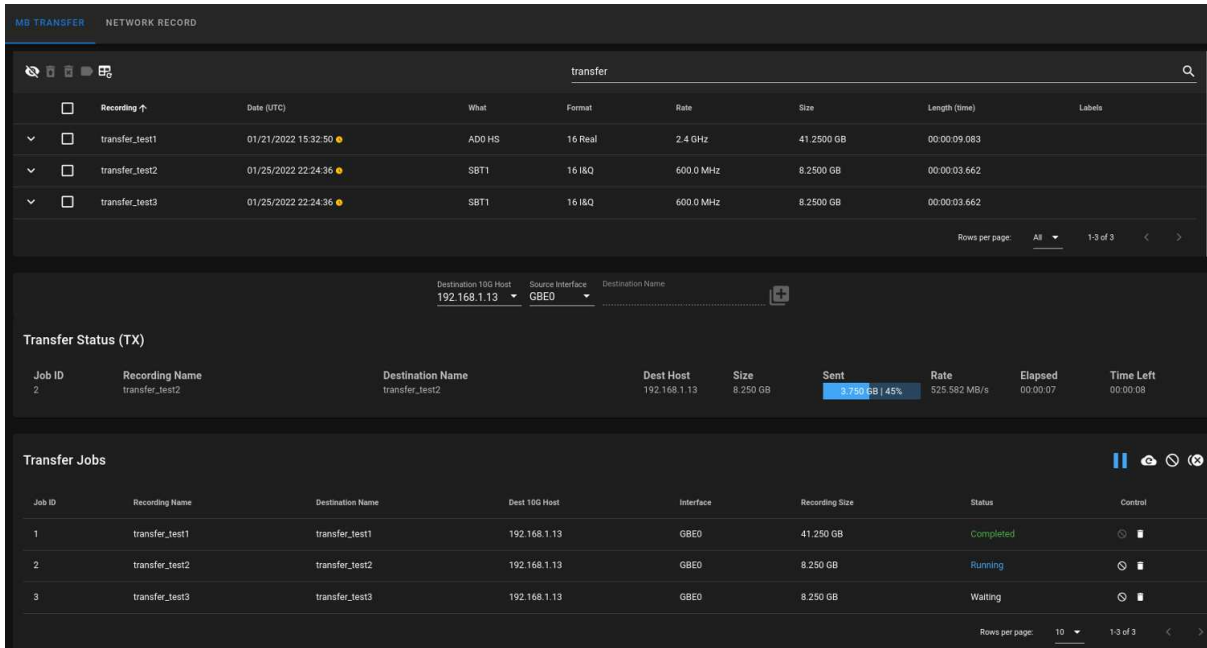



Figure 24: MB Transfer


10.2.5.1 MB TRANSFER MB Transfer allows transferring recordings from one MB3 Chassis to another MB3 Chassis over the 10G interfaces. It also allows transferring recordings to a host running the MB3 Stand Alone software.

NOTE: Both MB3 Chassis must be tasked into Network Apps to facilitate the transfer.

10.2.5.2 MB3 to MB3 The recording transfer creates a recording on the destination host that matches the source recording. The allocation of data files on the destination drives may differ from the source recording. For example, when transferring from a four drive unit to a three drive unit, the data files will be striped differently. Also, when transferring a looped recording the destination data files will begin at 00000001. As such, the .datafiles file will not match between the source and destination. This is expected. All other metadata files will match exactly.

To transfer a recording from one MB3 (SRC) to another (DST), perform the following:

1. Task both SRC and DST into Network Apps
2. Connect the 10G interfaces between both units, and configure their interfaces via the System > Network pages
3. SRC: Select the recording(s) to be transferred from the table
 - a. SRC: If only a single recording is selected, then the destination name can be modified by changing the Destination Name field
4. SRC: Enter the IP address for the 10G DST interface into the Destination 10G IP textbox
5. SRC: Select the desired 10G SRC interface to use for the transfer from the Source Interface combo box
6. SRC: Click the  button to add the selected recording(s) to the transfer jobs queue

7. SRC: If the transfers are currently disabled, click the  Transfers Disabled to enable the transfers
8. SRC|DST: Monitor the transfer progress from the Home page or the Network Apps page

10.2.5.2.1 Transfer Status The current recording being transferred is shown in the Transfer Status panel.

On the source side, the Transfer Status (TX) panel has the following status items:


- Job ID - The recording currently being transferred
- Recording Name - The recording currently being transferred
- Destination Name - The recording currently being transferred
- Dest Host - The IP address of the transfer destination
- Size - The aggregate size of data files to be sent for the recording, excludes metadata files
- Sent - The aggregate size of data files that have been transferred, and the percentage complete of the transfer
- Rate - The average transfer rate over the course of the current recording transfer
- Elapsed - The amount of time that has elapsed since the current recording transfer began
- Time Left - The estimated amount of time remaining for the current recording transfer

On the destination side, the Transfer Status (RX) panel has the following status items:




- Recording Name - The recording currently being transferred
- Source IP - The IP address of the transfer source
- Received - The aggregate size of data files that have been transferred
- Rate - The average transfer rate over the course of the current recording transfer
- Elapsed - The amount of time that has elapsed since the current recording transfer began

10.2.5.2.2 Transfer Jobs The recordings that are waiting to be transferred are shown in the Transfer Job panel. Transfers are processed in top-down order.




The columns of the Transfer Jobs table are as follows:

- Job ID - The recording to be transferred
- Recording Name - The recording to be transferred
- Destination Name - The recording name to be used on the destination side
- Dest 10G Host - The host address of the transfer destination
- Interface - The source 10G interface to be used for the transfer
- Recording Size - The aggregate size of data files to be sent for the recording, excludes metadata files
- Status - Transfer status; possible values are Waiting, Cancelled, Completed, Error, Running; when Error an additional  icon can be hovered for more information about the error
- Control - Per-recording controls are described further below

Transfers that have not yet started can be manipulated via the Control buttons described below.

-
-  Cancel the transfer for this recording; recording stays in the Transfer Queue, but is skipped
 -  Restart the previously cancelled transfer; recording is transferred when it reaches the top of the Transfer Queue
 -  Remove the transfer for this recording from the Transfer Queue; transfer cannot be restarted, and must be re-added from the collection table
-

Additionally, the controls at the top of the Transfer Queue operate on multiple recordings at a time. They are described further below.

-
-  Refresh the transfer queue manually; used if the queue is being manipulated outside of the GUI
 -  Cancel the transfer for all recordings; recordings stay in the Transfer Queue
 -  Remove recordings from the Transfer Queue; Clear All removes all recordings, Clear Completed clears only Completed recordings, Clear Stopped clears Error and Cancelled recordings
-

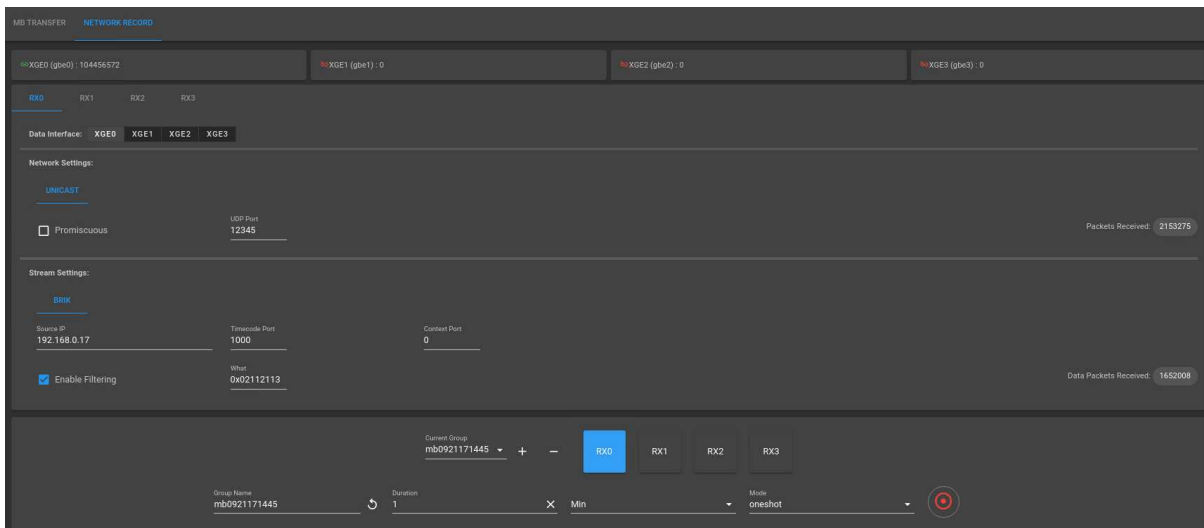


Figure 25: Network Record

10.2.5.3 NETWORK RECORD Network record allows supported packet types to be ingressed, using any of the 10G interfaces, and recorded to disk.

The currently supported packet types are as follows, with more possibly being added in the future:

- DWHD BRIK packets

Status for each 10G interface is shown with a link status indicator as well as a packet counter. This counts all network traffic, including non-data packets such as ping and HTTP requests.



