

Orban Optimod-FM 8600 Audio Processor Setup/Parameters Worksheet

Version 4.5

		Preset	Preset	Preset	Preset
Parameter	Range	Unit			
SYSTEM SETUP (PC REMOTE)					
Input					
Input Source	Analog, Digital, Digital+J.17				
Analog					
Clip Level	0.0... 27.0	dBu			
Ref. Level VU/PPM	VU: -9.0... 13.0 PPM: -2.0... 20.0	dBu			
Right Channel Balance	-3.0... 3.0	dB			
Digital					
Ref. Level VU/PPM	VU: -30.0... -7.0 PPM: -23.0... 0.0	dBFS			
Right Channel Balance	-3.0... 3.0	dB			
Output 1					
Analog					
Out Level	-6.0... 24.0	dBu			
Pre-Emphasis	Flat, Pre-e				
Out Source	FM, FM+Delay, Monitor, HD, HD+Delay				
Digital AES 1					
Out Level	-20.0... 0.0	dBFS			
Pre-Emphasis	Flat, Pre-e, J.17, Pre+J.17				
Out Source	FM, FM+Delay, Monitor, HD, HD+Delay				
Synchronization / Sample Rate / Format					
Sync	Internal, Sync in, Input				
Sample Rate	32.0, 44.1, 48.0, 88.2, 96.0	kHz			
Dither	In, Out				
Word Length	14, 16, 18, 20, 24	bit			
Format	AES, SPDIF				
Output 2					
Headphones					
Phone Source	FM, FM+Delay, Monitor, HD, HD+Delay				
Digital AES 2					
Out Level	-20.0... 0.0	dBFS			
Pre-Emphasis	Flat, Pre-e, J.17, Pre+J.17				
Out Source	FM, FM+Delay, Monitor, HD, HD+Delay, Ratings				
Synchronization / Sample Rate / Format					
Sync	Internal, Sync in, Input				
Sample Rate	32.0, 44.1, 48.0, 88.2, 96.0	kHz			
Dither	In, Out				
Word Length	14, 16, 18, 20, 24	bit			
Format	AES, SPDIF				
Stereo Encoder					

Composite Output 1						
Composite 1 Level	-12.3... 12.0	dBu				
Composite Output 2						
Composite 2 Level	-12.3... 12.0	dBu				
Stereo Encoder Settings						
Modulation Mode	Stereo, PilotOff, Mono-L, Mono-R, Mono-Sum, SSB					
19 kHz Pilot Reference	0, 90, 180, 270	deg				
Diversity Delay	In, Out					
19 kHz Pilot Level	6.0%... 12.0%					
Digital MPX						
Composite Out	-20.0... 0.0	dBFS				
SCA Input 1	-30.0... 20.0	dB				
SCA Input 2	-30.0... 20.0	dB				
Test						
Bypass						
Gain	-18.0... 25.0	dB				
Tone						
Modulation Level	0%... 121%					
Frequency	16... 15000	Hz				
Tone Channels	L+R, L-R, Left only, Right only					
19 kHz Pilot	On, Off					
Utility						
Place/Date/Time (Detailed settings only via Optimod Front Panel)						
Time Format	12 hr, 24 hr					
Date Format	DD,MMM.YYYY; MMM.DD,YYYY					
Day Light Saving Month/Week						
Standard Time Month/Week						
Time Sync Period	Off, 1 Hr, 8 Hrs, 24 Hrs					
Time Sync Protocol	SNTP, Time Pro					
Offset	+12... -12	Hrs				
Time Server IP Address						
Processing						
External AGC in use	No, Yes					
Final Clipper active	No, Yes					
Processing Pre-Emphasis	75, 50	µs				
FM Output Meter	Pre-emphasis, De-emphasis					
1770 Loudness Control Threshold	-31.0... -11.0	dB				
1770 Safety Limiter	On, Off					
1770 Loudness Meter Units	LU, Lk					
Station ID	8 characters max.					
FM Polarity	Positive, Negative					
Digital Input Analog Fallback	No, Yes					
Modulation Reduction 1	-20.0%... 0.0%					
Modulation Reduction 2	-20.0%... 0.0%					
Multiplex Power Threshold	Off, 10.0... -2.0	dB				
Phase Correct	Enable, Defeat					
Monitor Source	DJ Processing, Multiband Out					

