5 NAVIGATING THE DEKO4078SD SIGNAL BOOSTER MANAGEMENT TOOL

This chapter describes how to navigate the Deko4078SD signal booster Management Tool application and the available functions.

5.1 ACCESS LEVELS

The enabled parameters displayed by the application depend on the access mode: **User** or **Guest**.

5.2 MAIN WINDOW

The Main window consists of the following tabs:

- Settings enables configuring and defining the signal booster and filter parameters in the corresponding tabs.
- Alarms Provides summary view of alarms and alarm log
- Measurements provides a summary of the configured filter parameters and their alarms
- Administration Includes the system information, SW upgrade option, communication parameters and user management option

5.3 SETTINGS

The **Settings** window consists of three main tabs: *General, Filter* and *Advanced-Installation*.

5.3.1 GENERAL

The following figure shows the General tab of the Settings window.

700/800 Booster				
Menu bar Settings Alarms Mea	surments A	Iministratio	n	
General Advanced-inst	allation Filt	ers		
General Mute band	DL 700	DL 800	UL 700/800	Isolation settings Isolation (dB) Back off isolation (dB) 25 Max Gain (dB calculated) 77
input window Input windowHigh limit (df Input window Low limit (df	3m) -40 v 8m) -100	-40 V	-40 V -100	Downlink routing 12 Filters for 700Mhz, 12 Filters for 800hz 24 Filters for 700Mhz 24 Filters for 800Mhz 6 Filters for 700MHz, 18 Filters 800MHz 18 Filters for 700Mhz, 6 Filters for 800Mhz
Status bar				

There are four main field areas:

- **General** consists of the *Mute Band* option that enables manually muting the supported domains (700DL 800 DL and UL)
- **Isolation Settings** provides the signal booster isolation parameters for configuration (*Isolation* and *Back Off Isolation*) which also determine the **Max Gain** for all the domains (automatically calculated).
- **Input Window** displays the boosters high and low sensitivity limits for the sliding window. The high *Input window High limit* is configurable where as the low limit is adjusted automatically.

Note: The attack and release time for the sliding window is determined in the *Advanced-Installation* tab (see 5.3.2).

 Downlink Routing – Includes the Downlink Routing capability options that enable defining the number of filters to be used for each 700 and/or 800 MHz bands.

ttings	Alarms Measurr	nents Ad	ministration		
eneral	Advanced-installa	tion Filte	rs		
- Gen	eral	DI 700	DI 800	111 700/800	Isolation settings
Mute bar	nd				Isolation (dB) 102 Back off isolation (dB) 25 Max Gain (dB calculated) 77
inpu Input wir Input wir	ut window ndowHigh limit (dBm) ndow Low limit (dBm)	-40 🗸	-40 v	-40 🖌	Downlink routing 12 Filters for 700Mhz, 12 Filters for 800hz 24 Filters for 700Mhz 24 Filters for 800Mhz 6 Filters for 700MHz, 18 Filters 800MHz 18 Filters for 700Mhz, 6 Filters for 800Mhz

5.3.2 ADVANCED – INSTALLATION

The following figure shows the **Advance-Installation** tab of the *Settings* window.

00/800 Booster						
fenu bar ettings Alarms Measurm eneral Advanced-Instalati	ents /	Admi	nistrat	tion		
- General	DL 700	1	DL 800	5	UL 700/8	input window
In Path offset (dBm)	-2	~	-2	~	-2	Attack time (usec) 8 🗸 Attack steps (dB) 8
System de attach time (maec)	100	~	100	~	100	Release time (sec) 1 Release steps (db) 1
Power save (msec)	100	~	100	~	100	8.
			_			
						Marker tone, PL mode
						Marker tone, PL mode Marker tone period (msec) 102
						Marker tone, PL mode Marker tone period (msec) 102 v Marker tone Frequency (Hz) 25 v
						Marker tone, PL mode Marker tone period (msec) 102 v Marker tone Frequency (Hz) 25 v Marker tone volume 1 v
						Marker tone, PL mode Marker tone period (msec) 102 Marker tone Frequency (Hz) 25 Marker tone volume 1 Time out timer(sec) 2

The Advanced-Installation tab consists of three main field areas: General, Input Window and Marker Tone, PL Mode.

Field Area	Parameter	Description		
General	In Path Offset (dBm)	The attenuation measured (per domain – DL700/DL800/UL) between the Input antenna to the DMSB Signal Booster		
	Out Path Offset (dBm)	The attenuation measured (per domain – DL700/DL800/UL) between the output of the DMSB Signal Booster to the antenna		
	System de attach time (msec)	Determines the amount of time the channel remains open after the transmission has ended		
	Power Save (msec)	Determines the amount of time (msec) after which the filter P.Amp is muted if it is not active. Note: The mute is immediately released once the filter resumes being active.		
Input	Attack Time (µsec)	Attack time for sliding window		
window	Attack Steps (dB)	Attack steps in dB increments for Attack time		
	Release Time (sec)	Release time for sliding window		
	Release Steps (dB)	Release steps in dB increments for Release time		
Marker Tone, PL Mode	Marker Tone Period (msec)	Duration (msec) of the CW – signal generated by the signal booster for the ID Tone		
	Marker Tone Frequency (Hz)	CW frequency (Hz) for ID Tone		
	Marker Tone Volume	Volume of CW for ID Tone		
	Time Out Timer (sec)	Limits channel occupancy to configured amount of time		
	PL Timer (msec)	PL (Private line) timer for closing channel when wrong PL detected		

The following table provides a description of the parameters displayed in the *Advanced-Installation* field areas.

5.3.3 FILTERS

There are two filter screens: One provides a summarized description of the configured filters and the other provides the user with the filters' configurable parameters.

5.3.3.1 Filter Parameters

The following figure shows the **Filters** (parameters) tab of the *Settings* window. This window is accessed by clicking on the **Add/Edit filter** button of the **Filter** (700/800) window (see Figure 19).

700/800 Booster								
Menu bar								
Settings Alarms Measurments Administration								
General Filters								
Filter type (BW, Delay, Rejection @ spacing)	12.5KHz, 15u, 61dB@25KHz 🗸	Show						
Transmit enable								
Multiple channel enable								
AGC enable								
	<u>Downlink</u>	<u>Uplink</u>						
Frequency (Mhz) / channel#	769.7000 150	799.7000 160						
Signal gate Threshold level low (dBm)	-110 🖌	-110						
Signal gate Threshold level high (dBm)	-100 🗸	-100						
Max Power Level (dBm)	37 🗸	27 🗸						
Max Gain Level (dB)	95 🖌	95 🗸						
PL enable	26							
PL frequency (HZ)	30	36						
ID tone	Normal 🖌	Normal 💌						
CW route	Normal 🖌	Normal 🗸						
Apply Cancel								

Figure 18. Filter Parameters

The majority of the parameters are displayed with default values, which can be user modified according to customer requirements. This window enables the user to select the required filter type and determine the DL center frequency.

Note: After configuring or modifying a parameter, click **Apply** to save the definition to the signal booster.

Field	Description
Filter Type	Combo box that provides a list of the available
	filter types
Transmit Enable	Enables filter operability. If this option is not
	enable (check marked) the filter will be defined but
	not operable.
Multiple Channel Enable	Option for enabling/disabling (default: enable)
	filter monitoring
	For Setup – enables RSSI readings even
	when channel is not transmitting
	For wideband filters – if a wideband filter
	is selected the monitoring option should be
	disabled in order to save power.
AGC Enable	Option for enabling and disabling Automatic Gain
	Control feature
Frequency (MHz)	Center Frequency
Signal Gate Threshold Level	UL and DL RSSI thresholds (low and high) in the
low (dBm)	Signal Gate Threshold fields determine the
Signal Gate Threshold Level	range in which the filter is active
high (dBm)	
Max Power Level (dBm)	This value limits the signal booster maximum
	output power.
Max Gain Level (dB)	This value limits the gain to a maximum of 90dB.
PL Enable	Option for enabling and disabling PL
PL Frequency (Hz)	Enables setting the PL frequency between 67 – 254 Hz
ID Tone	Provides several options for generating a specific
	tone in order to check the communication during
	setup (see 6.1)
CW Route	Determines the type of signal generated for the ID
	Tone by the signal booster
	Normal – Signal is passed "as is"
	Zero – No signal

The following table provides a description of the parameter fields displayed in the window above.

5.3.3.2 Filter Description

The following figure shows the **Filters** (description) tab of the *Settings* window. A separate window is displayed for each of the 700 and 800 bands.

This window includes the **Add/Edit Filter** option and provides a description of the type of filter(s) in use, their UL and DL center frequency, output power and gain. After the filters have been configured the user can navigate to this screen in order to view the filter characteristics (read only screen).

700	700/800 Booster										
Meni	Menu bar										
Settir	Settings Alarms Measurments Administration										
Gene	General Filters										
700	800										
			Description		Do	wnlink		U	lplink		
Id	select	enable	Description	Channel	Center	Max Out	Мах	Center	Max Out	Max	
			BW, Delay, Rejection @spacing		Frequency (Mhz)	Power (dBm)	gain (dB)	Frequency (Mhz)	Power (dBm)	gain (dB)	
1		Yes	12.5KHz, 15u, 61dB@25KHz	150	769.5000	37	77	799.5000	27	77	
2		Yes	12.5KHz, 15u, 61dB@25KHz	151	770.5000	25	76	801.5000	15	76	
3		Yes	25KHz, 30u, 61dB@25KHz	152	771.5200	25	77	806.5000	15	77	
4		Yes	50KHz, 15u, 61dB@25KHz	153	772.5500	25	77	810.5000	15	77	
5		Yes	12.5KHz, 15u, 61dB@25KHz	154	773.0000	25	76	815.5000	15	76	
6		Yes	12.5KHz, 15u, 61dB@25KHz	155	774.0000	25	77	820.5000	15	77	
	Add/Edit Eilter hutton										
					ton.			(ccn		Novt >>	
Add/	Edit filter	Delete filte	er							Next	

Figure 19. Filter Description

The following tables provide a description of the fields and buttons displayed in the figure above.

Field	Description
ID	Filter ID Number
Select	Checkbox for selecting filter to be edited
Enable	Provides indication on whether the filter is enabled or
	not
Description	Description of selected filter type (see 4.2.3)
Channel	Filter channel number - translation from frequency to
	channel number
Center Frequency (MHz)	DL/UL center frequency
Max Out Power (dBm)	DL/UL Max composite output power settings
Max Gain (dB)	DL/UL Max gain settings

Button	Description	Comments
Add/Edit Filter	Used for adding a new filter or editing an	
	existing one	
Delete Filter	Used for removing a selected filter from the	
	list	
Previous	Used for navigating to previous screen	It is recommended to
	(filter parameters screen) of selected filter	avoid using the scroll
	when editing	bar and use the Next
Next	Used for navigating to next screen	and Previous buttons

5.4 ALARMS

The alarms are displayed in two windows. One provides a summarized view of the system alarms and the other provides a log of the alarm history.