Figure 26: Network Record XGE Status

Each receive channel can be individually configured by clicking on its tab. Within each tab, a stream is selected based on the following controls:

- **Data Interface** - Chooses 10G interface for ingress
- **Network Settings** - Chooses network-level filtering, currently only UNICAST ingress is supported, but more options may be added in the future
 - UNICAST
 - * **Promiscuous** - When checked, all packets will be passed through the network filter regardless of port, ip, or mac address. This can be useful when debugging network streams. However, it is recommended that recordings be made without this checked to prevent inadvertent ingress of unrelated packets
 - * **UDP Port** - Set this to match the destination udp port for the stream. Recommended to use ports above 1023 for data streams.
 - **Packets Received** - Count of packets which have made it through the configured network filters
- **Stream Settings** - Chooses stream-level filtering, currently only BRIK is supported but more may be added in the future
 - BRIK
 - * **Source IP** - Sets the source IP for the data stream
 - * **Timecode Port** - Set this to match the destination udp port for the timecode stream. Recommended to use ports below 1024 for timecode streams.
 - * **Context Port** - Currently unused, but may be used in the future
 - * **Enable Filtering** - When checked, this allows only packets with the specified What field to be recorded on this channel. When unchecked, all BRIK packets matching the Network Settings will be recorded.
 - **Data Packets Received** - Count of data packets which have made it through the configured stream filters

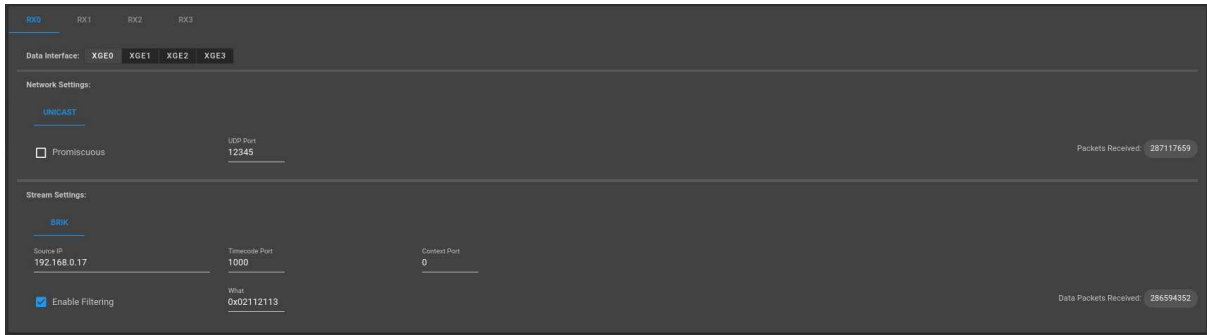


Figure 27: Network Record RX Config

After all channels are configured, a synchronized recording can be started. A number of control items are provided to allow configuration of the recording:

- **Current Group:** All configured groups are selectable from this combo box, but only one group can be modified at a time from the Recorder Panel UI. The + button can be used to create a new group using the unused sources. The - button can be used to remove an existing group.
- **Sources:** The four receive channels are available as toggleable cards in the UI. A channel will be recorded if its card is selected.
- **Group Name:** The group name is defaulted when the group is created, but the name can be changed manually. If multiple sources are selected, the group name will be suffixed by the source information when a group recording is started. An error will be returned when **record** is clicked if a recording with that name already exists. An auto-generated group name can be created by clicking the ↻ button.
- **Duration:** The duration can be set with different time units.
 - **NOTE:** Duration must be set long enough that at least 512MB of data will be captured; this will ensure at least one data file is saved to disk.
- **Mode:** The recording mode can be changed between loop and oneshot.

The (🎯) button on the right starts the recording(s). It will turn into a stop button when the recording is started allowing the recording to be stopped earlier than the set duration.

While a recording is active, the recording status is displayed at the top of the recorder panel:

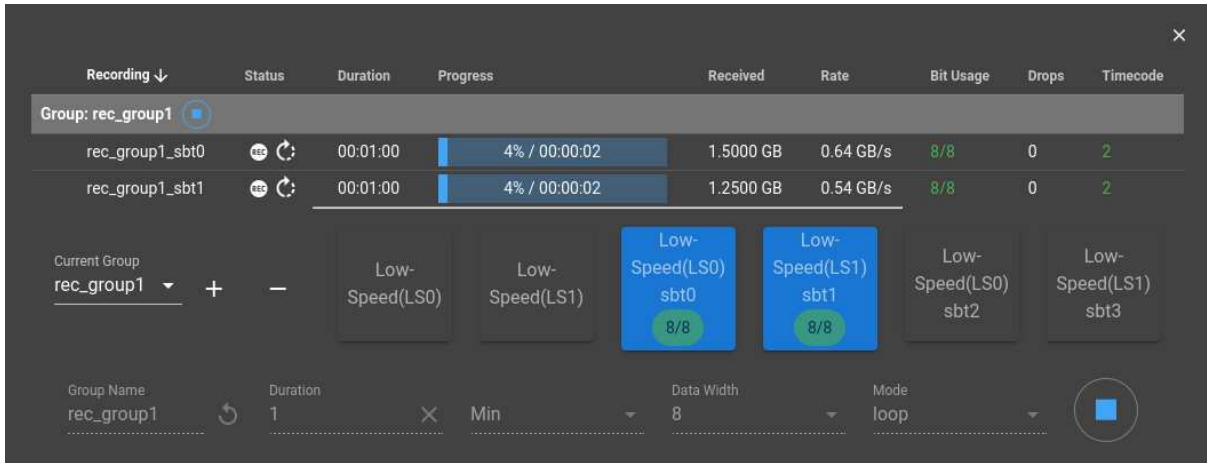


Figure 28: Network Record Active Recording

10.2.5.4 Example Scripts In addition to the GUI controls, some examples are provided as references for script-based control of this application.

These are as follows:

1. Record of network BRIKDATA packet stream - see `/opt/mbr/opt/examples/netin_rec` for README
2. Transfer of recording from one MB3 to another MB3 over the 10G network - see `/opt/mbr/opt/examples/mb3cp` for README

10.2.6 Analog Playback

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3MPK-01, MB3MPK-02, MB3CVT-01

This application allows playback of the various recordings. Re-tasking to the playback application is required prior to attempting playback.

The current playback application does not provide displays to view the data as it is played back, but adding the displays is a planned upgrade for a future release.

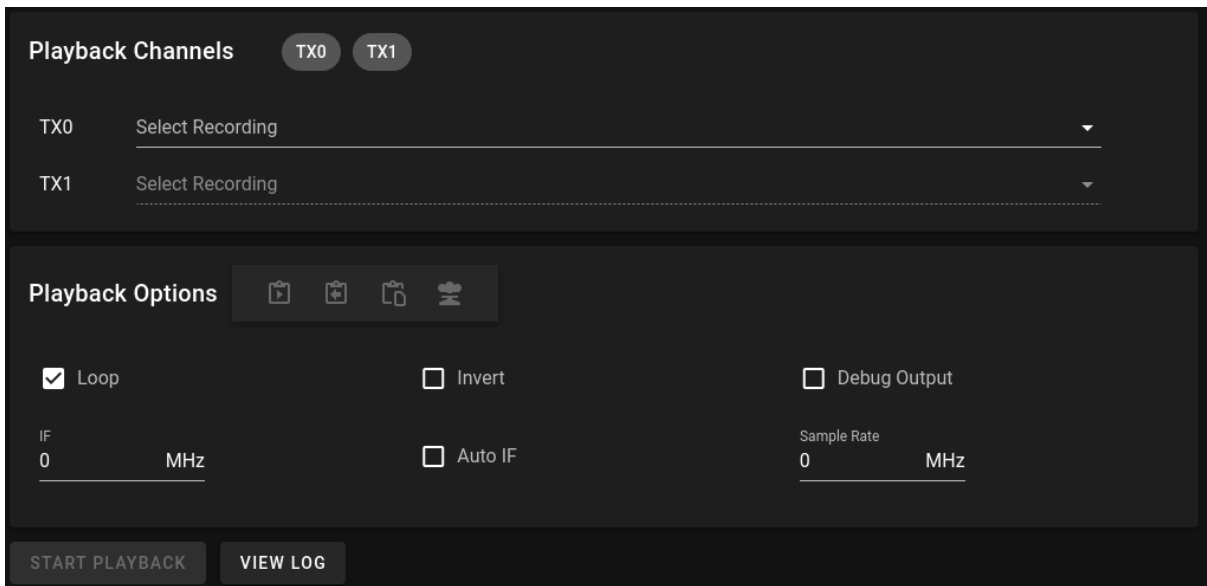


Figure 29: Playback Page

To start playback of recordings:

1. Set the various playback options
2. Select which recording to playback on one or more playback channels
3. Press the “START PLAYBACK” button

If playback starts successfully, the start log can be viewed by pressing the “VIEW LOG” button. All of the prompts on the *Playback* Page will be disabled. Once the playback is stopped, either from doing a oneshot playback, or from pressing the “STOP PLAYBACK” button, all the prompts will be reset and enabled.