Diversity Delay Mode	FM Only, FM HD					
Network						
Serial						
Serial Interface Type	Direct, Modem					
Modem Initialization String						
Ethernet						
IP Address						
Subnet Mask						
Gateway						
IP Port						
Terminal Port						
SNMP Settings						
Enable/Disable SNMP on boot-up	Enable, Disable					
Primary Manager Address						
Primary Manager Port						
Secondary Manager Address						
Secondary Manager Port						
Community Read String						
Community Write String						
Remote Interface / Silence						
Remote Interface (GPI)						
Input #1						
Input #2						
Input #3						
Input #4						
Input #5						
Input #6						
Input #7						
Input #8						
Tally Outputs						
Tally #1						
Tally #2						
Silence Detect						
Analog Fallback	No, Yes					
Digital Fallback	No, Yes					
Silence Threshold	-60... -20	dB				
Silence Delay	2... 60	sec				
HD Digital Radio						
HF Shelf EQ	Pre, Post					
Bandwidth	15, 16, 17, 18, 19, 20	kHz				
Stereo/Mono	Stereo, Mono-L, Mono-R, Mono-Sum					
Polarity	Positive, Negative					
1770 Loudness Control Threshold	-31.0... -11.0	dB				
1770 Safety Limiter	On, Off					
Diversity Delay Trim	Increments of 15.6 microseconds	sec				
	(one sample delay at 64 kHz sample rate)					
DAB+ Delay Trim	0... 6 (Increments of 15.6 microseconds)	sec				

RDS						
Program Service (PS)						
Dynamic Program Service Speed (DPSS)	2... 9	sec				
Dynamic Program Service Timeout (DPST)	Off, 1... 255	min				
Radio Text (RT)						
Radio Text Speed (DRTS)	Off, 5, 10, 15, 20, 25, 30, 35, 40, 45	sec				
Program Identification (PI)						
Program Type (PTY)						
Program Type Name (PTYN)						
Music/Speech (MS)	Speech, Music					
Decoder Info (DI)	Mono, Stereo					
Traffic Program (TP)	No, Yes					
TA Timeout (TATIME)	Off, 1... 255	min				
Current Time (TIME)	No, Yes					
EAS Text (EAS)						
RDS Modulator						
57 kHz RDS Subcarrier	Enable, Disable					
Subcarrier Level	0.0%... 12.0%					
RDS Terminal Server						
Terminal Echo	Enable, Disable					
Terminal Header	Enable, Disable					
IP Port						
Source IP Address						
RDS Alternate Frequencies						
AF 1 - AF 24						
PROCESSING PARAMETERS (PC REMOTE / ADVANCED MODIFY)						
Less-More						
Less-More	1.0... 10.0					
Stereo Enhancer						
Out/In	Out, In					
Amount	0.00... 10.00					
Ratio Limit	70%... 100%					
Diffusion	Off, 0.25... 10.0					
Style	222, Delay					
Depth	0... 10					
AGC						
AGC Off/On	Off, On					
AGC Drive	-10... 25	dB				
AGC Crossover	Linear, AllPass, LiNoDly					
AGC Master Attack	0.2... 6.0	sec				
AGC Bass Attack	1.0... 10.0	sec				
AGC Release	0.5... 20.0	dB/s				
AGC Bass Release	1.0... 10.0	sec				
AGC Bass Threshold	-12.0... 2.5	dB				
AGC Master Delta Threshold	-6.0... 6.0	dB				
AGC Bass Delta Threshold	-6.0... 6.0	dB				