5.4.1 SUMMARY VIEW

The alarms **Summary View** tab displays the monitoring alarms for the system elements (Main, Power Amplifier and Power Supply) in addition to the Mute (per band) and External Alarms. See 6.5 for alarms description.

	700/800 RC	Send Refresh	CMU Reset	Date&Time	admin : Admin	Help	
Dekolink	Alarms						
Benomin	C ShutDown/Mute				DL 700	DL 800	UL
				Mute			
				Service		۲	
Root	Main Drawer						
OCMU 700/800 RC	Fan			PLL Lock		۲	
Users	Temperature			RF input leve	el 🥥		
				overflow	۲	۲	۲
	Power Amp. Drawer						
	Fan			VSWR			
	Temperature	0		P.Amp. curr	rent 🥥	۲	
	Power Supply Drawer			Externa	al Alarms		
	General error			Input		Output	
				Ext shut	: 🥥	Ext major	
		Ack All		Ext 2		Ext minor	
	Status: ok						

Figure 20. Alarms Summary View

5.4.2 Logs

The **Alarms Log** tab of the *CMU* window displays a history of up to 200 logs of alarms generated by the system. The tab consists of a tabular screen with sorting capabilities that include the alarm time stamp and description.

	CMU	Send	Refresh CMU Reset	Date&Time	admin : Admin	Help	
Dekolink	Deko-CMU Configuration	Alarms Log	Deko-CMU SW Upgrade				
Dekolink	Congestation Time Stamp 06/17/00 11:22:52 06/16/00 20:20:54 06/16/00 20:20:54 06/16/00 19:35:05	Description DNA Alarm Raised: Ch Raised: Ch DNA Alarm	cleared: Build In Test annier Communication annier Communication raised: System Mute				
	Status: ok						

Figure 21. Alarms Log

5.5 **MEASUREMENTS**

The **Measurements** window is a read-only window which displays a summarized view of the configured filters for each band (the filters for the 700 and 800 bands are displayed in separate screens). This screen provides the user with a general description of the filters in addition to indicating whether the RSSI and Output Power threshold levels have been exceeded.

	700/800 Booster											
Ν	lenu bar											
	Settings Alarms Measurments Administration											
	Filter	5										
	700	800										
			Description			Down	link		Uplink			
	ld	enable	BW, Delay, Rejection @spacing	Ch	Freq (Mhz)	RSSI (dB)	Out Power (dBm)	Gain (dB)	Freq (Mhz)	RSSI (dB)	Out Power (dBm)	Gain (dB)
	1	Yes	12.5KHz, 15u, 61dB@25KHz	150	769.5000	-80	29	-80	799.5000	-80	19	-80
	2	Yes	12.5KHz, 15u, 61dB@25KHz	151	770.5000	-80.5	18	-80.5	801.5000	-80.5	18	-80.5
	3	Yes	25KHz, 30u, 61dB@25KHz	152	771.5200	-30	29	-30	806.5000	-30	19	-30
	4	Yes	50KHz, 15u, 61dB@25KHz	153	772.5500	-80	29	-80	810.5000	-80	19	-80
	5	Yes	12.5KHz, 15u, 61dB@25KHz	154	773.0000	-80	18	-80	815.5000	-80	18	-80
	6	Yes	12.5KHz, 15u, 61dB@25KHz	155	774.0000	-30	29	-30	820.5000	-30	19	-30
	<pre></pre>											

See 5.3.3.2 for description of fields.

5.6 **ADMINISTRATION**

The **Administration** window consists of the following tabs:

- **System Information** Displays the system information such as the SW version and the system elements' part numbers. See 6.9
- **Backup** Enables user to backup and restore user parameters such as the filter settings. See 7.2.3
- **SW Upgrade** Enables user to upgrade the application SW with latest version. See 7.2.2
- **Filter Import** Displays an inventory of all the filter types (grouped in banks) and provides a filter management option that enables the user to upload new filters to the filter bank. See 7.2.4.
- **Communication** Displays configurable communication and modem parameters. See 4.2.4.
- Users Provides user management options. See 7.1

6 DMSB MT OPERATIONS

6.1 FILTERS

The application enables the user to add, edit and delete filters. See following sections for descriptions.

6.1.1 ADDING A FILTER

To add a filter

1. Click on the Filters tab of the Settings window. The following window appears:



2. Verify that no existing filters are selected and click on the **Add/Edit Filter** button. The following window appears.

ener	al Filte	rs										
700	800											
			De	agription		Do	wnlink		ι	Jplink		
ld	select	enable	BW, Delay, Rejection @spaci		Channel	Center Frequency (Mhz)	Max Out Power (dBm)	Max gain (dB)	Center Frequency (Mhz)	Max Out Power (dBm)	Max gain (dB)	
1		Yes	12.5KHz, 15u	, 61dB@25KHz	150	769.5000	37	77	799.5000	27	77	
2		Yes	12.5KHz, 15u	, 61dB@25KHz	151	770.5000	25	76	801.5000	15	76	
3		Yes	25KHz, 30u	, 61dB@25KHz	152	771.5200	25	77	806.5000	15	77	
4		Yes	50KHz, 15u	, 61dB@25KHz	153	772.5500	25	77	810.5000	15	77	
5		Yes	12.5KHz, 15u	, 61dB@25KHz	154	773.0000	25	76	815.5000	15	76	
6		Yes	12.5KHz, 15u	, 61dB@25KHz	155	774.0000	25	77	820.5000	15	77	

3. Select the required filter type in the Filter Type field.

Note: Filter types are taken from the list of available filter types.

- 4. Define the DL center frequency in the Frequency field.
- 5. Define the RSSI threshold range in the **Signal Gate Threshold Low/High** fields.

Note: The remaining filter parameters and attributes are displayed with default values that can be modified according to site requirements.

- 6. The default filter **Max Gain** value displayed is the Maximum Gain calculated according to the isolation settings (see section 4.2.1 step 2). This value can be modified, however the filter Maximum Gain cannot be higher than that calculated according to the booster isolation settings. If a higher maximum gain value is required the isolation settings must be modified accordingly.
- 7. Click **Apply**.

6.1.2 EDITING FILTERS

To edit a filter

1. Click on the **Filters** tab of the *Settings* window. The following appears:

17	00/	<u>800 Boo</u>	ster									
М	lenu	bar										
Se	ettin	<mark>ys</mark> Alar	ms Mea	asurments	Administration							
G	enera	al Filte	rs									
;	700	800										
_												
	Description Downlink Uplink											
	ld select enable		enable		escription	Channel	Center	Max Out	Max	Center	Max Out	Max
			BW, Delay,	Rejection @spacing		Frequency (Mhz)	(dBm)	gain (dB)	Frequency (Mhz)	(dBm)	(dB)	
	1	~	Yes	12.5KHz, 15	u, 61dB@25KHz	150	769.5000	37	77	799.5000	27	77
	2		Yes	12.5KHz, 15	u, 61dB@25KHz	151	770.5000	25	76	801.5000	15	76
	3		Yes	25KHz, 30	u, 61dB@25KHz	152	771.5200	25	77	806.5000	15	77
-	4		Yes	50KHz, 15	u, 61dB@25KHz	153	772.5500	25	77	810.5000	15	77
1	5		Yes	12.5KHz, 15	u, 61dB@25KHz	154	773.0000	25	76	815.5000	15	76
	6		Yes	12.5KHz, 15	u, 61dB@25KHz	155	774.0000	25	77	820.5000	15	77
								,				
_				_							rouiouro	Novet >>
A	dd/Eo	dit filter	Delete filt	er						F	revious	Next >>

- 2. In the **Select** column, select the filter to be edited.
- 3. Click the Add/Edit Filter or Next button. The following window appears:

700/800 Booster		
Menu bar		
Settings Alarms Measurments Administ	ration	
General Filters		
Filter type (BW, Delay, Rejection @ spacing)	12.5KHz, 15u, 61dB@25KHz 🗸	Show
Transmit enable 🛛 🔽		
Multiple channel enable 🛛 🗹		
AGC enable		
	<u>Downlink</u>	<u>Uplink</u>
Frequency (Mhz) / channel#	769.7000 150	799.7000 160
Signal gate Threshold level low (dBm)	-110 🗸	-110 🖌
Signal gate Threshold level high (dBm)	-100 🗸	-100 🖌
Max Power Level (dBm)	37 🗸	27 🗸
Max Gain Level (dB)	95 🗸	95 🗸
PL enable		
PL frequency (HZ)	36 🗸	36
ID tone	Normal 🗸	Normal 🤜
CW route	Normal 🧹	Normal 🗸
Apply Cancel		

4. Modify the required parameters and click **Apply**. The previous filter screen appears.

6.1.3 **DELETING FILTERS**

To delete a configured filter from the list

1. Click the **Filters** tab of the *Settings* window. The following appears:

ţ	700/	800 Boo	ster								
N	Лепи	bar									
S	ettin	s Alar	ms Mea	asurments Administration							
G	ienera	al Filte	rs								
	700	800									
	Description Downlink Uplink										
	ld	select	enable	Description	Channel	Center	Max Out	Max	Center	Max Out	Max
				BW, Delay, Rejection @spacing		Frequency (Mhz)	Power (dBm)	gain (dB)	Frequency (Mhz)	(dBm)	(dB)
	1		Yes	12.5KHz, 15u, 61dB@25KHz	150	769.5000	37	77	799.5000	27	77
	2		Yes	12.5KHz, 15u, 61dB@25KHz	151	770.5000	25	76	801.5000	15	76
	3		Yes	25KHz, 30u, 61dB@25KHz	152	771.5200	25	77	806.5000	15	77
	4		Yes	50KHz, 15u, 61dB@25KHz	153	772.5500	25	77	810.5000	15	77
	5		Yes	12.5KHz, 15u, 61dB@25KHz	154	773.0000	25	76	815.5000	15	76
	6		Yes	12.5KHz, 15u, 61dB@25KHz	155	774.0000	25	77	820.5000	15	77
				Delete	Filter						
[Add/Eo	lit filter	Delete filt	er					<< p	revious	Next >>

- 2. In the **Select** column, select the filter to be deleted.
- 3. Click the **Delete Filter** button. The filter table will be updated and displayed with the new list of available filters.

6.2 GENERATING ID TONE ON CHANNELS

The ID tone is used for the "Walk Test" and enables the Deko4078SD signal booster to generate a specific tone in order to check the communication during setup. The ID Tone option is accessed through the *Routing* tab of the DDF window. See following figure.



To determine the ID Tone

- 1. In the **ID Tone** field of the *Filters (parameters)* tab select one of the following ID Tone types from the drop down list:
- Normal Beep will be sounded at the beginning of the conversation
- **Repetition –** Beep will be sounded at predefined intervals
- **Continuous** A continuous beep is sounded.