If there is an error starting the playback, a red message box will appear at the top of the screen - To view details of the start playback process, press the “VIEW LOG” button. Towards, or at the bottom, of the log should be messages providing details about why the start failed - Enabling the “Debug Output” option and attempting to start the playback again may provide more details as well

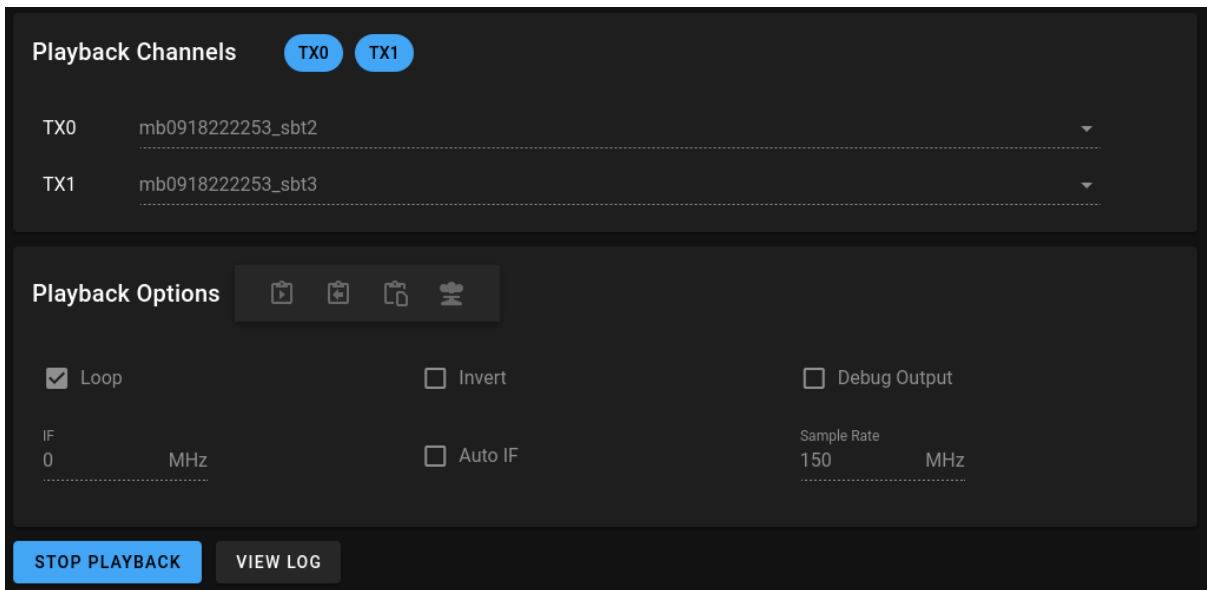


Figure 30: Playback Active





10.2.6.1 Playback Channels The number of channels available for playback will vary depending upon the chassis type. It is required to select a recording for output channel 0 prior to selecting a recording for output channel 1, and same if additional output channels are available.

The list of recordings available for each channel is unfiltered to start with. Once the first channel recording has been selected, the available recording list will be filtered using the following rules:

- If the selected recording has timecode, any recordings that do not, will be filtered out, and vice versa
- Recordings that do not overlap in time with the selected recording will be filtered out

10.2.6.2 Playback Options The values under the playback options will be applied to each of the recordings that have been selected for playback.

Options are available to load, save and clear values from the last time playback was started.

-
-  Load the last playback information and start the playback
 -  Load the last playback information
 -  Save the current playback settings as the last playback information
 -  Clear the existing last playback information
-

- **Loop** - When checked, the selected recordings will continue to playback until playback has been commanded to stop. Otherwise, selected recordings data will only be played a single time
- **Invert** - When checked, the data from the selected recordings will be inverted around the IF frequency for complex recordings and $F_s/4$ for real recordings
- **Debug Output** - When checked, additional output will be added to the playback log. This is typically useful when attempting to debug any start playback issues
- **IF** - Field allows the playback output Frequency to be specified for each of the selected recordings. Real-valued recordings will be played out at DC. This field is read-only when **Auto IF** is checked.
- **Auto IF** - When checked, the IF textbox will be automatically updated to match the recording IF value when the first recording is selected for playback. When unchecked, the previously manually entered IF value will be restored.
- **Sample Rate** - Field allows the Sample Rate to be specified to be used during playback of the selected recordings. Default is **0 MHz**, but as each recording is selected for playback, the maximum sample rate of the recordings will be used to populate the Sample Rate field. This can be changed to another supported rate to force playback at a different sample rate.

10.2.7 Network Tester

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3MPK-01, MB3MPK-02, MB3CVT-01

This application allows testing the 10G network interfaces.

There is no GUI Page for the application at this time.

This application is included for advanced users and command and control of this task is beyond the scope of this document.

10.2.8 Taskmaster

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3MPK-01, MB3MPK-02, MB3CVT-01

This application is provided to facilitate the VITASTREAM Application run from the MB3 Server software. See the “MB3 Server Setup” manual for more details.


There is no GUI Page for the application at this time.

10.3 Common Recording Application Elements

Some features are shared across multiple applications within the platform. The following sections describe these common application elements.

10.3.1 Starting a Recording

The process of starting a recording is the same, regardless of which application is running.

Each plot has a record button () which can be used to record that data stream. Clicking the record button brings up the Recorder Panel. If the selected source is already a member of a record group, that group becomes active allowing the group settings to be changed. If the selected source is not already a member of a record group, a new group is created and the selected source is attempted to be added to the new group.

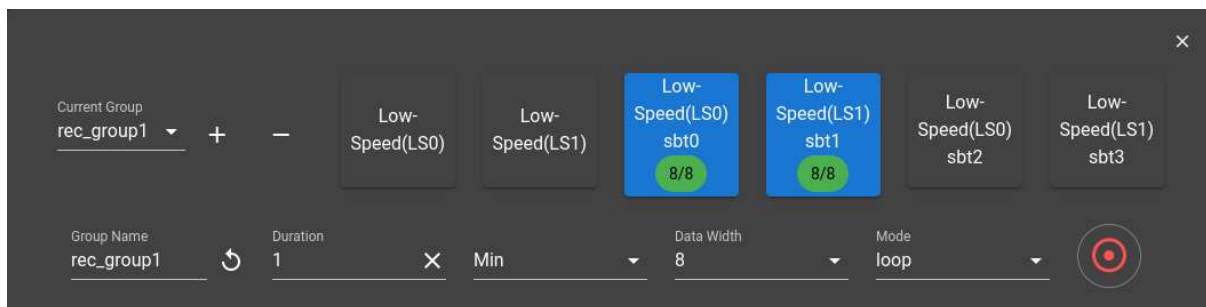





Figure 31: Recorder Panel

The Recorder Panel is a non-modal window that appears at the bottom of record applications and is used to further configure the recording details prior to starting a recording as well as observe status of an ongoing recording.

Each data source uses the same Recorder Panel area. When the record button () is pressed on a source, that data source is added to the pending group.

If the Recorder Panel is closed, either by clicking off of the Application page or by clicking the close button (), then the pending group is cleared of all sources.

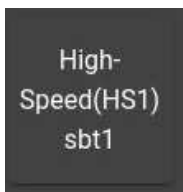
A number of control items are provided to allow configuration of the recording:

- **Current Group:** All configured groups are selectable from this combo box, only one group can be modified at a time from the Recorder Panel UI. The + button can be used to create a new group using the unused sources. The - button can be used to remove an existing group.
- **Sources:** The available record sources are displayed as toggleable cards in the UI. The number of sources is platform dependent. The card states are described below.
- **Group Name:** The group name is defaulted when the group is created, but the name can be changed manually. The group name will be suffixed by the source information when a group recording is started. An error will be returned when **record** is clicked if a recording with that name already exists. An auto-generated group name can be created by clicking the  button.
- **Duration:** The duration can be set with different time units.
- **Data Width:** The data width can be changed between 8 and 16 bits.
- **Mode:** The recording mode can be changed between loop and oneshot.

The possible source card states are as follows:



Disabled card with red border indicates that the source is unavailable to the current active group. This can occur if the source is already included in another group or if the source is not recordable due to hardware restrictions (e.g. only one wideband source can be recorded at a time). Hovering over the card will give a tooltip of the reason it is disabled.



Enabled card with no background indicates that the source is available to attempt to add to the current active group. When clicked, the source may fail to add in some cases. In these cases, an error is displayed with the failure reason. If successful, the card changes state to show that it is included in the group.



Enabled card with blue background indicates that the source is included in the current active group and will be recorded when the record button is pressed. The icon under the source name indicates the number of bits that are toggling within the source.

The (●) button on the right starts the recording. It will turn into a *stop* button when the recording is started allowing the recording to be stopped earlier than the set duration.