AGC Ratio	inf:1, 4:1, 3:1, 2:1					
AGC Idle Gain	-10.0... 10.0	dB				
AGC Gate Threshold	Off, -44... -15	dB				
AGC Window Size	-25... 0	dB				
AGC Window Release	0.5... 20.0	dB/s				
AGC Maximum Delta GR	0... 24, Off	dB				
AGC Bass Couple	Off, 12... 0	dB				
AGC Matrix	L/R, sum/dif					
EQ						
LF Shelf Equalizer						
Bass Gain	0... 12	dB				
Bass Frequency	80... 500	Hz				
Bass Slope	6, 12, 18	dB/Oct				
Phase Rotator / HP Filter / Bass Boost						
Phase Rotator	Out, In					
30 Hz High Pass Filter	Off, On					
DJ Bass Boost	Off, 0... 10	dB				
Low Band Equalizer						
Low Gain	-10.0... 10.0	dB				
Low Frequency	20.0... 500.0	Hz				
Low Width	0.8... 4.0	Oct				
Mid Band Equalizer						
Mid Gain	-10.0... 10.0	dB				
Mid Frequency	250... 6000	Hz				
Mid Width	0.8... 4.0	Oct				
High Band Equalizer						
High Gain	-10.0... 10.0	dB				
High Frequency	1.0... 15.0	kHz				
High Width	0.8... 4.0	Oct				
HF Contour						
Brilliance	0.0... 6.0					
High Frequency Enhancer	0... 15					
Phase Corrector						
Phase Corrector	Off, On					
Phase Corrector Crossover	62.5... 796.9	Hz				
Multiband (5 Band)						
Multiband						
MB Drive	0... 25	dB				
MB Release	Slow, Slow2, Med, Med2, MFast, MFast2, Fast					
Down Expander	Off, -18.0... 12.0	dB				
B5 Down Expander Delta Threshold	-18.0... 12.0	dB				
Down Expander Stereo Couple	On, Off					
MB Gate Threshold	Off, -44... -15	dB				
B1/B2 Crossover	100, 150, 200	Hz				
Multiband Coupling						
B2>B1 Coupling	0%... 100%					
B2>B3 Coupling	0%... 100%					

B3>B2 Coupling	0%... 100%					
B3>B4 Coupling	0%... 100%					
B4>B5 Coupling	0%... 100%					
Multiband Max Delta Gain Reduction						
B1 Max Delta GR	0... 24, Off	dB				
B2 Max Delta GR	0... 24, Off	dB				
B3 Max Delta GR	0... 24, Off	dB				
B4 Max Delta GR	0... 24, Off	dB				
B5 Max Delta GR	0... 24, Off	dB				
Compressors (5 Band)						
Multiband Attack						
B1 Attack	4... 50, Off	ms				
B2 Attack	4... 50, Off	ms				
B3 Attack	4... 50, Off	ms				
B4 Attack	4... 50, Off	ms				
B5 Attack	4... 50, Off	ms				
Multiband Delta Release						
B1 Delta Release	-6... 6					
B2 Delta Release	-6... 6					
B3 Delta Release	-6... 6					
B4 Delta Release	-6... 6					
B5 Delta Release	-6... 6					
Multiband Compressor Threshold						
B1 Compression Threshold	-16.00... 0.00, Off	dB				
B2 Compression Threshold	-16.00... 0.00, Off	dB				
B3 Compression Threshold	-16.00... 0.00, Off	dB				
B4 Compression Threshold	-16.00... 0.00, Off	dB				
B5 Compression Threshold	-16.00... 10.00, Off	dB				
Multiband Limiter Attack						
B1 Limiter Attack	0%... 100%					
B2 Limiter Attack	0%... 100%					
B3 Limiter Attack	0%... 100%					
B4 Limiter Attack	0%... 100%					
B5 Limiter Attack	0%... 100%					
Speech Mode (5 Band)						
Multiband Attack						
B1 Attack	4... 50, Off	ms				
B2 Attack	4... 50, Off	ms				
B3 Attack	4... 50, Off	ms				
B4 Attack	4... 50, Off	ms				
B5 Attack	4... 50, Off	ms				
Multiband Compressor Threshold						
B1 Compression Threshold	-16.00... 0.00, Off	dB				
B2 Compression Threshold	-16.00... 0.00, Off	dB				
B3 Compression Threshold	-16.00... 0.00, Off	dB				
B4 Compression Threshold	-16.00... 0.00, Off	dB				
B5 Compression Threshold	-16.00... 10.00, Off	dB				