Note: Select Disable to disable the function.

2. In order to use the Booster as a signal generator, select the **Normal** option (default) from the **CW Route** drop-down list.

Note: Select **Zero** for no signal.

- 3. Click **Apply**.
- 4. Define the following ID Tone parameters in the *Marker Tone* field area of the **Advanced-Installation** tab (*Settings* window):
 - Marker (ID) Tone Period
 - Marker (ID) Tone Frequency (Hz)
 - Marker (ID) Tone Volume

700/800 Booster								
Menu bar								
ettings Alarms	Measurn	ients	Adn	ninistra	tion			
General Advanced	i-Instalat	ion	Filter	s				
- General							_ input window	
		DL 70	0	DL 80	D	UL 700/800	200 • 2002 1124 662 (20022-01)	
In Path offset (dBm)	-2	~	-2	~	-2 🗸		0
Out path offset (dBm)	-2	~	-2	~	-2 🗸	Attack time (usec) 8 Attack steps (dB)	8
System de attach tin	, ne (msec)	100	~	100	~	100 🗸	Release time (sec) 1 V Release steps (db)	1
-		100	-	100	-	100		
Power save (msec)		100	~	100	~	100 🖌		
							Marker tone, PL mode	
							Marker tone period (msec) 102	~
							Marker tone Frequency (Hz) 25	~
							Marker tone volume	~
							Time out timer(sec) 2	~
							PL timer (msec) 102	~
itus bar								

5. Click the Send Parameters button.

6.3 MODIFYING DEKO4078SD PARAMETERS

To modify the signal booster parameters

1. Click the **General** sub-tab of the *Settings* tab. The following appears.

700/800 Booster				
Menu bar				
Settings Alarms Measur	ments Ac	Iministratior	1	
General Advanced-installa	ation Filte	ers		
General Mute band input window Input windowHigh limit (dBm) Input window Low limit (dBm)	DL 700	DL 800 ✓	UL 700/800 V -40 V -100	Isolation settings Isolation (dB) Back off isolation (dB) Back off isolation (dB) Comparison (dB calculated) T7 Downlink routing Output I2 Filters for 700Mhz, 12 Filters for 800hz Comparison (dB calculated) Comparison (dB calculated) Comparison (dB calculated) Downlink routing Output Downlink routing I 24 Filters for 700Mhz, 12 Filters for 800Hz Comparison (dB calculated) IB Filters for 700Mhz, 6 Filters for 800Mhz IB Filters for 700Mhz, 6 Filters for 800Mhz
Status bar				

2. Perform the required changes in the displayed parameters (see field descriptions in section 5.3.1).

Note: Upon selecting a different *downlink routing* option, the previous filter map is deleted and a new one must be configured (see 4.2.3 and/or 6.1.1).

3. Click Send.

6.4 VIEWING ONLINE BOOSTER PARAMETERS

To view current signal booster Parameters

After a connection has been established between the computer and the signal booster click the **Refresh** button, located at the bottom of the *Settings* window shown below.

6.5 MONITORING ALARMS

The application provides three levels of alarms:

- **System alarms** Provides the monitoring alarms for all three system units: Main, Power Amplifier and Power Supply. In addition, includes the Mute alarms.
- **External alarms** Provides monitoring according to the external alarms defined by the user (see 6.7)
- **Specific alarms per channel** Provides the user with alarms (per filter) indicating whether the filter exceeds the configured threshold range.

The following sections describe the alarms displayed in the application GUI.

6.5.1 SYSTEM ALARMS AND EXTERNAL ALARMS

The **Summary View** tab of the *Alarms* screen provides a summary view of the monitoring alarms for the system elements and the external alarms.

ttings Alarms Measu	ments Administration				
ShutDown/Mute			DI 700	DI 800	
onacommute		Mute	0	0	0
18		Service	ŏ	•	0
Main Drawer					
Fan	•	PLL Lock	•	•	0
Temperature	•	RF input level	•	•	0
		overflow	•	•	•
Power Amp. Draw	er				
Fan		VSWR	•	•	•
Temperature	•	P.Amp current	•	•	0
Power Supply Dra	wer	External Alarms			
General error		Input		Output	
	-	Ext shut 🔵		Ext major	0
		Ext 2		Ext minor	•

Figure 22. Alarms- Summary View

The following	table	provides	а	description	of	the	alarms	displayed	in	the	figure
above.											

Alarm G	roup	Alarm	Description
Shutdowr	n/Mute	Mute	Mute per band - can be a result either of a manually performed mute, system mute or fatal error at the initialization phase.
		Service	Band PA mutes due to failure to transmit power
Main Drav	ver	Fan	Indicates operation status of fan
		Temperature	Indicates an inner temperature over 60°C. The power supply shutdowns the system when the temperature reaches 70°C
		PLL Lock	PLL lock per band at Main drawer - Faulty status of the Phased Locked Loop (PLL)
		RF Input Level	Expected RF input level
		Overflow	
Power Su	pply	Fan	Red – Critical Alarm
Drawer			Orange – Warning
			Green - OK
		Temperature	Indicates an inner temperature over 60°C. The power supply shutdowns the system when the temperature reaches 70°C
		VSWR	VSWR per band at P.Amp drawer - High Voltage Standing Wave Ratio (VSWR) at the output port
		P.Amp Current	P.Amp Current per band at P.amp drawer
External Alarms:	Input	Ext Shut	If the external signal arrives then the system will be muted and the corresponding alarm will be set
		Ext 2	Generic name that can be user defined - If the external signal arrives and the event is enabled the corresponding Alarm is set
	Output	Ext Major	If there is at least one major alarm in the system (as a result of system mute) the signal will be output and a corresponding Alarm will be set
		Ext Minor	If there is at least one minor alarm in the system (system is not muted) the signal will be output and the corresponding alarm will be set

6.5.2 SPECIFIC CHANNEL ALARMS

The alarms for the specific channels are viewed through the **Filters** tab of the *Measurements* screen.

An alarm indication is provided for each filter indicating whether they have exceeded their defined threshold limits. Alarm indications are provided for the following parameters: RSSI (dB), Out Power (dBm) and Gain (dB).

	700/	800 Boo	ster									
Μ	lenu k	bar										
•	Settin	gs Alar	ms Measurments Administ	ration								
$\left[\right]$	Filter	s "	11 II									
	700	800										
ī												
						_						
			Description			Down	link			Upli	ink	
	ld	enable	BW, Delay, Rejection @spacing	Ch	Freq (Mhz)	RSSI (dB)	Out Power (dBm)	Gain (dB)	Freq (Mhz)	RSSI (dB)	Power (dBm)	Gain (dB)
	1	Yes	12.5KHz, 15u, 61dB@25KHz	150	769.5000	-80	29	-80	799.5000	-80	19	-80
ľ	2	Yes	12.5KHz, 15u, 61dB@25KHz	151	770.5000	-80.5	18	-80.5	801.5000	-80.5	18	-80.5
	3	Yes	25KHz, 30u, 61dB@25KHz	152	771.5200	-30	29	-30	806.5000	-30	19	-30
	4	Yes	50KHz, 15u, 61dB@25KHz	153	772.5500	-80	29	-80	810.5000	-80	19	-80
	5	Yes	12.5KHz, 15u, 61dB@25KHz	154	773.0000	-80	18	-80	815.5000	-80	18	-80
ľ	6	Yes	12.5KHz, 15u, 61dB@25KHz	155	774.0000	-30	29	-30	820.5000	-30	19	-30
				,					< prev	/ious	Next >>	

Red – threshold limits have been exceeded

Green - within threshold limits

6.6 VIEWING GRAPHIC DISPLAY OF FILTER

The Filter screens are shown by selecting a Filter Type in one of the window tabs and clicking the corresponding **Show** button.

The Filter screen includes several displays (**Select Picture** button, at bottom) that enable viewing the filter properties and characteristics to ensure a proper selection of the filter.



6.7 DEFINING THE EXTERNAL ALARMS

The external alarms can be defined and managed by the GUI application. This is performed by an administrator. The application enables the administrator to define two input and two output events, to enable/disable the alarms and to determine the activation mode (normally open or normally closed.

To define the external alarms

1. Click the **External Alarms** tab of the *Administration* window (in Administration mode). The following tab appears:

ystem info	Backup	SW upgrade	Filter import	communication	External alarms	users
ld Mo	de (NC/NO)	Active	Description			
out						
1 NC		V	Ext shut			
2 NC		V	Ext2			
Itput						
1 NC		V	Ext major			
2 NC			Ext minor			



- 2. Define the **Input** modes:
 - NC Normally Closed
 - NO Normally Open
- 3. Define a name for *Input 2* in the **Description** field (the default is a generic name).

Note 1: The *Input 1* description is hardcoded "Ext shut". Note 2: When an external signal is received the system is muted and a corresponding alarm is generated.

4. Define the **Output** modes as performed for the Input, above.

Note: The Output signals are hardcoded as Ext major and Ext Minor.

6.8 SLIDING WINDOW CONFIGURATION

Use the Input Window field area in the *Advanced-Installation* sub-tab to set the acknowledgment delay period (Sliding Window).

To set the sliding window options

1. Click the **Settings** tab and then click the **Advanced-Installation** sub-tab. The following screen appears.

attings	Alauma Moraum	a nutra	A.d	alaictus	tion	1				
ettings	Alarms Measurn	nents	Adn	ninistra	tion	1				
ieneral	Advanced-Instalat	ion i	Filters	5						
- Gen	eral	DL 70	0	DL 800)	UL 700	/800	_ input window		
In Path o	offset (dBm)	-2	~	-2	~	-2	~	Attack time (usec) 10 🗸 Attack st	eps (dB)	8 🗸
Out path	offset (dBm)	-2	~	-2	~	-2	~	Release time (sec) 1 V Release	steps (db)	
System	System de attach time (msec) Power save (msec)		~	100	~	100	~			
Power s			×	100	~	100	~			
								Marker tone, PL mode		_
								Marker tone period (msec)	102	~
								Marker tone Frequency (Hz)	25	~
								Marker tone volume	1	~
								Time out timer(sec)	2	~
								PL timer (msec)	100	

- 2. Define the following parameters:
 - Attack Time (µsec) Time between the instant the signal exceeds the activation threshold and the units' reaction (default is 10µsec). The Attack Time range is between 10-50µsec. In addition, define the Attack Steps (0-31dB).
 - **Release Time (sec)** Interval between the time the signal is disabled until it is continued (default is 1sec). The Release Time range is between1-60sec. In addition, define the **Release Steps** (0-31dB).
- 3. Click Send.

