

Orban Optimod-FM 8600 Audio Processor Setup/Parameters Worksheet

Version 1.5

Parameter	Range	Unit				
INPUT/OUTPUT						
Input						
Set Input to	Analog, Digital, J17					
Analog						
Clip Level	0.0... 27.0	dBu				
Right Channel Balance	-3.0... +3.0	dB				
Ref. Level VU/PPM	VU: -9.0... 13.0 PPM: -2.0... 20.0	dBu				
Digital						
Right Channel Balance	-3.0... +3.0	dB				
Ref. Level VU/PPM	VU: -30.0... -10.00 PPM: -23.0... -3.0	dBFS				
Output 1						
Analog						
Out Level	-6.0...+24.0	dBu				
Pre-Emph	Flat, Pre-e					
Out Source	FM, FM+Delay, Monitor, HD (HD not available in 8500FM)					
AES 1						
Out Level	-20.0... 0.0	dBFS				
Pre-Emph	Flat, Pre, J.17, Pre+J17					
Sample Rate	32, 44.1, 48, 88.2, 96	kHz				
Word Length	14... 24					
Sync	Internal, Sync in, Input					
Dither	In, Out					
Format	AES, SPDIF					
Out Source	FM, FM+Delay, Monitor, HD (HD not available in 8500FM)					
Output 2						
AES 2						
Out Level	-20.0... 0.0	dBFS				
Pre-Emph	Flat, Pre, J.17, Pre+J17					
Sample Rate	32, 44.1, 48, 88.1, 96	kHz				
Word Length	14... 24					
Sync	Internal, Sync in, Input					
Dither	In, Out					
Format	AES, SPDIF					
Out Source	FM, FM+Delay, Monitor, HD, Ratings (HD not available in 8500FM)					
Headphones						
Phone Source	FM, FM+Delay, Monitor, HD (HD not available in 8500FM)					
Composite						
Modulation Mode	Stereo, Mono-L, Mono-R, Mono-Sum, PilotOff, SSB					
Diversity Delay	In, Out					
Pilot Level	6.0%...12.0%					
Pilot Reference	0, 90, 180, 270	deg				
Mod. Red. 1	-20.0%...0.0%					
Mod. Red. 2	-20.0%...0.0%					

Output 1						
Composite 1 Level	-12.3... 12.0	dBu				
Output 2						
Composite 2 Level	-12.3... 12.0	dBu				
Utilities						
External AGC	No, Yes					
Final Clip Defeat	Active, Defeat					
Process Pre-Emphasis	50, 75	uS				
Multiplex Power Threshold	Off, 10.0... -2.0	dB				
Digital Input Analog Fallback	No, Yes					
FM Output Meter	Pre-emphasis, De-emphasis					
FM Polarity	Negative, Positive					
Silence Detect						
Silence Threshold	-60... -20	dB				
Silence Delay	2... 60	sec				
Analog Fallback	Yes, No					
HD Digital Radio						
Stereo/Mono	Stereo, Mono-L, Mono-R, Mono-Sum					
HD HF Shelf EQ	Pre, Post					
BS 1770 Meter Units	Lk, LU					
Bandwidth	15, 16, 17, 18, 19, 20	kHz				
HD Polarity	Negative, Positive					
1770 Loudness Thresh	-31...-11	dB				
1770 Saftey Limiter	Off, On					
Diversity Delay Trim	Increments of 15.6 microseconds (one sample delay at 64 kHz sample rate)					
SYSTEM SETUP						
Network/Remote						
Tally Output						
Tally 1						
Tally 2						
Remote Interface						
Interface 1						
Interface 2						
Interface 3						
Interface 4						
Interface 5						
Interface 6						
Interface 7						
Interface 8						
Network						
Serial						
Serial Interface Type	Direct, Modem					
Modem Init String						
Ethernet						
IP Address						
Subnet Mask						
Default Gateway						
Port						

Terminal Port						
Place/Date/Time						
Time Format	12, 24					
Day Light Time Begins						
Day Light Time Ends						
Time Sync						
Sync Period	Off, 8 Hrs, 24 Hrs					
Protocol	SNTP, Time Pro					
Offset	+12 ... -12	Hrs				
Time Server Address						
Station Identifier						
Station ID						
Test Modes						
Bypass						
Gain	-18.0... 25.0	dB				
Tone						
Frequency	16... 15000	Hz				
Modulation Type	Left, Right, L+R, L-R					
Modulation Level	0... 121%					
Test: Pilot	On, Off					
ADVANCED MODIFY						
Stereo Enhancer						
In/Out	In, Out					
Amount	0.00... 10.00					
Ratio Limit	70%...100%					
Diffusion	Off, 0.25... 10.0					
Style	222, Delay					
Depth	0... 10					
AGC						
AGC On/Off	On, Off					
Drive	-10.0... 25.0	dB				
Crossover	Linear, Allpass, LiNoDly					
Mast. Attack	0.2... 6.0	s				
Bass Attack	1.0... 10.0	s				
Release	0.5... 20.0	dB/s				
Bass Release	1.0... 10.0	s				
Bass Threshold	-12.0...+2.5	dB				
MstrDeltaThr	-6.0...6.0	dB				
BassDeltaThr	-6.0...6.0	dB				
AGC Ratio	inf:1, 4:1, 3:1, 2:1,					
Idle Gain	-10.0...10.0	dB				
Gate Threshold	Off, -44... -15	dB				
Window Size	-25.0.. 0.0	dB				
Window Release	0.5... 20.0	dB/s				
MaxDelta GR	0.0... 24.0, Off	dB				
Bass Coupling	Off, 12...0	dB				
AGC Matrix	L/R, sum/diff					
Equalizer						
Phase Rotator	In, Out					