A number of recording status items are provided near the top of the Recorder Panel, these update periodically to provide details about the ongoing recording:



- State: Recording state is Idle or Running
- Mode: Recording mode is Loop or Oneshot
- Progress: Recording progress in percent. A loop recording will stay at 100 once looping has begun.
- Received: Amount of data written to disk in GB
- Rate: Recording datarate in GB/s
- Bit Usage: Number of bits with information in the data source
- Drops: Number of 256 MB blocks of data that have been dropped

To close the Recorder Panel click the close button (✕) at the top-right of the Recorder Panel. The Recorder Panel does not need to be visible when a recording is ongoing.

10.3.2 External Tuner Settings

Frequency translations, gain, and spectral inversion that takes place upstream of the MB3 system can lead to incorrect or confusing spectral plots if the MB3 system is unaware of these operations. External tuner control allows the user to inform MB3 of any upstream hardware within the setup. In some cases the MB3 system can configure the external tuners directly.

All wideband plots have support for external tuner control. To open the External Tuner Settings Panel, press the  button on any wideband plot.

The External Tuner Settings Panel is a non-modal window that appears at the bottom of record applications. Each wideband plot has its own external tuner configuration. As such, the wideband input being configured is displayed at the top of the External Tuner Settings Panel. A flow diagram shows the currently configured RF path. On the left, an  icon represents the RF antenna, and on the right the  icon is labeled with the MB3 system input. Any external RF elements such as amplifiers or downconvertors should be represented in this flow diagram in order for the MB3 system to provide the most accurate data.

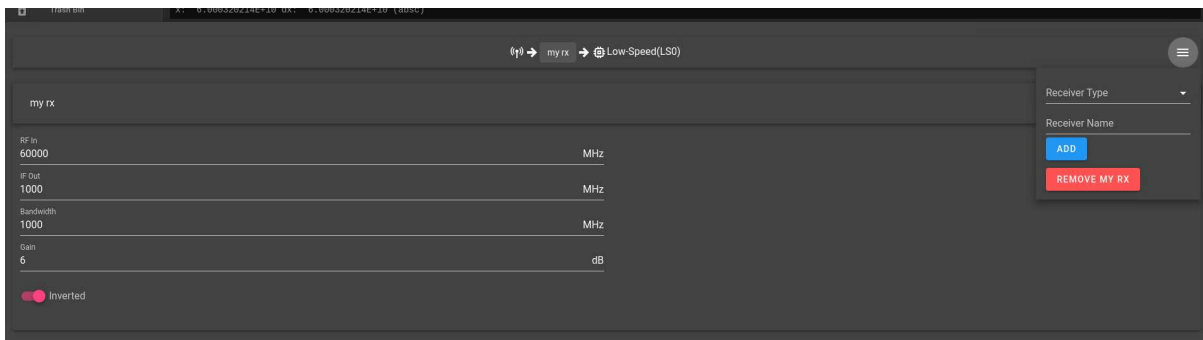



Figure 32: Tuner Settings Panel

10.3.2.1 Adding and Removing Items Items are added and removed from the flow diagram model using the  menu on the External Tuner Settings Panel.

To add a new RF element, select a Receiver Type from the list of supported receivers. Some receivers support automatic control of the upstream hardware. The receiver_base receiver allows manual entry for hardware that is not currently supported otherwise. More receiver models may be added in the future. Enter a meaningful name in the Receiver Name field, and press the ADD button. The new RF element will be added to the left of the flow diagram.

To remove an RF element, press the red REMOVE <name> button. This will remove the left-most RF element from the model. Repeat this process to remove all undesired RF elements.


NOTE: the order of RF elements is important and must match the physically connected hardware in order to properly model the frequency, gain, and inversion. Multiple RF

elements should be added starting at the MB3 system input, and working out towards the antenna.

10.3.2.2 Configuring Items Once a receiver has been added to the model, its control and status elements will be visible within a named section on the panel. Each receiver type may contain a slightly different implementation of control and status depending on hardware-specific limitations, however the following items must exist within the receiver as either a control or status item:

- RF In: Input center frequency
- IF Out: Output center frequency
- Bandwidth: Two-sided 3dB passband bandwidth centered at RF In
- Gain: RF to IF gain in dB
- Inverted: Set if IF Out is spectrally inverted relative to RF In

NOTE: These RF, IF, gain, and inversion items should match the stand-alone receiver behaviour irrespective of the overall system, the MB3 model will use this information along with the flow diagram to compute the overall system RF, gain, and inversion relative to the antenna input.

Some receiver models will require further configuration to establish hardware connectivity, these setup items are usually contained within a receiver-specific  menu.

NOTE: If the flow diagram model indicates that the MB3 input is spectrally inverted (relative to the antenna), the MB3 will auto-invert its input so that the displayed spectrum is always upright.

To close the Tuner Settings Panel, press the *ESC* key, or click on the MountainBrik Page anywhere outside the panel.

NOTE: Changing the RF or IF frequencies will affect any other web browsers that have the same page loaded.

10.3.3 Gain Control

There are various means of gain control within the system. These are divided into wideband and SBT controls.

10.3.3.1 Wideband Gain Control Each wideband input has a combination of analog and digital gain control items that can be used to ensure the digital data is properly loaded.

10.3.3.1.1 Attenuation Some systems have an RF variable attenuator that can be used to adjust the power level before the ADC. The valid attenuation range is [0, 31.75] in 0.25 dB increments.

Since the RF attenuation is modelled in the spectral display, decreasing attenuation will result in a commensurate lowering of the system noise floor. It is best practice to operate the system with as little attenuation as possible without saturating the ADC.

The following chart can be used to determine the optimal attenuation level for a given input power in dBm. The red indicates clipping or some compression, the green indicates an optimal range, and the yellow indicates potentially degraded system performance due to quantization noise.

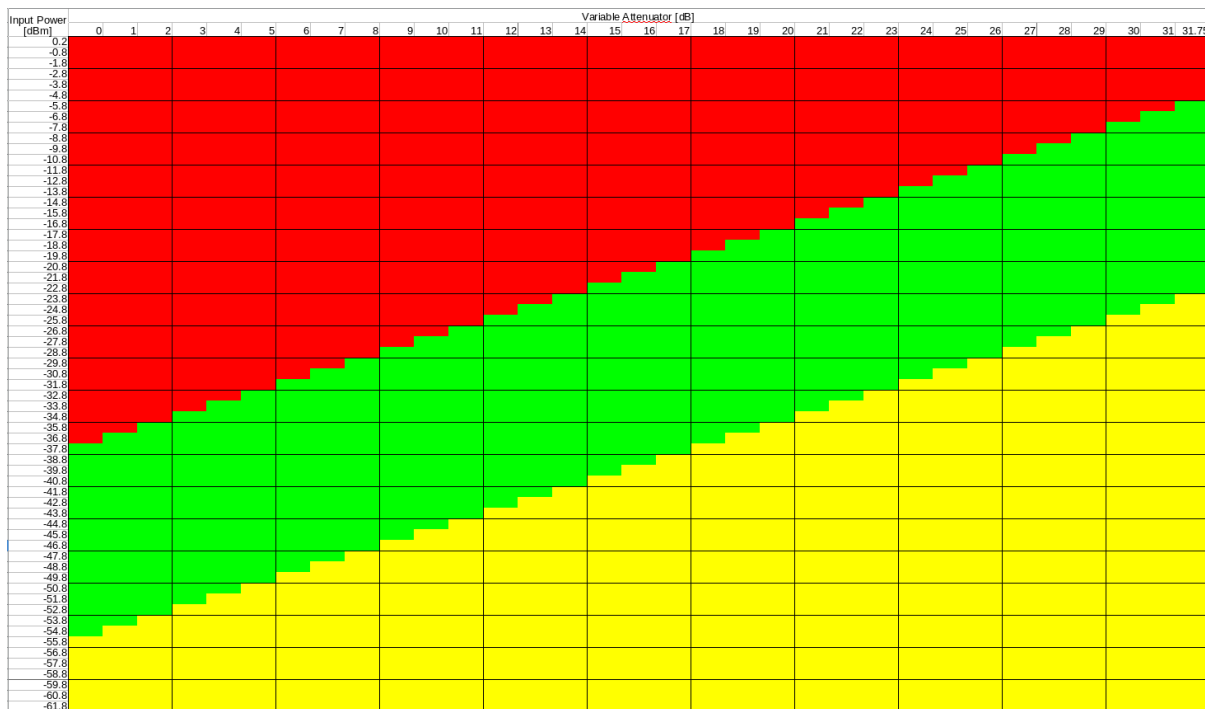


Figure 33: Variable Attenuation vs Input Power

NOTE: Changing the *Attenuation* will affect any other web browsers that have the same page loaded.

10.3.3.1.2 RSSI The Received Signal Strength Indicator (RSSI) provides an indication of the signal power at the ADC input.

The RSSI status will change color and value to indicate underloaded (blue), well loaded (green), and overloaded (red). The RSSI value is in units of dBFS or Decibels relative to full-scale. A dBFS value of 0 indicates full-scale input. A dBFS value of -6 is approximately one bit below full scale.


Changes to the *Attenuation* value will be reflected by changes to the RSSI.