6.9 VIEWING SYSTEM INFORMATION

Refer to the **System Info** sub-tab of the *Administration* tab to view the signal booster general information. The following properties are displayed:

- System SW version
- Main drawer part number
- P.Amp drawer part number
- Power Supply part number
- UD DL SN Up-Down Downlink Serial Number

- UD UL SN Up-Down Uplink Serial Number
- DDF DL SN Dekolink Digital Filter Downlink Serial Number
- DDF UL SN Dekolink Digital Filter Uplink Serial Number
- Monitor/Main Drawer SN
- Monitor/P.Amp Drawer SN

Administratio	n			
System info	Backup	SW upgrade	Filter import	communication users
Sys	stem SV	/ version		
Bo	oster PN	J		
Ма	in drawe	er Part num	ber	
Pa	mp drav	wer Part nur	mber	
Po	wer sup	ply Part nun	nber	
UD	DL SN			
UD	UL SN			
DDI	F DL SI	N		
DDI	FUL SI	N		
Mor	nitor /m	ain Drawer	SN	
Mor	nitor /Pa	ap Drawer	SN	

7 ADMINISTRATION

7.1 MANAGING USERS

By default, *twelve* users belonging to one of three authentication levels are defined on the Booster. You may add new users, modify or delete existing users.

7.1.1 USER LEVELS

Three user levels are available:

- Admin has access to all administration and configuration options, including user management. (Default Password admin and default User Name admin.)
- Operator has access to all configuration options *except* for the Users list or the Loaders screen.
- Guest Read-only access.

7.1.2 VIEWING THE LIST OF DEFINED USERS

To display the User Administration pane

From the **Tree Pane**, select **Users**. The list of users is displayed in the Configuration Pane according to the identifying information and authentication level (Role).

Login Name	First Name	Last Name	Role	
admin	admin	user	Admin	Edit
operator	operator	user	Operator	Edit Del
admin1	admin1	admin1	Admin	Edit Del
operator1	operator1	operator1	Operator	Edit Del
admin2	admin2	admin2	Admin	Edit Del
operator2	operator2	operator2	Operator	Edit De
admin3	admin3	admin3	Admin	Edit De
operator3	operator3	operator3	Operator	Edit De
admin4	admin4	admin4	Admin	Edit Del
operator4	operator4	operator4	Operator	Edit De
operator5	operator5	operator5	Operator	Edit De
operator6	operator6	operator6	Operator	Edit Del
operator7	operator7	operator7	Operator	Edit Del
operator8	operator8	operator8	Operator	Edit De

The following table provides a description of the Users dialog buttons and options.

Management Option	Description
Add User (button)	Adds a new user with to user defined access level and password.
Del(ete)	Deletes the corresponding user from the list.
Edit	Enables changing the definitions of an existing user.

7.1.3 ADDING USERS

NOTE: User name and password entries are case sensitive.

To add a user:

- 1. From the Tree Pane, select **Users.** The list of users is displayed in the User's Pane.
- 2. From the User's Pane, click **Add User**. The Add User dialog box is displayed.

Login Name		
First Name		
Last Name		
User Role	Admin	•
Password		
Verify Passwo	rd	
ок	Cancel	

- 3. Enter the Login Name name used by user to login.
- 4. Type the users First Name and Last Name used to identify the user.
- 5. Select the **User Role** access level. This defines the operations that the user will be able to perform.
- 6. Enter the **Password** and in **Verify Password** enter the password again for verification.
- 7. Click **OK**.

7.1.4 EDITING USERS

To modify user definitions

- 1. From the Tree Pane, select **Users**. The list of users is displayed in the User's Pane.
- 2. Select the User to be edited in the list.
- 3. Click Edit. The user definitions dialog appears.
- 4. Make the required changes and click **OK**.

7.1.5 DELETING A USER

To delete a user:

- 1. From the Tree Pane Select **Users**. The list of users is displayed in the User's Pane.
- 2. Select the User to be deleted in the list.

3. From the User's Pane, click **Del**. An authorization message dialog box is displayed.



4. Click Yes. The User's name is removed from the list.

7.2 CONFIGURATION, BACKUP AND RESTORE

The application enables performing the following backup and restore operations via the Backup/Restore dialog:

- Backing up the current configuration
- Restoring any previously saved configuration to the booster
- Restoring the booster's factory default setup
- Restoring a configuration file from a user defined location

NOTE: The configuration backup and restore files are stored in the Deko-CMU.

This section describes the Backup/Restore dialog and how to perform the backup, restore and upload operations.

7.2.1 THE CONFIGURATION BACKUP WINDOW

To access the configuration backup window:

- 1. From the Tree Pane, select the Booster and click the **Backup/Restore** button.
- 2. The Backup/Restore pane appears. The pane lists the currently backed up files and provides backup and restore options.

The files are listed along with identifying information and the time of the backup. Files of user defined configurations are *BLUE*.

The default factory settings file is **BLACK** and is named **DEKO4078_System**.csv.

7.2.2 SW UPGRADE

The SW upgrade procedure must be performed for each individual Booster module: UD Uplink; UD Downlink; DDF Uplink; DDF Downlink.

NOTE: During the upgrade, the Booster is disconnected from the network.

CAUTION

DO NOT TURN OFF THE BOOSTER DURING THE UPLOAD PROCESS!!!

View the current SW version in the **System-Info** sub-tab of the *Administration* tab (see 6.9).

To perform the software upgrade procedure

1. Select the *Administration* tab **SW Upgrade** sub-tab. The following window appears.

System info	Backup	SW upgrade	Filter import	communication	users	
Select a mo	dule	UD uplink	~			
Browse						
Upload		Burn				
			_			
Text box						
Text box >> Downl	oaded s	uccessfully				
Text box >> Downl >> syster	oaded s n param	uccessfully eters have b	een saved			
Text box >> Downl >> syster >> startin	oaded s n param g burnin	uccessfully eters have b g the code i	een saved			
Text box >> Downl >> systen >> startin >> burn e	oaded s n param g burnin nded su	uccessfully eters have b g the code in ccessfully	een saved nto device			

- 2. Select the module to be upgraded from the **Select a Module** drop-down list.
- 3. Click **Browse** to browse for the upgrade file and click **Open**.
- 4. Click **Upload**. The updating process begins. A message appears in "The activity log" box during the upload activity.
- 5. Once the updating process ends successfully, a message is issued in "The activity log" box. The next process Getting the version number is displayed.
- 6. Once the software version is ready to be installed (see message in "The activity log" box), click **Burn** to continue. The installation process starts, and is run automatically.
- 7. Wait until the update is complete (about 10 minutes). If the link is established through the modem, the speed of the connection determines how long the process takes.

Once the installation process ends successfully, a message is issued in "The activity log" box.

7.2.3 CONFIGURATION BACKUP AND RESTORE

The Backup option enables the user to backup and restore the user parameters. This is used mainly for backing up or restoring the filter settings (for all the domains).

7.2.3.1 Configuration Backup

To perform the configuration backup

1. Click the *Administration* **Backup** sub-tab. The following Backup screen appears.

SNAP	PN	Date	File	Backu
1316138	DEK02409EG	2007-08-02 11:38:33 DEKO;	2409EG_System200708021138	Restor Delete Upload Downloo

The pane lists the currently backed up files and provides backup and restore options.

2. Click **Backup**. A backup is created (a message is shown) and when completed, a new file is added to the list.

Note: The file name and attributes are set automatically.

7.2.3.2 Restoring Configuration

To restore a configuration

1. Click the Administration Backup sub-tab. The following Backup screen appears.

SNAP	PN	Date	File	Back
1316138	DEKO2409EG	2007-08-02 11:38:33 DEKO	2409EG_System200708021138	Resto Delet Refre
				Downlo

- 2. The Backup/Restore pane appears. The pane lists the currently backed up files and provides backup and restore options.
- 3. Select the file to be restored in the Booster.
- 4. Click Restore.
- 5. After restore is complete, click **Reset**.

Filter management

7.2.4 UPLOADING NEW FILTERS

The application enables the user to import (and export) external files that define a filter assignment map.

To upload new filters

1. Click the *Administration* **Filter Import** sub-tab. The following screen appears.

i new filters	2	E	Bank A		Browse]	
Description	Bank						
12.5KHz, 61dBm, 15u	A	show	^				
25KHz, 61d8m, 15u	A	show					
12.5KHz, 61dBm, 30u	A	show					
12.5KHz, 61dBm,15u	8	show					
25KHz, 61d8m, 30u	8	show					
12.5KHz, 61dBm,15u	8	show					
25KHz, 61d8m, 15u	A	show					
12.5KHz, 61dBm, 30u	A	show					
12.5KHz, 61dBm,15u	8	show					
25KHz, 61dBm, 30u	8	show					
12.5KHz, 61dBm,15u	8	show	-				

- 2. Click **Browse** and select the file (filter bank) to be imported. The new filter bank overrides the previous existing one.
- 3. The previous filter settings are deleted so the user must re-configure the filters (see 4.2.3).

APPENDIX A: RF CONNECTIONS

The following figure provides a description of the RF connections between the Main and Power Amplifier units.



Figure 24. RF Connections – Block Diagram The following table provides the list of RF cables used for the RF connections.

CABLE	F	ROM		То	LENGTH	CABLE
No.	DESCRIPTION	CONNECTOR TYPE (CABLE SIDE)	DESCRIPTION	CONNECTOR TYPE (CABLE SIDE)		DEKOLINK P/N
W1	DL800 PRE OUTPUT	SMA MALE R.A	DL800 PRE INPUT	SMA MALE R.A	15см	1579907742
W2	DL700 PRE OUTPUT	SMA MALE R.A	DL700 PRE INPUT	SMA MALE R.A	15см	1579907742
W3	UL700/800 Pre Output	SMA MALE R.A	UL700/800 Pre Input	SMA MALE R.A	15см	1579907742
W4	UL700/800 LNA OUTPUT	SMA MALE R.A	UL700/800 LNA INPUT	SMA MALE R.A	30см	CC020C0C30
W5	DL700 LNA Output	SMA MALE R.A	DL700 LNA INPUT	SMA MALE R.A	30см	CC020C0C30
W6	DL800 LNA Output	SMA MALE R.A	DL800 LNA INPUT	SMA MALE R.A	30см	CC020C0C30

APPENDIX B: SPECIFICATIONS (@+25°C)

This appendix provides the electrical, mechanical and environmental specifications of the Deko4078SD signal booster.