Multiband Limiter Miscellaneous						
MB Release	Slow, Slow2, Med, Med2, MFast, MFast2, Fast					
Speech Bass Clip Threshold (not in MX)	-6.00... 0.00	dB				
MB Speech Threshold	-6.0... 0.0	dB				
Lookahead	In, Out, Auto					
Maximum Distortion Control (not in MX)	0.0... 18.0	dB				
Speech Detect	Auto, Music, Speech					
Bandmix (5 Band only, not available in 2B)						
B1 Output Mix	-6.0... 6.0	dB				
B2 Output Mix	-6.0... 6.0	dB				
B3 Output Mix	-6.0... 6.0	dB				
B4 Output Mix	-6.0... 6.0	dB				
B5 Output Mix	-6.0... 6.0	dB				
B1 On/Off	Off, On					
B2 On/Off	Off, On					
B3 On/Off	Off, On					
B4 On/Off	Off, On					
B5 On/Off	Off, On					
2 Band						
2B Drive	-10... 25	dB				
2B Master Attack	4.0... 50.0, Off	ms				
2B Bass Attack	4.0... 50.0, Off	ms				
2B Release	0.5... 20.0	dB/s				
Speech Detect	Auto, Music, Speech					
2B Master Compression Threshold	-10.0... 0.0, Off	dB				
2B Bass Compression Threshold	-10.0... 5.0, Off	dB				
2B Crossover	Linear, No Dly					
2B Bass Couple	0%... 100%					
2B Gate Threshold	Off, -44... -15	dB				
5B Distortion (5 Band but not UL or MX)						
Bass Clip Threshold	-6.00... 0.00	dB				
MB Clipping	-4.0... 5.0	dB				
Hard Bass Clip Shape	0.0... 10.0					
Bass Clip Mode	Soft, Med, Hard, LLHard					
Maximum Distortion Control	0.0... 18.0	dB				
MB Limit Threshold	-3.00... 6.00, Off	dB				
HF Clipping	0.0... 6.0					
High Frequency Limiter	Off, -23.75... 0.00	dB				
HF Clip Threshold	-16.00... 0.00, Off	dB				
Monitor Drive	-6.0... 0.0	dB				
2B Distortion (2 Band but not MX)						
Bass Clip Threshold	-6.00... 0.00	dB				
Bass Clip Mode	Soft, Med, Hard, LLHard					
Speech Bass Clip Threshold	-6.00... 0.00	dB				
2B High Frequency Limiting	-4.0... 2.0	dB				
HF Clipping	0.0... 6.0					
HF Clip Threshold	-16.00... 0.00, Off	dB				