10.3.3.1.3 Reference Level The *Reference Level* adjustment provides a means of post-ADC digital gain. The reference level determines the maximum power level for the digital output data. The *Reference Level* value is in units of dBFS or Decibels relative

to full-scale. A value of 0 indicates no digital gain. A value of -6 indicates a digital gain of approximately one bit. The supported range is approximately [-54.1, 0]. It is best practice to set the reference level to a value slightly larger than the RSSI value. This will ensure the maximum amount of bits are toggling in an 8-bit recording mode without saturation.

If available, it is best practice to first adjust the Attenuation control before subsequently adjusting the Reference Level control.

NOTE: Changing the *Reference Level* will affect any other web browsers that have the same page loaded.

10.3.3.1.4 Optimize Level The Attenuation and Reference Level can be automatically set by pressing the  button. This will determine an optimized power level for the signal.

NOTE: Changes made by the Optimize Level button will affect any other web browsers that have the same page loaded.

10.3.3.2 SBT Gain Control Each SBT defaults to approximately unity gain when the bandwidth is set. However, a digital gain is provided in dB for cases where it is needed. The gain range is approximately [-48.2, 54.1] in dB.

In addition, the Set Optimal Gains  button can be pressed to determine an optimized gain value for the SBT.

NOTE: Changes made by to the Gain value will affect any other web browsers that have the same page loaded.

10.3.4 SBT Control

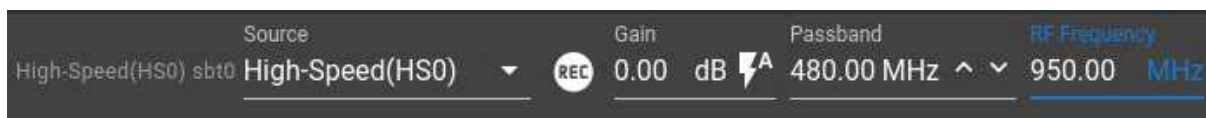


Figure 34: SBT Control

Each SBT has the following settings for configuring the data path:

- **Source:** Chooses the input data path for the SBT
- **Gain:** Adjusts the relative input to output gain in dB
- **Passband:** Adjusts the passband bandwidth of the SBT. *NOTE:* SBT samplerate is approximately 125% of Passband
- **RF Frequency:** RF center frequency. RF values are supported only if the External Tuner Settings have been properly configured. See *External Tuner Settings* for more information. Baseband IF frequencies can be entered otherwise.

10.3.5 Spectral Plot

The instantaneous spectrum and the spectrum over time are provided for each data source. Some plots contain a tuner overlay that provides for the easy ability to adjust the frequency and bandwidth of the sub-band tuner.

To adjust the frequency, click and drag the center line of the overlay. To adjust the bandwidth, click and drag either the left or right edge line of the overlay. The overlay will automatically snap to the nearest acceptable bandwidth value.



Figure 35: Wideband Plot



The default view is the frequency domain plot, see Figure 36. To switch to the time domain plot, press the  button. To switch back to the frequency domain plot, press the  button. The time domain plot, see Figure 37, shows the level-optimized data signal. The scale is ± 128 .



Figure 36: Frequency Domain Plot

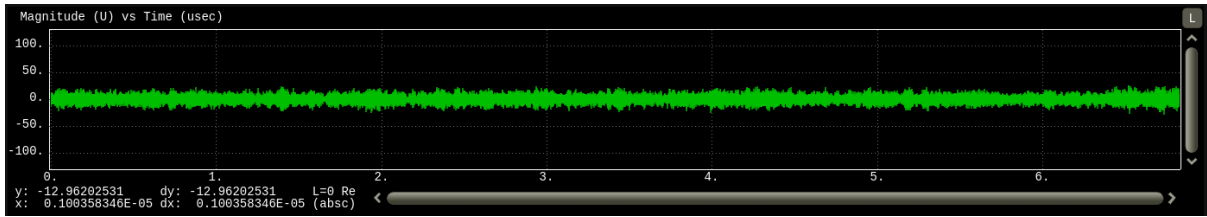











Figure 37: Time Domain Plot



10.3.5.1 Wideband HS Calibration The  icon (See Figure 35) indicates that the last HS calibration was successful. If the  icon appears instead, the last calibration was unsuccessful. Hover over the icon for a description of why. Calibration may be run by clicking on either calibration icon, and then confirming on the dialog that appears.



NOTE: Calibration is not performed at any time other than during system startup, or when performed manually. Therefore, the status of the calibration may not be accurate at all times. If in doubt, manually run the calibration to confirm a good calibration result.

10.3.5.2 Auto Adjust, Auto Intensity, Hide/Show, and Reset By default, the spectral plot has the Auto Adjust feature disabled. When enabled, this feature will continuously adjust the plotting range based upon the signal power. To disable or enable this feature, press the  button. Press the *Auto Adjust*  to change the value. If the toggle is to the left, it is disabled. If the toggle is to the right, and highlighted in non-grey color, then it is enabled. Setting this option affects only the plot type currently selected.

For performance reasons, the spectral raster is hidden by default. Press the *Show Raster*  to show it again. When the raster is shown, the Auto Intensity feature will become available. When enabled, this feature will continuously adjust the raster intensity setting based upon the signal power. When disabled, manual horizontal markers are provided on the spectral plot for setting a fixed raster intensity. To disable or enable this feature, press the  button. Press the *Auto Intensity*  to change the value. If the toggle is to the left, it is disabled. If the toggle is to the right, and highlighted in non-grey color, then it is enabled.

The Peak and Average plots can be selectively hidden or shown. By default, the Peak plot is hidden, and the Average plot is shown. To adjust the visibility of the Peak and Average plots, press the  button. Adjust the  toggle for Peak and Average as desired. If the toggle is to the left, the corresponding plot is hidden. If the toggle is to the right, the corresponding plot is shown.

To reset the Peak in the spectral plot, press the  button and then press the *Peak Reset*  button. The reset option only affects the frequency domain.

To reset the Average in the spectral plot, press the  button and then press the *Average Reset*  button. The reset option only affects the frequency domain.

NOTE: Peak and Average resets are shared between all plots. Resetting one plot will reset all plots.

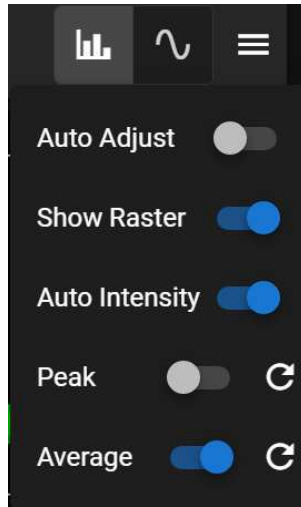


Figure 38: Auto Adjust, Show/Hide, and Reset

11 Downloads

The *Downloads* Page provides software available to download and install on a host computer. Links are also available to Webstart various Applications. Download and Webstart options will vary depending upon chassis type, and the currently tasked application.