Electrical					
Parameter		D	L	UL	
		700MHz Band	800MHz Band	700/800MHz Band	
Frequency Range		769 – 775 MHz	851 – 869 MHz	799 – 805 MHz/806-824 MHz	
Composite Output Power		400	lhm	27dbm	
(Composite output power is control	led by AGC per channel)	400		2700111	
	1 Carrier	37dbm	37dbm	27dbm	
Output Power Per Carrier	2 Carrier	34dbm	34dbm	24dbm	
	3 Carrier	32dbm	32dbm	23dbm	
Passband Gain		95	dB	95 dB	
Gain Range		60-95 dB @	0 1 dB step	60-95 dB @ 1 dB step	
Passband Ripple		± 1.5 d	B max	± 1.5 dB max	
AGC Dynamic Range		30	dB	30 dB	
Filter Bandwidth			12.5 KHz – 4.5 MH	z (Programmable)	
Channel Delay		5-100 µse	c depending on filter l	bandwidth, flatness and rejection	
Detach time delay			Adjustable 5	msec – 1sec	
Attack time delay			Max. 5	omsec	
Channel Setting Resolution			0.5	kHz	
Noise Figure at maximum gain*		4.0 dB*; 15dB @ -10dBm input; 10dB @ -20dBm input; 5dB @ -30dBm input		3.0 dB*-for signals below -40dBm	
System Sensitivity for 25KHz channel		-90dBm for 12dB SINAD		-110dBm for 12dB SINAD	
		-90dBm fo	r 10⁻³ BER	-106dBm for 10 ⁻ ³ BER	
Impedance at antenna port			50 O	hms	
Isolation Input to Output			110	dB	
VSWR			1.5: 1	max	
Out of band interference		-10dBm c	ut of Duplexer Pass I	band without spec degradation	
Maximum in-band signals			-10dBm without s	spec degradation	
Maximum in-band signals –	no damage	+4dBm			
Power Supply N+1 redundar	ncy	90 to 260 VAC			
Optional DC supply			+24VDC;	±48VDC	
Optional Power supply charger	+ battery		4 or 8 Hours o	f back-up time	
Power Consumption			<600	watts	
Mechanical (for Indo	or)				
Packaging		19" cab	inet for 10RU equipm	nent, 20" deep without doors	
Unit Dimensions		P	S 1 RU, Digital filter 4	RU, PA+duplexer 5RU	
Connectors			N-Fe	male	
Environmental (for In	ndoor)				
Operating Temperature			-10° C to + 50° C	C (14 to 122° F)	
Humidity			10-95% C	ondensed	

APPENDIX C: CONFIGURATION AND MANAGEMENT USING DDF APPLICATION

This appendix provides the initialization and setup procedures for the Deko4078SD signal booster. The procedures are performed through an Ethernet connection between the Deko4078SD signal booster and a computer running the Management Tool supplied with your Setup CD.

The commissioning procedure consists of opening a Deko4078SD Management Tool session and configuring the signal booster general parameters and required filters for the 700 MHz and 800 MHz bands.

COMMISSIONING THE SIGNAL BOOSTER

INSTALLING THE DMSB MANAGEMENT TOOL ON THE COMPUTER

To install the Deko4078SD signal booster Management Tool on your Computer

 Run the Dekolink CD and double click the RMS650_Setup_ddmmyy.exe (where *ddmmyy* is day/month/year in double digits) file to install the Deko4078SD Management Tool SW. The following Install Command dialog appears.

📴 WinRAR self-ext	rracting archive
	 Press Install button to start extraction. Use Browse button to select the destination folder from the folders tree. It can be also entered manually. If the destination folder does not exist, it will be created automatically before extraction.
	Destination folder
	Install Cancel

Figure 25. Install Command Dialog

- 2. Click Install.
- 3. Double click the **RMS650ddf.exe** file from the Dekolink CD to run the program.
- Once the program is installed, drag the c-RMS650ddf SW icon onto the desktop from the location: *c:\\program_files\dekolink\rms650\RMS650DDF* The SW installation is now complete.

OPENING A SESSION

To open a session to the Deko4078SD signal booster

1. Interconnect the **Main** unit and the computer on which the Management Application is installed using an RS232 connection.

Note: The connection is performed separately for the 700DL and 800DL and for the 700/800UL DDF modules.

2. Run the Deko4078SD *Management Tool* SW from the start menu of the computer on which it is installed. The following login dialog appears.

🐂 Login			Þ
<u>U</u> ser Name:	User		_
Password:			_
0		Cancel	

Figure 26. Login Dialog

- 3. Enter the User Name 'User'. A password is not required.
- 4. Click **OK**. The **DDF** (Dekolink Digital Filter) window appears.

Note: The DL and UL windows are similar.

Appears as 700DL and 800DL or 700/800 UL depending on the RS232 connection

Dokolis	ale Diei	tal Filtor Co	of ourstion	default ofe)											
le Tools	Help	Test	guration	detautreig)											
												Db W	indow:		112233
	70	0DL		800DL	Ŷ	Ro	utir	ng		C	Global		Y	SetU	p
Filter Enable on/off	AGC on/off	Center Frequency Input [MHz]	Center Frequency Output [MHz]	Filter Description Type	Filter Drawing	Max Power		Max Gain	RSSI Lev Threshold Low	el (dBm) Threshold High	RSSI [dBm]	System Gain [dB]	Digital Gain [dB]	Output Power Threshold	Measured Output Power
Ch1 🔽	2	770	770	1020-20KHz,61dB,96.1us 💌	Show	32	•	+	-100 💌	-95 👻				0 -	
Ch2 🔽		771	771	1020-20KHz,61dB,96.1us 💌	Show	32	-	-	100 -	-95 👻				1 -	
Ch3 🔲		772	772	1020-20KHz,61dB,96.1us 💌	Show	23	•	+	100 -	-95 💌	-			2 -	-
Ch4 🔲	•	[1020-20KHz,61dB,96.1us 💌	Show	23	•	*	-100 -	-95 💌				3 -	
Ch5 🔲		<u> </u>		1020-20KHz,61dB,96.1us 💌	Show	23	•	+	-100 -	-95 💌				4 💌	
Ch6 🔲		[1020-20KHz,61dB,96.1us 💌	Show	23	•	+	-100 💌	-95 💌				5 💌	
Ch7 🔲		[2060-Monitor1-6KHz,80dB 💌	Show	33	*	-	-100 -	-95 👻				6 💌	
Ch8 🗾		[2060-Monitor1-6KHz,80dB 💌	Show	33	*	+	100 💌	95 💌				7 💌	
Ch9 📋			[]	2060-Monitor1-6KHz,80dB 💌	Show	33	*	*	100 💌	95 👻				8 💌	
Ch10	V	<u> </u>	[]	2060-Monitor1-6KHz,80dB 💌	Show	33	*	*	-100 💌	-95 👻				9 💌	
Ch11 🗾		[[2060-Monitor1-6KHz,80dB 💌	Show	33	*	*	100 💌	-95 💌				10 💌	
Ch12	V	[[2060-Monitor1-6KHz,80dB 🛫	Show	33	*	*	100 💌	-95 💌				11 💌	
		Coni	nect												
<u>C</u> onne tatus:	ct	Disconnect	<u>S</u> end Parameters	Get Parameters UplinkWin2(a) FL: 7(b) FL: 7(00	MI MI	Hz FH: 80 Hz FH: 80	0	MHz MHz		k			

- 5. Click the **Connect** button in order to establish a connection between the unit and the application.
- 6. Provision the system according to the following section.

CONFIGURING THE BOOSTER PARAMETERS

The booster parameters are displayed with default values, however these can be modified according to site requirements. The following configurable booster parameters are displayed in the 700 and 800 band windows:

- Max Power
- Max Gain
- Low and high RSSI threshold levels
- Output Power Threshold

To configure the signal booster parameters

In the 700 and 800 band windows, define the configurable parameters (listed above) according to site requirements and click the **Send Parameters** button at the bottom of the window. The status of this operation is shown in the *Status* bar.

Note: The modified parameter values will appear in red until the *Send Parameters* button is clicked. After the parameters have been sent and written on to the DMSB unit, the values are shown in black.



Status Bar_

The measured values of the unit are displayed in the RSSI, System Gain, Digital Gain and Measured Output Power columns. These are read-only parameters.

CONFIGURING THE CHANNELS

This section describes how to configure the channels for the 700 and 800 bands. The application enables defining up to a total of 24 channels (displayed in groups of 6) for both the 700 and 800 bands. The channel configuration consists of selecting the required channels for each band and defining their filters (the same family of filters must be selected for each group of channels). The available channels and required filters are accessed from the 700 and 800 Window tabs.

		1.7			100000									1000	10.22
		70	0DL	L	800DL	1	Rou	ting	I	G	lobal		I	SetU	0
	Filter Enable on/off	AGC on/off	Center Frequency Input [MHz]	Center Frequency Output [MHz]	Filter Description Type	Filter Drawing	Max Power	Max Gain	RSSI Level Threshold Low	l [dBm] [hreshold High	RSSI [dBm]	System Gain [dB]	Digital Gain [dB]	Output Power Threshold	Measu Output Power
C	Ch1 🔽	2	770	770	1020-20KHz,61dB,96.1us 🔻	[Show]	32 🔻		100 💌	-95 💌				0 -	-
	Ch2 🔽	~	771	771	1020-20KHz,61dB,96.1us 💌	Show	32 -	+	100 -	-95 💌		—	—	1 -	
	Ch3 🔲	~	772	772	1020-20KHz,61dB,96.1us 💌	Show	23 -	-	-100 -	-95 👻			—	2 🗸	
av of up	Ch4 🔲	•	[[1020-20KHz,61dB,96.1us 💌	Show	23 💌	+	-100 💌	-95 💌				3 💌	_
ayorup	Ch5 🔲	~	[[1020-20KHz,61dB,96.1us 💌	Show	23 💌	-	100 💌	-95 💌				4 💌	
to 24	Ch6	~			1020-20KHz,61dB,96.1us 💌	Show	23 💌	×	100 💌	-95 💌				5 💌	
igurable	Ch7				2060-Monitor1-6KHz,80dB 💌	Show	33 💌	*	-100 💌	-95 💌				6 💌	
hannels		M			2060-Monitor1-6KHz,80dB 💌	Show	33 💌	*	-100 💌	-95 👻				7 💌	-
, numers				<u> </u>	2060-Monitor1-6KHz,80dB 💌	Show	33 💌	+	100 💌	-95 *				8 -	-
			10		2060-Monitor1-6KHz,80dB *	Show	33 💌	×	100	-95 *		<u> </u>		9 -	-
l	Ch12				2060-Monitor I-6KH2,80dB	Show	33 -		100 -	-95 -		-		11	-
		-		ľ	2060-Monitor I-bKH2,800B	Show	133 _			30 21			-		P
		. 1		Send	Get UplinkWin2(a) FL: 70	0	MHz FH:	00	MHz	_				

To configure the required channels

1. Enable the required channels (up to 24 for both bands) in the **Filter Enable On/Off** column of each of the 700 and 800 band windows.

Note: The channels are displayed in groups of six.

- 2. Determine the **Center Frequency Input**. The displayed *Center Frequency Output* will be similar to the displayed input.
- 3. Click **CTRL+ A** (to enter *Advanced* mode) and select the required filter type in the **Filter Description Type** column.