2B Clipping	-4.0... 5.0	dB				
MB Limit Threshold	-3.00... 6.00, Off	dB				
MB Speech Threshold	-6.0... 0.0	dB				
Maximum Distortion Control	0.0... 18.0	dB				
2B 6-15 kHz HF Limiter	Off, -23.75... 0.00	dB				
Lookahead	0.0... 5.0	ms				
Monitor Drive	-6.0... 0.0	dB				
UL Distortion (UL presets only)						
Bass Clip Threshold	-6.00... 0.00	dB				
MB Clipping	-4.0... 5.0	dB				
Hard Bass Clip Shape	0.0... 10.0					
B4 Clip Threshold (= MB Limit Thr in 5B)	-16.00... 0.00, Off	dB				
HF Clipping	0.0... 6.0					
High Frequency Limiter	Off, -23.75... 0.00	dB				
B5 Clip Threshold (= HF Clip Thr in 2B & 5B)	-16.00... 0.00, Off	dB				
MX Distortion (MX presets only; 5B & 2B)						
Multiband Clipping (5B MX only)	-4.0... 5.0	dB				
Bass Clip Threshold (5B MX only)	-6.00... 6.00	dB				
2B Clipping (2B MX only)	-4.0... 5.0	dB				
Bass Pre-Limiting	0.0... 1.0					
Bass Pre-Limit Mode	Soft, Med, Hard					
Speech Bass Pre-Limiting	0.0... 1.0					
Bass Limiting	0.00... -6.00	dB				
Peak Limiter Drive	-6.0... 6.0	dB				
Distortion Control	0.0... 1.0					
Monitor Drive	-6.0... 0.0	dB				
Final Clipping						
Overshoot Compensator Drive (not in MX)	-2.0... 2.0	dB				
Final Clip Drive (not in MX)	-3.0... 5.0	dB				
Composite Limit Drive	Off, 0.0... 3.0	dB				
Composite Limit Mode	HalfCos, Hard					
Pilot Protect	Off, On					
MPX Power Offset	-26.0... 0.0	dB				
MPX Power Controller Gate	0, 1, 2, 3, 4, 5					
RDS						
Use System RDS Values	Enable, Disable					
Preset RDS Settings						
Program Service (PS)						
Dynamic Program Service Speed (DPSS)	2... 9	sec				
Dynamic Program Service Timeout (DPST)	Off, 1... 255	min				
Radio Text (RT)						
Radio Text Speed (DRTS)	Off, 5, 10, 15, 20, 25, 30, 35, 40, 45	sec				
Program Identification (PI)						
Program Type (PTY)						
Program Type Name (PTYN)						
Music/Speech (MS)	Speech, Music					
Decoder Info (DI)	Mono, Stereo					

Traffic Program (TP)	No, Yes					
EAS Text (EAS)						
RDS Modulator						
57 kHz RDS Subcarrier	Enable, Disable					
Subcarrier Level	0.0%... 12.0%					
HD PROCESSING PARAMETERS (PC REMOTE / ADVANCED MODIFY)						
HD EQ						
LF Shelf Equalizer						
Bass Gain	0... 12	dB				
Bass Frequency	80... 500	Hz				
Bass Slope	6, 12, 18	dB/Oct				
Bass Boost						
DJ Bass Boost	Off, 0... 10	dB				
Low Band Equalizer						
Low Gain	-10.0... 10.0	dB				
Low Frequency	20.0... 500.0	Hz				
Low Width	0.8... 4.0	Oct				
Mid Band Equalizer						
Mid Gain	-10.0... 10.0	dB				
Mid Frequency	250... 6000	Hz				
Mid Width	0.8... 4.0	Oct				
High Band Equalizer						
High Gain	-10.0... 10.0	dB				
High Frequency	1.0... 15.0	kHz				
High Width	0.8... 4.0	Oct				
HF Contour						
Brilliance	0.0... 6.0					
High Frequency Enhancer	0... 15					
HD Multiband (5 Band)						
Multiband						
MB Drive	0... 25	dB				
MB Release	Slow, Slow2, Med, Med2, MFast, MFast2, Fast					
Down Expander	Off, -18.0... 12.0	dB				
B5 Down Expander Delta Threshold	-18.0... 12.0	dB				
Down Expander Stereo Couple	On, Off					
MB Gate Threshold	Off, -44... -15	dB				
B1/B2 Crossover	100, 150, 200	Hz				
Multiband Coupling						
B2>B1 Coupling	0%... 100%					
B2>B3 Coupling	0%... 100%					
B3>B2 Coupling	0%... 100%					
B3>B4 Coupling	0%... 100%					
B4>B5 Coupling	0%... 100%					
Multiband Max Delta Gain Reduction						
B1 Max Delta GR	0... 24, Off	dB				
B2 Max Delta GR	0... 24, Off	dB				