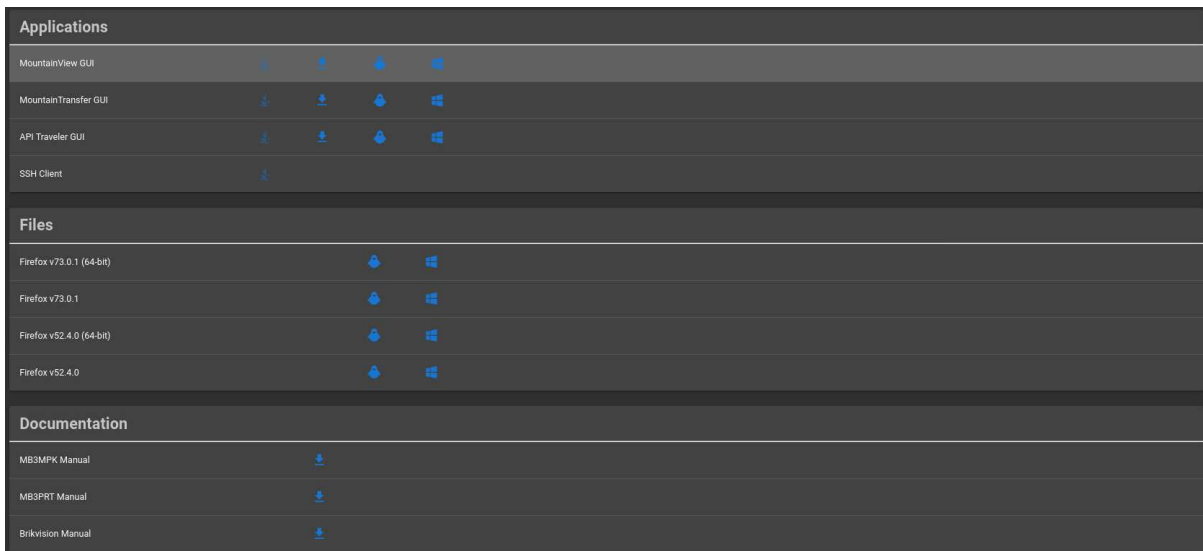


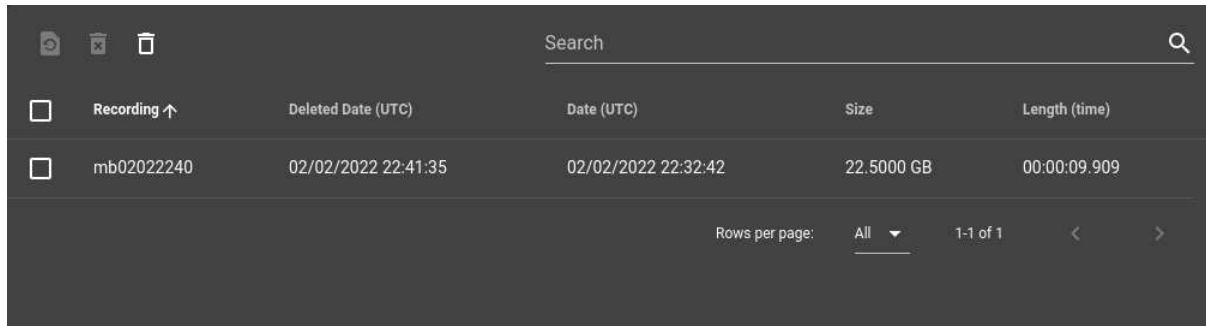
Figure 39: Downloads Page

In some cases the downloads may be presented in tabular format, with the MB3 DOWNLOADS as the default tab. In this case, clicking the other tabs will show downloads

for various non-MB3 applications.

12 Trash Bin

The *Trash Bin* Page is similar to the *Collections* Page. It provides a list of all recordings that have been moved to the Trash Bin. Recordings in this table can either be permanently deleted from disk storage, or restored to the available recordings list, using the options available from the Toolbar as described in the follow section.



The screenshot shows the Trash Bin interface. At the top left is a toolbar with three icons: a circular arrow (restore), a trash can with an 'x' (delete selected), and a trash can (delete all). To the right is a search bar. Below is a table with the following data:




<input type="checkbox"/>	Recording ↑	Deleted Date (UTC)	Date (UTC)	Size	Length (time)
<input type="checkbox"/>	mb02022240	02/02/2022 22:41:35	02/02/2022 22:32:42	22.5000 GB	00:00:09.909

At the bottom right, there is a pagination control: "Rows per page: All" (with a dropdown arrow), "1-1 of 1", and navigation arrows.

Figure 40: Trash Bin Page

12.1 Toolbar

At the top left of the *Trash Bin* Page is a toolbar with several buttons that provide various operations on the discarded recordings.

-
-  Restore the selected recordings to the available recordings list
 -  Permanently delete the selected recordings from the disk storage
 -  Permanently delete all the recordings in the Trash Bin from disk storage
-

13 Logs

Various system logs are provided by Brikvision on the *Logs* Page. Each log page has a refresh button in the top right that will refresh the current page with the most recent log information. There are also buttons to jump to the top and bottom of the log.



- **dmesg** - System messages log
- **Tasker** - MB3 Tasker error messages log
- **MBR HTTPD** - General log file for the MBR API Server
- **NGINX** - Error log for the NGINX Server
- **MBR Exceptions** - Log for general MBR python code exceptions

- **Recorder** - Recorder log file
- **LCD Control** - Error log for the system LCD
- **NFSD** - General log for the NFS Server

NOTE: The log links under the *Log* menu may vary, depending upon the Chassis type, and the features available on that Chassis. For instance, the *Recorder* log will not be available on chassis that do not have drives. The *LCD Control* log will not be available on chassis that do not have an LCD.

14 Power

Provides the following power options for the system.

-  **Power Chassis off** - Prepares the software for power off by unmounting drives and halting kernel processes. Once the LCD has displayed to fully power off turn power switch off for a few seconds, it is safe to power off the system using the power switch.
-  **Reboot Chassis** - Reboots the BRIK control board in the Chassis. This will not reboot nor power cycle any other hardware components in the system.

15 Help

The document links under the *Help* menu may vary, depending upon the Chassis type, and the features available on that Chassis.

When clicked, the document will be displayed in the main viewing window of Brikvision.






16 Status Bar

The status bar is displayed on the left side of Brikvion, in the menu panel, just above the release notes button (See Figure 1). Different icons will be displayed to give a quick status of various aspects of the connected MB3 Chassis. Some icons will only appear in the event of a warning or error, while others will be displayed at all times. Hovering the mouse over any of the icons may provide some additional information in the icon tool tip.












The currently loaded task/application will be displayed just above the status icons.

16.1 Status Icons

The following is a list of icons always present:

	Connected to Chassis
	Multiple connections to Chassis
	Disconnected from Chassis
	Green if GPS locked, red if not locked
	Green if drive temperatures are good, orange if getting too warm, red if too hot

The following is a list of icons that will only appear as necessary:

	Chassis booted from emergency information. Red if unable to parse emergency information, otherwise yellow
	System is booted from secondary sd card
	Default network config toggle is ON
	Chassis API reporting load errors
	SED is enabled and locked
	SED is enabled. Green if unlocked for the session only, yellow if unlocked persistently
	Chassis is reporting driveset issues
	Orange if storage low, red if storage almost full
	Active recorder channels
	Active playback channels
	Active network transfer channel

17 Admin

The *Admin* Page provides additional system information and configuration options that are not necessary to the standard operation of the system.

The menu does not contain a link to get to the *Admin* Page. To get to the page, add the word **admin** to the URL in the Web Browser address field: i.e. <host>/#/admin

17.1 Versions

The *Versions* tab provides version information of various packages installed on the system OS.

Name/Package	Version
b2l-version	2021.04.13
mbr-version	230110
api_libs	2020.07.09-1
brik2mpsockernel	2021.04.23-1
brik_info	2020.02.13-1
brikvision	2023.01.10.r1.f69953d-1
ext4magic	0.3.2-2
lua	5.3.5-1
luajit-gc64	2.1.0.beta3.r405.g91bc6b8a-1
luajit-posix	2022.08.04.r0.9fdc33a-1
luajit-useful	2022.10.20.r0.0c9adad-1
nginx	1.14.0-1
nvme-cli	r1517.95ef4d2-1
python2	2.7.15-2
python3	3.7.0-3
recorder	2023.08.26.r0.6d52003-1
runit-systemd	2.1.2-2
runit-utils	2019.01.30.r0.820b2f9-1
uwsgi	2.0.17.1-4
uwsgi-plugin-cgi	2.0.17.1-4
uwsgi-plugin-python2	2.0.17.1-4
vfiodma	2022.01.14.r0.6153d44-3
vfiofft	2021.07.14.r0.fd49f2d-1

Figure 41: Admin Versions

17.2 System Services

The *System Services* tab provides status information on various services running on the system. It also provides the ability to start/stop and restart some of those services.

VERSIONS		SYSTEM SERVICES	CHASSIS	DRIVESET		
Info +						
		Service	Type	Logged	Uptime	PID
⊙	⊙	lcdcontrol	svc	true	03:52:25	4898
⊙	⊙	recorder	svc	true	03:51:15	6683
⊙	⊙	ntpd	svc	false		
⊙	⊙	nginx	svc	true	03:52:25	4909
⊙	⊙	httpd-brik	systemd	true	03:53:02	4317
⊙	⊙	httpd-mbr	svc	true	03:52:12	5204
⊙	⊙	tasker	svc	true	03:52:10	5246
⊙	⊙	sshd	svc	false	03:52:25	4848
⊙	⊙	transfer-proxy	svc	false	03:52:19	5095
⊙	⊙	ws	svc	false	03:52:25	4853

Figure 42: Admin Services

17.3 Chassis

Nominally, at boot time, the system will read chassis specific configuration information from non-volatile storage, and use that information to then configure the System OS for that specific chassis type.

This information is stored as 2 separate pieces of data. The first is the network configuration information, which details how to configure the network interfaces after the system boots, and some other basic system values as necessary. The second is the chassis product ID, which includes as part of the the chassis serial number. This ID provides details on how the system OS and software will behave.

After each successful boot, this configuration information is stored in files on the OS storage in event the information cannot be read from the normal storage. This information can be used to fill the prompts to set the emergency product ID and configuration information.

In the event that this information cannot be read from the storage, the *Chassis* tab provides the ability to set the correct chassis specific configuration to allow the system to work correctly. This information is referred to as the emergency product ID and configuration.

NOTE: The emergency configuration will be stored only on the OS storage that is currently booted. If that storage is removed, or overwritten, then that emergency configuration will no longer be available.