			WinA		WinB		Rout	ting	T	0	lobal		I	SetU	p
of filters	Filter Enable on/of	AGC on/ult	Center Finguency Input (MHz)	Center Frequency Output (MHz)	Filter Description Type	Filter Drawing	Max Poom	MarGain	RSSILe Thenhold Low	nd]din(Theeshold High	RSSI (dbn)	System Gain (dl)	Digital Gain (dB)	Output Poweri Threshold	Measur Dulpul Pomm
	01 2	2	470.6875	470.6075	DELEVISION DE	Shine	39 -	1 .				-	-	0 +	-
	04 B	2	470 7129	470.7125	The second second second second	Show	11 .			40 .	-	-	-	1 .	1
	00 2	2	470.7275	470.7375		Show	33 •	5 .					-	2 .	1
	D4 P	Ð	470.7375	4797375	1020-200Hz/E1d8.56.1ur =	Show	33 .	10 .		- 00	-	-		1 .	1
	06 g	2	470,7625	470.7625	1020-000Hz.6148.96.1us 💌	Show	11 .	11 .	* *	00 💌				4	
	06 2	5	470.0125	479.0125	1020-2004c/i1d8.96.1ur	Show	20 •	12 •	*	- 00 ·				5	
	07 []	2	470 6875	4701675	3010 Moneto 2 30 Hz Blad	Show	n •	NONE	- m	a				6	
		2	470.7125	470.7125	300 Montos2 30 Hz 6040 -	these	30 .	NONE	18 ·	-90				1 -	_
	00		470.7375	4707375	3010 Horiso 2 Witz (Bull -	Shine	11 .	NONE -	-	40 -				8 *	-
	Our C	2	476 7375	4707375	3010 Honto 2 30 Hz 80.8	Date	33 -	HONE	*	a	_	-			_
	042		470.7625	4707625	3013-Monito-Di POHEBOR	Show	1 -	INDHE		40 -	_			10 -	-
	and the	123	470 8125	4/6/125	000 Hove 2 30H: 808	Show	10 -	INCHE -	1 .	0 -	-	P	P	In .	P
	Dave	a		Sent	ger Germa	(a) 71.32	70	MH2 TH jg	76	MHg		u	ded where the	P Aug Mute	0

Note: Only one family of filters can be defined for the selected channels in each group. Note that when a family is defined, all the channels (6) in the group are assigned the same family automatically.

The filter type parameters include the following:

- Filter family
- Rejection
- Bandwidth
- Delay
- 4. Click the **Show** button to view a graphic display of the selected filter.
- 5. Verify the RSSI threshold levels. Modify if necessary according to site requirements.
- 6. Click Send Parameters.

NAVIGATING THE SIGNAL BOOSTER MANAGEMENT TOOL

This chapter describes how to navigate the DMSB signal booster Management Tool application and the available functions.

ACCESS LEVELS

The enabled parameters displayed by the application depend on the access mode: **User** or **Advanced**. The default access mode is *User*. While in the *User* level the functions reserved for *Advanced* users are disabled (fields are grayed) and are displayed for informational purposes only.

The User and Advanced access modes are defined as follows:

- User Default or press CTRL + U (from Advanced mode)
- Advanced Press CTRL + A
- Technician Press CTRL+ T

Note: It is specified when the application requires entering the *Advanced* mode to define a specific parameter.

MAIN WINDOW

The main window is used for configuring the required channels (up to 24 for both bands). The signal booster identification information is displayed at the top part of the window.

The main window consists of the following tabs:

- 700DL/800DL or 700/800 UL Displays the available 700 MHz and 800 MHz band channels for the user to select from in addition to the required filters. Also, displays center frequency (input equals output) and RSSI levels.
- **Global** Displays the unit information (i.e serial number, SW version, etc.).
- Routing Includes the FPGA Routing for transmitting CW in Test mode.
- Setup N/A for Dekolink Technicians only.

Tools	Help	lest									Db W	indow:		112233
	70	0DL	Υ	800DL	ľ	Rou	ting		C	Blobal		r	SetUp)
Filter Enable on/off	AGC on/off	Center Frequency Input [MHz]	Center Frequency Output [MHz]	Filter Description Type	Filter Drawing	Max Power	Max Gain	RSSI Lev Threshold Low	el [dBm] Threshold High	RSSI [dBm]	System Gain [dB]	Digital Gain [dB]	Output Power Threshold	Measured Output Power
h1 12 14 14 14 14 14 14 14 14 14 14 14 14 14	ব ব ব ব ব ব ব ব ব ব ব	770 771 772 772	1770 1771 1772 1	1020-20KHz.61dB.96.1us 1020-20KHz.61dB.96.1us 1020-20KHz.61dB.96.1us 1020-20KHz.61dB.96.1us 1020-20KHz.61dB.96.1us 1020-20KHz.61dB.96.1us 2050-Monitor1-6KHz.80dB 20	Show Show Show Show Show Show Show Show	32 • 32 • 23 • 23 • 23 • 23 • 23 • 23 • 23 • 33 • 33 • 33 • 33 • 33 • 33 • 33 • 33 •		100 • 100 •	.95				0 • • 1 • • • • • • • • • • • • • • • •	

Note: Grayed fields are not active.

700DL/800DL and 700/800UL Channels

Note: The UL and DL windows are similar, however they are accessed separately as described in the **Opening a Session** section of this appendix.

The 700 and 800 channel tabs display an array of up to 24 available channels (for both bands) for the user to select in addition to the required corresponding filters. The available channels to select from are displayed in groups of six (i.e Ch1- Ch6; Ch7-Ch12). The displayed input center frequency is equal to the displayed output center frequency. The following figure shows the *700DL* screen (the *800DL* tab is similar).

									DP M	indow:		112233
7	700 DL	ľ.	800DL	ſ	Rout	ing	Ŷ	Global		ľ	SetUp)
Filter AG(Enable on/ on/off	iC Center /off Frequency Input [MHz]	Center Frequency Output [MHz]	Filter Description Type	Filter Drawing	Max Power	Max Gain R: Thr Lov	SSI Level [dBm] reshold Thresho w High	RSSI (dBm)	System Gain [dB]	Digital Gain [dB]	Output Power Threshold	Measured Output Power
h1 🔽 🔽	770	770	1020-20KHz,61dB,96.1us 👻	Show	32 -	-	0095	1			0 -	
h2 🔽 🔽	771	771	1020-20KHz,61dB,96.1us 👻	Show	32 -		00 - 95 -	1	li	Í	1 -	<u> </u>
h3 🔲 🔽	772	772	1020-20KHz,61dB,96.1us 🔻	Show	23 •	- 1	00 • 95 •	al -	li	li	2 -	í —
h4 🔲 🔽	<u>ا ا</u>		1020-20KHz,61dB,96.1us 💌	Show	23 -	- 1	00 - 95	1			3 🔹	
h5 🖂 🗹	<u>ی</u> ا		1020-20KHz,61dB,96.1us 💌	Show	23 -	- 1	00 - 95	1			4 💌	
h6 🔲 🗹	J		1020-20KHz,61dB,96.1us 💌	Show	23 -	- 1	00 - 95	-			5 👻	
h7 🗖 🗹	2		2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🕓				6 💌	
h8 🗂 🗹	1		2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🕓				7 👻	
h9 🔽 🔽			2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🗉				8 -	
h10	1		2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🗉				9 👻	
h11 🔽 🔽			2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🔹				10 👻	
h12	1	ſ	2060-Monitor1-6KHz,80dB 💌	Show	33 💌	- 1	00 💌 95 🔹				11 💌	
h12 [ī		2060-Monitori-6KHz,80dB	Show	33 丈		00 • 95			<u> </u>	11 •	

The following table provides a description of the configurable and non-configurable filter parameters displayed in this tab.

	PARAMETER	DESCRIPTION
CONFIGURABLE	FILTER ENABLE ON/OFF	ENABLES/ DISABLES THE ACTIVE CHANNELS
	AGC	ENABLES/DISABLES AUTOMATIC GAIN CONTROL
	Center Frequency Input	DISPLAYS THE CENTER FREQUENCY INPUT FOR THE CORRESPONDING CHANNEL OR FILTER. THE VALUE SHALL BE CONSISTENT WITH THE FREQUENCY BANDS OF THE DMSB AS LISTED IN APPENDIX B: SPECIFICATIONS .
	Center Frequency	DISPLAYS THE CENTER FREQUENCY OUTPUT (EQUALS TO THE INPUT CENTER FREQUENCY – UNLESS IN

	Ουτρυτ	FREQUENCY SHIFT MODE SEE SECTION 0)
	FILTER DESCRIPTION TYPE	DETERMINES THE FILTER TYPE FOR THIS CHANNEL, BY CLICKING IN THE COMBO BOX AND SELECTING A FILTER
	FILTER DRAWING	CONSISTS OF THE SHOW BUTTON THAT PROVIDES A GRAPHIC DISPLAY OF THE FILTER CHARACTERISTICS (SEE 0).
	Output Power Level	DETERMINES THE OUTPUT POWER FOR THE CHANNEL SIGNAL – THIS VALUE SHALL BE EQUAL FOR THE ACTIVE FILTER AND ITS MONITORING COUNTERPART
	RSSI LEVELS	DETERMINES THE RSSI THRESHOLD VALUES FOR THE SELECTED ACTIVE CHANNELS. THESE VALUES DEFINE THE OUTPUT POWER LIMITS OF THE CHANNEL PATH.
Non- Configurable	MEASUREMENT OUTPUT POWER	DISPLAYS THE MEASURED COMPOSITE OUTPUT POWER
	SYSTEM GAIN	DISPLAYS THE CURRENT SYSTEM GAIN MEASUREMENT
	RSSI Measurement	DISPLAYS THE CURRENT RSSI MEASUREMENT
	DIGITAL GAIN MEASUREMENT	DISPLAYS THE DIGITAL GAIN FOR EACH CHANNEL

Routing

The Routing tab includes the **FPGA Route** parameter that enables transmitting the CW and ID Tone in Test mode (see 0).

The following figure shows the *Routing* tab.