B3 Max Delta GR	0... 24, Off	dB				
B4 Max Delta GR	0... 24, Off	dB				
B5 Max Delta GR	0... 24, Off	dB				
HD Compressors (5 Band)						
Multiband Attack						
B1 Attack	4... 50, Off	ms				
B2 Attack	4... 50, Off	ms				
B3 Attack	4... 50, Off	ms				
B4 Attack	4... 50, Off	ms				
B5 Attack	4... 50, Off	ms				
Multiband Delta Release						
B1 Delta Release	-6... 6					
B2 Delta Release	-6... 6					
B3 Delta Release	-6... 6					
B4 Delta Release	-6... 6					
B5 Delta Release	-6... 6					
Multiband Compressor Threshold						
B1 Compression Threshold	-16.00... 0.00, Off	dB				
B2 Compression Threshold	-16.00... 0.00, Off	dB				
B3 Compression Threshold	-16.00... 0.00, Off	dB				
B4 Compression Threshold	-16.00... 0.00, Off	dB				
B5 Compression Threshold	-16.00... 10.00, Off	dB				
Multiband Limiter Attack						
B1 Limiter Attack	0%... 100%					
B2 Limiter Attack	0%... 100%					
B3 Limiter Attack	0%... 100%					
B4 Limiter Attack	0%... 100%					
B5 Limiter Attack	0%... 100%					
HD Speech Mode (5 Band)						
Multiband Attack						
B1 Attack	4... 50, Off	ms				
B2 Attack	4... 50, Off	ms				
B3 Attack	4... 50, Off	ms				
B4 Attack	4... 50, Off	ms				
B5 Attack	4... 50, Off	ms				
Multiband Compressor Threshold						
B1 Compression Threshold	-16.00... 0.00, Off	dB				
B2 Compression Threshold	-16.00... 0.00, Off	dB				
B3 Compression Threshold	-16.00... 0.00, Off	dB				
B4 Compression Threshold	-16.00... 0.00, Off	dB				
B5 Compression Threshold	-16.00... 10.00, Off	dB				
Multiband Limiter Miscellaneous						
MB Release	Slow, Slow2, Med, Med2, MFast, MFast2, Fast					
Lookahead	In, Out, Auto					
HD Bandmix (5 Band only, not available in 2B)						
B1 Output Mix	-6.0... 6.0	dB				
B2 Output Mix	-6.0... 6.0	dB				

B3 Output Mix	-6.0... 6.0	dB				
B4 Output Mix	-6.0... 6.0	dB				
B5 Output Mix	-6.0... 6.0	dB				
B1 On/Off	Off, On					
B2 On/Off	Off, On					
B3 On/Off	Off, On					
B4 On/Off	Off, On					
B5 On/Off	Off, On					
HD 2 Band						
2B Drive	-10... 25	dB				
2B Master Attack	4.0... 50.0, Off	ms				
2B Bass Attack	4.0... 50.0, Off	ms				
2B Release	0.5... 20.0	dB/s				
2B Master Compression Threshold	-10.0... 0.0, Off	dB				
2B Bass Compression Threshold	-10.0... 5.0, Off	dB				
2B Crossover	Linear, No Dly					
2B Bass Couple	0%... 100%					
2B Gate Threshold	Off, -44... -15	dB				
HD Limiting (Always visible regardless of setting of FM->HD Control Couple)						
HD EQ Gain (2B & 5B)	-6.0... 0.0	dB				
HD EQ Freq (2B & 5B)	2.0... 20.2	kHz				
HD Limiter Drive (2B & 5B)	-10.0... 12.0	dB				
HD De-Esser (5B only)	Off, -23.75... 0.00	dB				
HD Bass Clip Threshold (5B only)	-6.00... 6.00, Off	dB				
HD Speech Bass Clip Threshold (5B only)	-6.00... 6.00, Off	dB				
HD Bass Clip Shape (5B only)	0.0... 10.0					
FM->HD Control Couple	FM->HD / Independent					