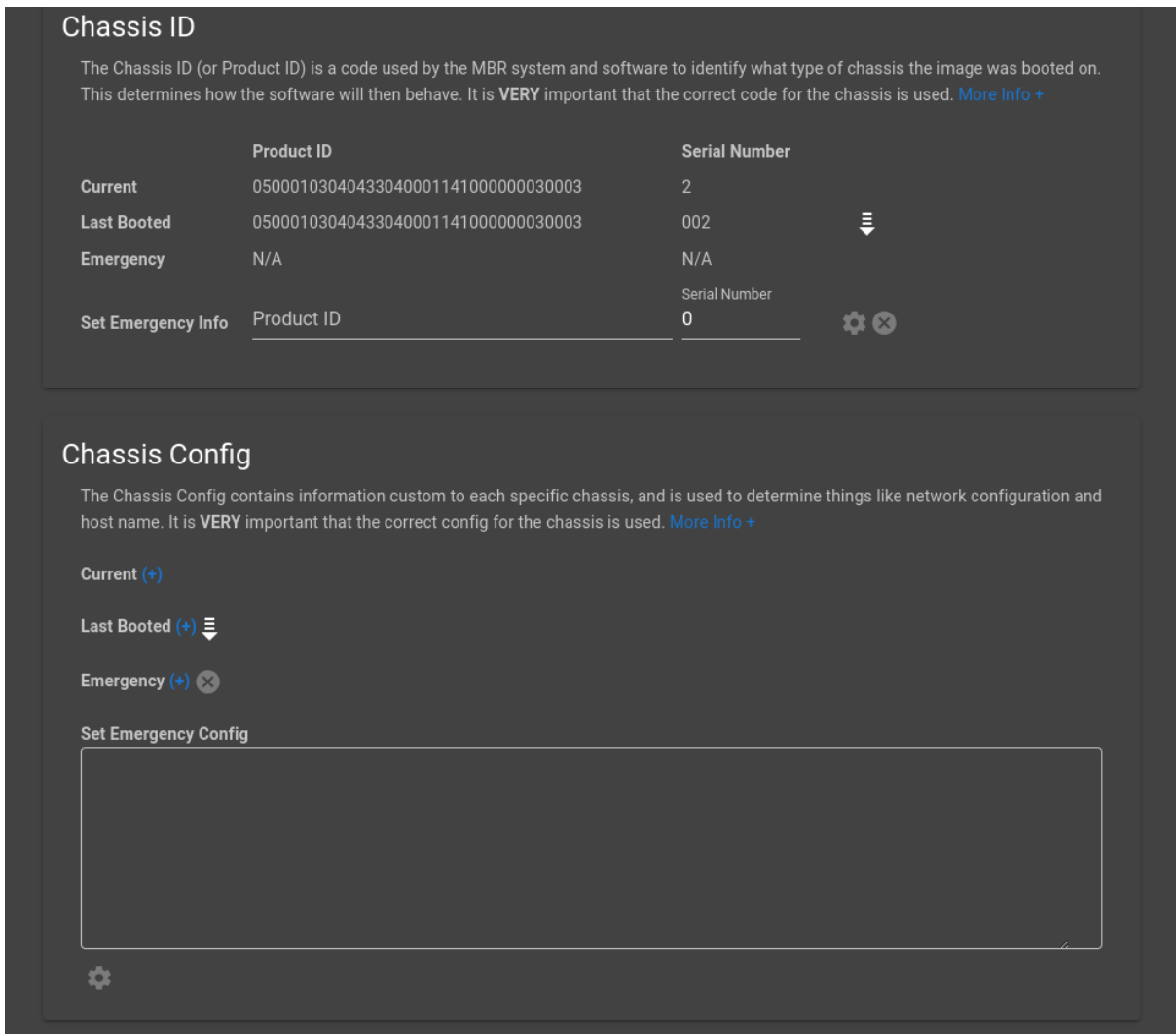


Figure 43: Admin Chassis


17.3.1 Chassis Identify

NOTE: MB3PRT-01, MB3PRT-02, MB3PRT-03, MB3CVT-01




Figure 44: Admin Chassis Identify



Pressing the 🔦 will enable the identify mode for that chassis. For Chassis with LCD, the each of the LCD LEDs will begin to flash. For Chassis with the Status LED, the LED will begin to flash RED/GREEN/YELLOW.

Pressing the  will disable the identify mode for that chassis. For Chassis with LCD, all of the LCD LEDs will turn off. For Chassis with the Status LED, the LED will display solid GREEN.

17.3.2 Chassis ID


The chassis ID, or product ID, is a 35 digit long string of hexadecimal characters. The serial number portion is a 3 digit long value from 0 to 999. The number can be represented with left padded '0' values, or just the actual serial number value. i.e. 003 or 3



If the **Last Booted** field has a value other than *N/A* (see Figure 43), then that value can be used to set the emergency product ID. Just press the  button to copy the information to the emergency prompts. If the **Last Booted** field has *N/A* as the value, then the correct product ID will have to be received from the factory.

Once the **Product ID** and **Serial Number** fields have been filled with the correct values, press the  button. To clear the emergency product ID value that has been set, press the  button.

17.3.3 Chassis Config

The chassis config (configuration), is text based configuration to provide the network configuration for the chassis.

If the **Last Booted** field has a value other than *N/A* (see Figure 43), then that value can be used to set the emergency chassis config. Just press the  button to copy the information to the emergency prompt. If the **Last Booted** field has *N/A* as the value, then the correct chassis config will have to be received from the factory.

Once the **Set Emergency Config** field has been filled with the correct configuration, press the  button. To clear the emergency chassis config value that has been set, press the  button.

17.4 Driveset

The *Driveset* tab provides the ability to manage, if supported, the self-encrypting drive (SED) feature of the driveset.

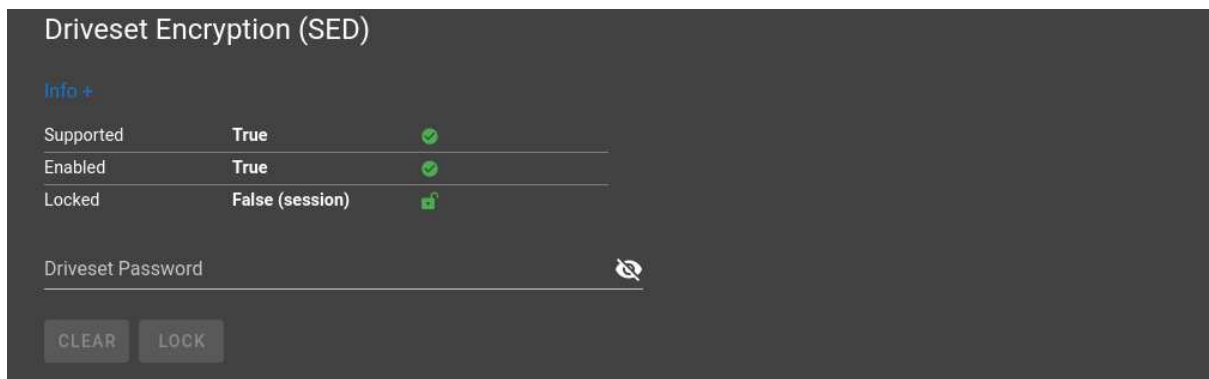




Figure 45: Admin Driveset

17.4.1 Setup

Before the SED support on the driveset can be utilized, the driveset SED feature will have to be setup, or initialized.

To setup SED:



1. Enter a password in the **Driveset Password** field
 - To view the password, press the  button
 - To hide the password, press the  button
2. Press the **SETUP** button
3. The system must be rebooted, or power cycled, once the setup process has completed
4. Once the system has booted, the driveset will need to be unlocked and then formatted before it is ready for use

NOTE: This process will wipe any existing data on the driveset

17.4.2 Clear

Clearing, or disabling, the SED support, means to remove the need for a password to access the data on the driveset.

To clear SED:

1. Enter the correct password in the **Driveset Password** field
 - To view the password, press the  button
 - To hide the password, press the  button
2. Press the **CLEAR** button
3. The system must be rebooted, or power cycled, once the clearing process has completed

4. Once the system has booted, the driveset will need to be formatted before it is ready for use



NOTE: This process will wipe any existing data on the driveset

NOTE: By default, the driveset data access will be persistently locked across reboots and power cycles

17.4.3 Lock

The lock option forces the immediate locking of all data access on the driveset. To gain access to the data, the unlock process will need to be performed.



To lock data access:

1. Enter the correct password in the **Driveset Password** field
 - To view the password, press the  button
 - To hide the password, press the  button
2. Press the **LOCK** button

17.4.4 Unlock

The unlock option provides immediate access to the data on the driveset. The Lock process can be used to block access to the data.

To unlock data access:

1. Enter the correct password in the **Driveset Password** field
 - To view the password, press the  button
 - To hide the password, press the  button
2. By default, the access will only be unlocked until the next reboot or power cycle. This is referred to as unlocked for the session.
 - Check the “Persistent unlock” checkbox to persistently unlock data access, even across reboots or power cycles.
3. Press the **UNLOCK** button

18 Release

The *Release* Page provides information regarding details of the various MB3 Software releases, past and present. To display the release information, click the *RELEASE: YYMMDD* button at the bottom left of the menu.

In some cases the release information may be presented in tabular format, with the MB3 RELEASE as the default tab. In this case, clicking the other tabs will show release information for various non-MB3 applications.