TOODL 800DL Routing Global SetUp TOODL TOODL PL Decoder ID Tone FPGA annel Freq Setting ID Tone FPGA h1 IV 67.00 Nomal Nomal Nomal h2 IV 73.70 Nomal Nomal Nomal Nomal h3 IV 132.80 Nomal Nomal Nomal Nomal Nomal 66 67.00 Disable Nomal Nomal Nomal Nomal Nomal Nomal 71 57.00 Disable Nomal Noma											D	b Window:	112233
PL Decoder ID Tone FPGA Route inier PL Decoder ID Tone En/Dis Freq Setting Normal ~ h1 IV h2 V 73.70 ~ Normal ~ 192.80 ~ Normal ~ 16 67.00 ~ 17.70 ~ Normal ~ 18 73.70 ~ 192.80 ~ Disable ~ 17.70 ~ Disable ~ 18.73.70 ~ Disable ~ 19.73.70 ~ Disable ~ 11.71 _ F7.00 ~ 11.72 _ F7.00 ~ 11.73.70 ~ Disable ~ 11.74 _ Disable ~ 11.75 _ F7.00 ~ 11.75 _ F7.00 ~ 11.75 _ F7.00 ~ 11.75 _ Disable ~ <th></th> <th>700</th> <th>DL</th> <th>Ĭ</th> <th>800DL</th> <th>Ĵ</th> <th>Routing</th> <th>L</th> <th>Ľ</th> <th>Glo</th> <th>bal</th> <th>Ŷ</th> <th>SetUp</th>		700	DL	Ĭ	800DL	Ĵ	Routing	L	Ľ	Glo	bal	Ŷ	SetUp
PL Decoder ID Tone FPGA Route PL Decoder ID Tone FPGA Route In Dis Freq Setting Normal • Normal • Route Freq Setting ID Tone FPGA Route ID Tone FPGA Route ID Tone FPGA Route ID Tone FPGA Route Freq Setting ID Tone FPGA Route FP			700DL							800DL			
h1 Image: State of the s	arrier nannel	PL En/Dis	Decoder Freq Setting	ID Tone		FPG/ Rout	A, te	Carrier Channel	PL En/Dis	Decoder Freq Setting	ID Tor	e	FPGA Route
h2 Y 79.70 Y Normal Normal Ch14 Y 67.00 Disable Normal Normal h3 Y 192.80 Normal Normal Normal Ch15 F 67.00 Disable Normal Normal h4 Y 67.00 Y Normal Normal Ch16 F 67.00 Disable Normal h5 67.00 Y Disable Normal Ch17 F 67.00 Disable Normal h6 67.00 Y Disable Normal Ch17 F 67.00 Disable Normal h7 F 67.00 Y Disable Normal Ch19 F F F Normal Normal h8 79.70 Y Disable Normal Ch20 F F F Normal Normal h9 192.80 Normal Normal Ch21 F F F Normal Normal h10 F F Disable Normal <td< td=""><td>Ch1</td><td>~</td><td>67.00 -</td><td>Normal</td><td>.</td><td>Norma</td><td>al 🔻</td><td>Ch13</td><td></td><td>67.00 *</td><td>Disable</td><td>-</td><td>Normal 💌</td></td<>	Ch1	~	67.00 -	Normal	.	Norma	al 🔻	Ch13		67.00 *	Disable	-	Normal 💌
h3 V 192.80 Normal Normal Normal Ch15 E 67.00 Disable Normal Normal h4 V 67.00 V Normal Normal Ch16 E 67.00 Disable Normal Normal h5 E 67.00 V Disable Normal Ch17 E 67.00 Disable Normal h6 E 67.00 V Disable Normal Ch17 E 67.00 Disable Normal h7 E 67.00 V Disable Normal Ch19 E 67.00 Disable Normal h8 79.70 V Disable Normal Ch20 E 67.00 Disable Normal h9 192.80 Disable Normal Ch21 E 67.00 Disable Normal h10 E 67.00 Disable Normal Ch22 E 67.00 Disable Normal h11 E F Disable Normal Ch23	h2	~	79.70 👻	Normal	-	Norma	al 💌	Ch14		67.00	Disable		Normal
h4 IV 67.00 Normal Normal Normal Ch16 G7.00 Disable Normal h5 G7.00 Disable Normal Ch17 G7.00 Disable Normal h6 G7.00 Disable Normal Ch18 G7.00 Disable Normal h7 G7.00 Disable Normal Ch19 G7.00 Disable Normal h8 79.70 Disable Normal Ch20 G7.00 Disable Normal h9 132.80 Disable Normal Ch21 G7.00 Disable Normal h10 G7.00 Disable Normal Ch22 G7.00 Disable Normal h11 G7.00 Disable Normal Ch24 G7.00 Disable Normal h12 F7.00 Disable Normal Ch24 G7.00 Disable Normal	3h3	•	192.80 💌	Normal	•	Norma	al 💌	Ch15		67.00	Disable	<u></u>	Normal
h5 i 67.00 v Disable v Normal Ch17 i 67.00 v Disable Normal Normal Ch18 i 67.00 v Disable Normal Normal Ch18 i 67.00 v Disable Normal Normal Ch18 i 67.00 v Disable Normal	h4	~	67.00 💌	Normal	-	Norma	al 💌	Ch16		67.00	Disable.	<u>*</u>	Normal
h6 67.00 × Disable × Normal × Ch18 67.00 × Disable × Normal × Ch19 67.00 × Disable × Normal × Ch19 67.00 × Disable × Normal × Ch20 67.00 × Disable × Normal × Ch20 Normal × Normal × Normal × Ch21 Ch20 Ch20 Disable × Normal × Normal × Ch21 Ch20 Disable × Normal × Normal × Ch22 Ch20 Disable × Normal ×	h5		67.00 💌	Disable	-	Norma	al 💌	Ch17		67.00	Disable	*	Normal
h7 [57.00 x) Disable x Normal x Ch19 [57.00 x) Disable x Normal x h8 [79.70 x) Disable x Normal x Ch20 [57.00 x) Disable x Normal x h8 [192.80 x) Disable x Normal x Ch21 [57.00 x) Disable x Normal x h10 [57.00 x) Disable x Normal x Ch22 [57.00 x) Disable x Normal x h11 [57.00 x Disable x Normal x Ch23 [57.00 x [Disable x Normal x h12 [57.00 x [Disable x Normal x Ch24 [57.00 x [Disable x Normal x	:h6		67.00 💌	Disable	-	Norma	al 💌	Ch18		67.00	Disable.	<u></u>	Normal
normal 173.70 x Deable x Normal Ch20 10isable x Normal h8 192.80 x Disable x Normal x Ch21 167.00 x Disable x Normal h10 167.00 x Disable x Normal x Ch22 167.00 x Disable x Normal 111 167.00 x Disable x Normal x Ch23 167.00 x Disable x Normal 112 167.00 x Disable x Normal x Ch24 1 67.00 x Disable x Normal	.h7		67.00	Disable	4	Norma		Ch19		67.00	Disable	<u> </u>	Normal
10 132.80 10sable 10sable <t< td=""><td>ine Ng</td><td></td><td>79.70</td><td>Disable</td><td>-</td><td>Norma</td><td></td><td>Ch21</td><td></td><td>67.00</td><td>Disable</td><td>-</td><td>Normal</td></t<>	ine Ng		79.70	Disable	-	Norma		Ch21		67.00	Disable	-	Normal
h11 12 67.00 10 bisable 12 12 12 12 12 12 12 12			ISZ.80	Disable		Norma		Ch22		67.00			Normal
h12 Disable Disable Normal Ch24 Disable Normal	h11		67.00	Disable		Norma	a x	Ch23		67.00 -	Disable		Normal -
	ch12		67.00	Disable		Norma	al 🗶	Ch24		67.00	Disable	-	Normal -
											1		
		1	1	c	c. 1	Unlink\win2(a) El	- 700 MHz	FH-loon		MH2	1	61	

Figure 27.Routing Tab

Global

The *Global* tab includes a display of the Deko4078SD signal booster information, the *Frequency Shift Mode* enable/disable checkbox (not relevant) and the system PL Mode parameters. The signal booster information displayed corresponds to the connected Deko4078SD signal booster and the *System PL Mode* parameters are displayed with the default values. The following figure shows the *Global* tab.

70001	200.01	Y Dev	ting Y	Clobell	Db Window:	112233 Cott In
700DL	80001	Rol	lung	Global		SetUp
		Part Number:	1234			
		Serial Number: Software Version:	78			
		Hardware Version:	2222			
		SNAP_ID:	11223344			
		Technician Password:	shmuliky			
		Frequency Shift Mode:				
	- System PL Mode					
	PL Detect Mode:	Continuous	<u></u>			
	PL Timer:	300 msec	<u>*</u>			
DDF IP Address	ID Tone Period:	1000 msec	-			
ddress:	ID Tone Freq (Hz)	498				
1 1 1 1	Timeout Timer Peri	7 adt Tour				
	Timeoux Timei Tein	Ba. [6Min				
		(in2(n) El 1700	MUa EU-loop			
onnect <u>D</u> isconnect <u>S</u> en Param	eters Parameters	(m2(b) EL: 700	Mile Filiago	- MILZ		

Figure 28. Global Tab

The *Global* screen displays the following:

DMSB signal booster Information

- Part Number
- Serial Number
- Software version
- Hardware version
- SNAP ID SNAP protocol identification number
- Technician password N/A

DMSB signal booster Information

- PL Detect Mode
- PL Timer (msec)
- ID Tone Period (msec) Used for ID Tone definition not relevant)
- ID Tone Freq [Hz]
- ID Tone Volume
- Timeout Timer Period (min.) Closes each Tx channel after it has been in use longer than the defined time limit.

DMSB MT OPERATIONS

FREQUENCY SHIFT

Frequency shift enables setting an output frequency that is different from the input frequency.

To enable the frequency shift option

- 1. Access the **Global** tab of the DDF Window.
- 2. Click CTRL+A to enter Advanced mode.
- 3. Enable the **Frequency Shift** checkbox. See following figure.

Dekolink Digital Filter Configuration (lefault.cfg)				
ile Tools Help Test					
				Db Wir	idow: 11223344
700DL Y	800DL	Rou	uting	Global	SetUp
		Part Number: Serial Number: Software Version: Hardware Version: SNAP_ID: Technician Password:	1234 78 111 2222 11223344 shmuliky	Frequency Shift	
	System PL Mode PL Detect Mode: PL Timer: ID Tone Period:	Frequency Shift Mode: Continuous 300 msec 1000 msec	×	checkbox	
DDF IP Address	ID Tone Freq [Hz]:	498	-		
IP Address:	ID Tone Volume:	7			
	Timeout Timer Period	t 6Min	-		
Connect Disconnect Parameters	Get Parameters UplinkWi UplinkWi	n2(a) FL: 700 n2(b) FL: 700	MH2 FH: 800 MH2 FH: 800	MHz MHz WIRELESS LTD	

Figure 29. Frequency Shift Mode

4. Continue to the *Channel (700DL/800DL)* tab to determine the Center Frequency Input and Output.

VIEWING GRAPHIC DISPLAY OF FILTER

The Filter screens are shown by selecting a Filter Type in one of the window tabs and clicking the corresponding **Show** button.

The Filter screen includes several displays (**Select Picture** button, at bottom) that enable viewing the filter properties and characteristics to ensure a proper selection of the filter.



FPGA ROUTE

The Deko4078SD MT application enables further narrowing down the signal passed for each channel. This option is performed via the **FPGA Route** parameter, which processes the signal via the DSPA.