19 Troubleshooting

19.1 GPS/Timecode Page

19.1.1 No GPS Lock Status

If the system fails to obtain a GPS Locked status after 15-20 minutes:

- Verify that a valid GPS source signal is connected
- If the GPS signal is valid, please contact the Factory for additional support

19.1.2 PPS-Only Timecode

If the system has a valid PPS, but is not receiving timecode information, the message as seen in Figure 46 will be displayed. If this occurs:

- Verify that a valid GPS source signal is connected
- If the GPS signal is valid, please contact the Factory for additional support



Figure 46: PPS-Only Timecode

19.1.3 No PPS Detected

If a message appears as show in Figure 47:

- If using the internal GPS unit on a MB3PRT chassis, verify that the 1PPS OUT port is connected to the 1PPS IN port
- If using an external 1PPS source on MB3PRT, verify that a valid 1PPS source signal is connected to the 1PPS IN port
- If the 1PPS signal is valid or the message is seen on an MB3MPK/MB3CVT chassis, please contact the Factory for additional support

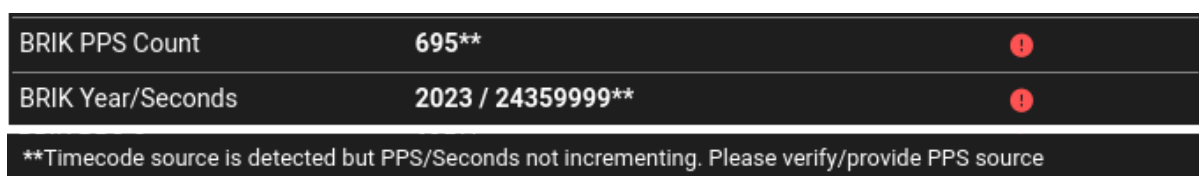


Figure 47: No PPS

19.1.4 No 10MHz Reference Detected

If a message appears as show in Figure 48:

- If using the internal GPS unit on a MB3PRT chassis, verify that the 10 MHZ OUT port is connected to the 10 MHZ IN port
- If using an external 1PPS source on MB3PRT, verify that a valid 10MHz source is connected to the 10 MHZ IN port
- If the 10M ref signal is valid or the message is seen on an MB3MPK/MB3CVT chassis, please contact the Factory for additional support

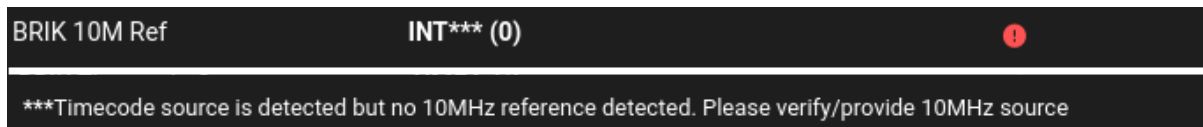


Figure 48: No 10MHz Reference

20 Debugging

If any loading issues do occur, debugging or error information can be found in the Javascript console of the browser.

To access the Javascript console:

- **Chrome Browser** Press *Ctrl-Shift-I* or select *More Tools->Developer tools* from the Chrome menu
- **Firefox Browser** Press *Ctrl-Shift-J*, or select *More-Tools->Browser Console* from the Firefox menu

From there, messages can be copied and pasted into a document or an email.

21 Fallback Page

In the event that Brikvision is not loading, or a supported browser needs to be downloaded, a *Fallback* Page is available to provide very limited options for downloads, logs and power control.

To connect to the *Fallback* Page, use the following address: `http://<IP Address>/fallback`

Brikvision Fallback (Release 231215)

This page is provided in the event that the main Brikvision Site is not responding as expected. The available options will be **VERY** limited.

Downloads

[MB3 Downloads](#)

Logs

Some logs, especially the **All Logs** option, may take several seconds to complete

[All Logs](#)

[Tasker](#)

[NFSD Server](#)

[System Journalctl](#)

[NGINX Error](#)

[LCD Software](#)

[MBR HTTDP Server](#)

[BRIK HTTDP Server](#)

[System dmesg](#)

[MBR HTTDP Error](#)

[MBR System Exceptions](#)

[Recorder Software](#)

Power

[Reboot Chassis](#)

[Power Off Chassis](#)

Figure 49: Fallback Home

21.1 Downloads

The *Downloads* Page provides the same download links as the Brikvision *Downloads* Page, and should be accessible via most browsers.













MB3 Downloads



Files

Firefox v102.10.0 ESR (64-bit)	 
Firefox v102.10.0 ESR	 
Google Chrome Stable (64-bit Debian/Ubuntu)	
Google Chrome Stable (64-bit Fedora/openSUSE)	
Win32 Disk Imager v1.0.0 (Windows 7/8.1/10)	

Applications

MountainView GUI	   
MountainTransfer GUI	   
API Traveler GUI	   
SSH Client	

Documentation



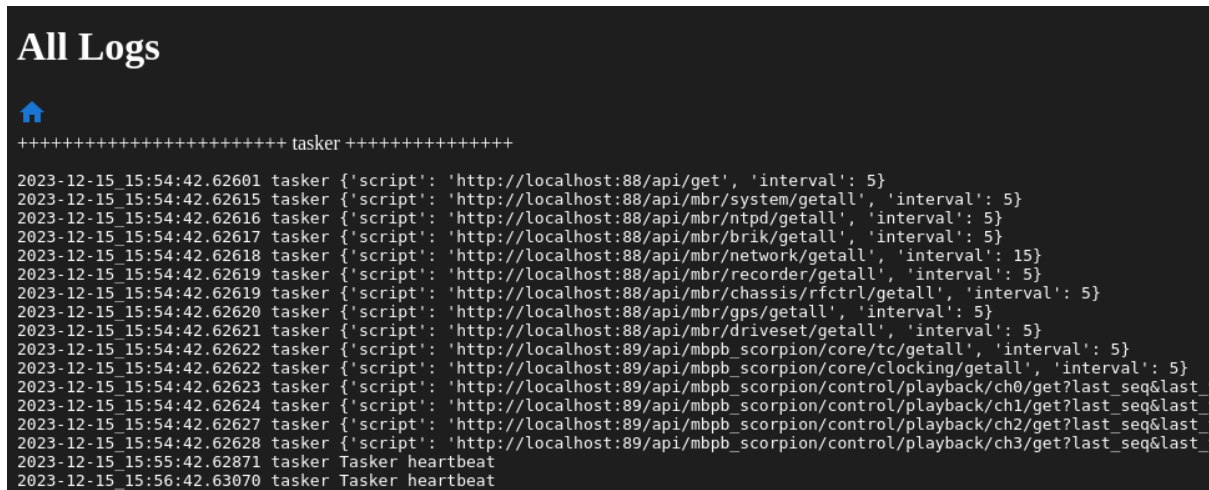
MB3MPK Manual	
MB3PRT Manual	
MB3CVT Manual	
Brikvision Manual	

Figure 50: Fallback Downloads Page

21.2 Logs

Clicking a link for a log file will result in the log text being displayed on a page. The log text can then be copied and pasted as needed.

The **All Logs** link will combine the text from every log file into a single output, with each log file text being separated by a simple header.



```
All Logs
+----- tasker +-----
2023-12-15 15:54:42.62601 tasker {'script': 'http://localhost:88/api/get', 'interval': 5}
2023-12-15 15:54:42.62615 tasker {'script': 'http://localhost:88/api/mbr/system/getall', 'interval': 5}
2023-12-15 15:54:42.62616 tasker {'script': 'http://localhost:88/api/mbr/ntpd/getall', 'interval': 5}
2023-12-15 15:54:42.62617 tasker {'script': 'http://localhost:88/api/mbr/brik/getall', 'interval': 5}
2023-12-15 15:54:42.62618 tasker {'script': 'http://localhost:88/api/mbr/network/getall', 'interval': 15}
2023-12-15 15:54:42.62619 tasker {'script': 'http://localhost:88/api/mbr/recorder/getall', 'interval': 5}
2023-12-15 15:54:42.62620 tasker {'script': 'http://localhost:88/api/mbr/chassis/rfctrl/getall', 'interval': 5}
2023-12-15 15:54:42.62620 tasker {'script': 'http://localhost:88/api/mbr/gps/getall', 'interval': 5}
2023-12-15 15:54:42.62621 tasker {'script': 'http://localhost:88/api/mbr/driveset/getall', 'interval': 5}
2023-12-15 15:54:42.62622 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/core/tc/getall', 'interval': 5}
2023-12-15 15:54:42.62622 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/core/clocking/getall', 'interval': 5}
2023-12-15 15:54:42.62623 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/control/playback/ch0/get?last_seq&last_'}
2023-12-15 15:54:42.62624 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/control/playback/ch1/get?last_seq&last_'}
2023-12-15 15:54:42.62627 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/control/playback/ch2/get?last_seq&last_'}
2023-12-15 15:54:42.62628 tasker {'script': 'http://localhost:89/api/mbpb_scorpion/control/playback/ch3/get?last_seq&last_'}
2023-12-15 15:55:42.62871 tasker Tasker heartbeat
2023-12-15 15:56:42.63070 tasker Tasker heartbeat
```

Figure 51: Fallback All Logs