🔤 Dekolin	k Digi	al Filter Co	onfigu	ration (default.cfg)										
File Tools	Help	Test						FPGA	Route	2		D	b Window:		11223344
	70	DL		r	800D		r 🕂	Routing	l		Glo	bal		SetU	D
		700DL							4		800DL		L		
Carrier Channel	Pl En/Di	Decoder	ing	ID Ton	e		FPGA Route		Carrier Channel	PL En/Dis	Decoder Freq Setting	ID Ton	e		FPGA Route
Ch1 Ch2 Ch3 Ch4 Ch5 Ch6 Ch7 Ch8 Ch9 Ch10 Ch11 Ch12		67.00 79.70 192.80 67.00 67.00 67.00 67.00 79.70 192.80 67.00 67.00 67.00 67.00		formal fo			Normal Nor		Ch13 Ch14 Ch15 Ch16 Ch17 Ch18 Ch19 Ch20 Ch21 Ch22 Ch23 Ch24		67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 • 67.00 •	Image: Constraint of the sector of the se	> > > > > > > > > > > > > > > > > > >		Normal V Normal V Normal V Normal V Normal V Normal V Normal V Normal V Normal V
<u>C</u> onnec Status:	st	Disconnect	<u>S</u> e Para	end meters	<u>G</u> et Parameters	UplinkWin2(UplinkWin2(a) FL: 70 5) FL: 70	0 MHz 0 MHz	FH: 800 FH: 800		MHz MHz	kolink			

To define the FPGA Route Parameter

- 1. Access the *Routing* tab of the DDF window.
- 2. Click **CTRL+A** to access the *Advanced* mode.
- 3. Click the FPGA Route parameter to be defined corresponding to required channel and select one of the following options from the drop-down list:
- Normal Signal is passed "as is"
- CW Booster can be used to generate the signal
- Zero No signal
- 4. Click the **Send Parameters** button.

VIEWING ONLINE DMSB SIGNAL BOOSTER PARAMETERS

To view current Deko4078SD signal booster Parameters

After a connection has been established between the computer and the signal booster click the **Get** button, located at the bottom of the 700DL/800DL or UL700/800 shown below.

	70	0DL	Ŷ	800DL	Υ	R	out	na			Global		Υ	S	etUp)
Filter Enable on/off	AGC on/off	Center Frequency Input [MHz]	Center Frequency Output [MHz]	Filter Description Type	Filter Drawing	Max Pow	er	Max Gain	RSSI Lev Threshold Low	el (dBm) Threshol High	RSSI (dBm)	System Gain [dB]	Digital Gain [dB]	Outp Pow Thre	ut er shold	Measured Output Power
h1 Image: Constraint of the second			770 771 772 772	1020-20KHz,61d8.96.1us 1020-20KHz,61d8.95.1us 1020-2	Show Show Show Show Show Show Show Show	32 32 23 23 33 33 33 33 33 33 33 33			100 - 100 - 10	.95 .95				0 1 2 3 4 5 6 7 8 9 10 11		
Connec	st _	Disconnect	<u>S</u> end Parameters	Get Pa <u>Get</u> Parameters UplinkWin2(UplinkWin2)	arame a) FL: 7(b) FL: 7(S	1Hz FH: 80 1Hz FH: 80	0	MHz MHz	WireLess					

SAVING / LOADING CONFIGURATIONS

The DMSB definition process includes the option to save the current configuration, and on the opposite to load a previous configuration.

The configuration files (.cfg) are stored in the DMSB in an internal directory.

To save/load a configuration

- 1. Press CTRL+ T to enter the Technical Mode.
- 2. Click on the *File* menu form the menu toolbar and select **Load Configuration** or **Save Configuration**, depending on the required action.
- 3. Select (for Load) or name (for Save) a file and proceed as for any Windows file.

APPENDIX D: MUTING POWER AMPLIFIERS AND PERFORMING OUTPUT ATTENUATION PROCEUDRES

This section provides a description on how to manually mute a domain power amplifier (700DL, 800DL, or UL) and to attenuate the output power via the Dekolink-NMS Web GUI application.

OPENING A SESSION

- 1. Interconnect the Deko4078SD Signal Booster Main unit and the computer using an RS232 connection.
- 2. Configure the computer network parameters (see 4.1.2).
- 3. Login (see 4.1.3). The following screen appears:

Tree pane listing the monitor and UD (Up-Down) cards Image: Super Su		Dekolink	Mon Pamp Drawer Send		iresh CMU Reset Date&Time admin : Admin		i : Admin 🛛 🖡	Help	
Tree pane listing the monitor and UD (Up-Down) cards Image: Signal and the signa			Loader	Backup					
1741043. VI.	Tree pane listing the monitor and UD (Up-Down) cards	Root CMU Mon Panp Drawer Mon Main Drawer UD Downlink UD Downlink Users	System PAmp PAmp 1-Cal PAmp 2-Cal PAmp 3-Cal PAmp 4-Cal FAN Power Supply ALC 1 ALC 2 ALC 3 ALC 4 Temperature Alarm Configuration Leds Domains LogicalSetting	Pamp 1 status Pamp 3 status Pamp 2 Current Read A/D Pamp 2 Current Read A/D Pamp 3 Current Read A/D Pamp 4 Current Read A/D Pamp 1 Current TH Low Pamp 2 Current TH Low Pamp 3 Current TH Low Pamp 3 Current TH Low Pamp 4 Current TH Low FWD REV ratio	0 1 55 0 23692 0 1 65535 50 65535 65535 1.00	Mon Pamp Drawer Pamp 2 status Pamp 4 status Pamp 4 status Pamp 2 Current Read (Am Pamp 3 Current Read (Am Pamp 4 Current Read (Am Pamp 4 Current Read (Am Pamp 4 Current TH High Pamp 2 Current TH High Pamp 4 Current TH High	 PAmp 0 1 1 p) p) p) 0 65535 65535 65535 	1.95 2.15 0.00 -0.00	

MUTING A POWER AMPLIFIER

To mute a power amplifier

1. Click the Mon Pamp Drawer in the left-hand tree pane.

	Send							
	Mon Pamp Dra	awer Send Refres	d Refresh CMU Reset Date&Time admin : Admin Help					
Dekolink	Loader	Backup						
Dekolink	Loader System PAmp 1-Cal PAmp 2-Cal PAmp 3-Cal PAmp 4-Cal FAN Power Supply ALC 1 ALC 2 ALC 3 ALC 4 Temperature Alarm Configuration Leds Descrine	Pamp 1 status Pamp 3 status Pamp 3 status Pamp 1 Current Read A/D Pamp 2 Current Read A/D Pamp 3 Current Read A/D Pamp 4 Current Read A/D Pamp 1 mute Pamp 1 mute Pamp 1 Current TH Low Pamp 2 Current TH Low Pamp 3 Current TH Low	0 1 50 55 0 23692 0 1 65535 50 65535	Mon Pamp Drawe Pamp 2 status Pamp 4 status Pamp 1 Current Read (Am Pamp 2 Current Read (Am Pamp 3 Current Read (Am Pamp 4 Current Read (Am Pamp 2 mute Pamp 4 mute Pamp 1 Current TH High Pamp 2 Current TH High Pamp 3 Current TH High	r: PAmp 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.95 2.15 0.00 -0.00		
	LogicalSetting	Pamp 4 Current TH Low FWD REV ratio	65535 1.00	Pamp 4 Current TH High	65535			
	Status: ok			1			~	

- 2. The Mute operation is performed through the **Pamp 1 mute**, **Pamp 2 mute**, **Pamp 3 mute** and **Pamp 4 mute** parameters, shown above.
- 3. Click Send.

OUTPUT ATTENUATION

To attenuate the DSA output

1. Click a **UD** item (Uplink or Downlink) in the left-hand tree pane.

	UD Downlin	k Send Rah	esh CMU Rese	t DatešTime admin : Adr	admin : Admin Help		
Dokolink	Loader	Backup					
DERUIIIR	System		L	JD Downlink: Attenua	tors		
	RSSI-A	DSA I PAth A (dB)	0.00	DSA 1 PAth B (dB)	0.00	2	
	Attenuators	DISA 2 PAth A (dB)	0.00	DSA 2 PAth 8 (dB)	0.00		
Root	In/DDF-A	BYPASS 1 PAth A	1	BYPASS 1 Path B	1		
CMU Rame Damas	Peak-Calib-A	BYPASS 2 PAth A	1	BYPASS 2 Path B	1		
Mon Main Drawer	Peak-Cahb-B	BYPASS 3 PAth A	1	BYPASS 3 Path B	1		
😸 UD Downlink	RMS-Calib-A	BYPASS 4 PAth A	1	BYPASS 4 Path B	1		
UD Uplink	Temperature	BYPASS 5 PAth A	1	BYPASS 5 Path B	1		
Users	Alarm	BYPASS 6 PAth A	1	BYPASS 6 Path B	1		
	Mute	DSA 3 PAth A (dB)	19.50	DSA 3 PAth 6 (dB)	21.00		
	LogicalSetting	Attenuator control	1	Attenuator	Control		
				parameter			

- 2. Set the **Attenuator Control** parameter to **1** and set the DSA parameters as required.
- 3. Click Send.

APPENDIX E: DEKOLINK WIRELESS LIMITED WARRANTY

Dekolink Wireless LTD. ("Dekolink"), manufacturer of this product (the "Product") warrants to the original purchaser ("Purchaser") that the Product is free from defects in materials and workmanship for a term that ends on the earlier of twelve (12) months from the date of activation of the Product or fifteen (15) months from the date of shipment of the Product by Dekolink. The obligations of Dekolink under this warranty shall be limited solely to the repair or exchange or giving credit for, at the option of Dekolink, any Product that may prove defective in accordance with evidence satisfactory to Dekolink. Any repair or replacement of the Product by Dekolink shall not extend the original warranty period. This warranty is exclusive to the original Purchaser and is not assignable.

This warranty applies only upon the condition that the Product has been installed, maintained and operated under conditions of normal use. The provisions of this warranty shall not apply if, in Dekolink's judgment, the Product has been subject to misuse or neglect, damaged in an accident or by act of vandalism, or repaired or altered in any way that adversely affects its performance or reliability.

To obtain warranty service, Purchaser may, upon the prior written authorization of Dekolink or its authorized service representative, return the defective Product to Dekolinks authorized service center. All shipping and insurance charges are the sole responsibility of Purchaser and are not included in this warranty.

Dekolink expressly excludes and disclaims all other warranties, including but not limited to any warranties of merchantability or fitness for a particular purpose.

Dekolink shall in no event be liable for any special, indirect, incidental, consequential or punitive damages or for loss, damage, or expense, including loss of use, profits, revenue, or goodwill, directly or indirectly arising from purchaser's use or inability to use the merchandise, or for loss or destruction of other property or from any other cause, even if Dekolink has been advised of the possibility of such damage. Some states do not allow the exclusion or limitation of incidental or consequential damages so these limitations may not apply under certain circumstances. The liability of Dekolink shall in no event exceed an amount equivalent to the purchase price paid by the purchaser for the defective product. This warranty shall not be extended, altered or varied except by a written instrument duly signed by Dekolink.