30 Hz HPF	In, Out					
DJ Bass (not in 2B)	Off, 0... 10					
Bass Gain	0 ... 12	dB				
Bass Freq	80... 500	Hz				
Bass Slope	6,12,18	dB/Oct				
Low Gain	-10.0... 10.0	dB				
Low Freq	20.0 ... 500.0	Hz				
Low Width	4.0... 0.8	dB				
Mid Gain	-10.0... +10.0	dB				
Mid Freq	250... 6000	Hz				
Mid Width	4.0... 0.8	dB				
High Gain	-10.0...10.0	dB				
High Freq	1.0... 15.0	Hz				
High Width	4.0... 0.8	dB				
Brilliance (not in 2B)	0.0... 6.0					
HF Enhance	0... 15					
Multiband (5 Band)						
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 Thres	-18.0... +12.0	dB				
MB Gate Threshold	Off, -44.0... -15.0	dB				
DwnExpStCpl (Down Expander Stereo Coupling)	On, Off					
B1/B2 Crossover	100, 200	Hz				
B2/B1 Coupl	0... 100%					
B2/B3 Coupl	0... 100%					
B3/B2 Coupl	0... 100%					
B3/B4 Coupl	0... 100%					
B4/B5 Coupl	0... 100%					
B1MaxDeltGR	0... 24, Off	dB				
B2MaxDeltGR	0... 24, Off	dB				
B3MaxDeltGR	0... 24, Off	dB				
B4MaxDeltGR	0... 24, Off	dB				
B5MaxDeltGR	0... 24, Off	dB				
Compressors (5 Band)						
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				
Delta Rel 1	-6... 6					
Delta Rel 2	-6... 6					
Delta Rel 3	-6... 6					
Delta Rel 4	-6... 6					
Delta Rel 5	-6... 6					
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				
B1 Lim Att	0%... 100%	%				
B2 Lim Att	0%... 100%	%				
B3 Lim Att	0%... 100%	%				
B4 Lim Att	0%... 100%	%				
B5 Lim Att	0%... 100%	%				
Speech Mode						
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				
B1 Compression Threshold	-16.0... 0.0, Off	dB				
B2 Compression Threshold	-16.0... 0.0, Off	dB				
B3 Compression Threshold	-16.0... 0.0, Off	dB				
B4 Compression Threshold	-16.0... 0.0, Off	dB				
B5 Compression Threshold	-16.00... 10.00, Off	dB				
MB Release	Slow, Slow2, Med, Med2, Mfast, Mfast2, Fast					
SpeechBCThr (not in MX)	-6.00... 0.00	dB				
MB Speech Thr	-6.0... 0.0	dB				
Lookahead	In, Out, Auto					
MaxDistCtrl (not in MX)	0.0 ... +18.0					
Speech Detect Override	Auto, Music, Speech					
Band Mix (5 Band)						
B1 Out Mix	-6.0 ...+6.0	dB				
B2 Out Mix	-6.0 ...+6.0	dB				
B3 Out Mix	-6.0 ...+6.0	dB				
B4 Out Mix	-6.0 ...+6.0	dB				
B5 Out Mix	-6.0 ...+6.0	dB				
B1 On/Mute	On, Mute					
B2 On/Mute	On, Mute					
B3 On/Mute	On, Mute					
B4 On/Mute	On, Mute					
B5 On/Mute	On, Mute					
Two Band (2 Band)						
2B Drive	-10... 25	dB				
2B Master Attack	4.0... 50.0, Off	none				
2B Bass Attack	4.0... 50.0, Off	none				
2B Release	0.5... 20.0	dB/s				
2B MastCmp Thr	-15.0...0.0, Off	dB				
2B BassCmp Thr	-10.0... 5.0, Off	dB				
2B Crossover	Linear, No Dly					
2B Bass Coupling	0... 100%	%				
2B Gate Threshold	Off, -44... -15	dB				
Speech Detect Override	Auto, Music, Speech					
5B Distortion (5 Band but not UL or MX)						
MB Clipping	-4.0... 5.0	dB				
Bass Clip Threshold	-6.00... 0.00	dB				

Bass Clip Mode	Soft, Med, Hard, LLHard					
Hard Bass Clip Shape	0.0... 10.0					
HF Clipping	0.0... 6.0					
HF Limiter	Off, -23.75... 0.00	dB				
HF Clip Thr	-16.00... 0.00, Off	dB				
MB Limit Threshold	-3.0... 6.0, off	dB				
MaxDistCtrl (Maximum Distortion Control)	0.0... 18.0	dB				
2B Distortion (2 Band but not MX)						
Bass Clip Threshold	-6.00... 0.00	dB				
Bass Clip Mode	Soft, Med, Hard, LLHard					
SpeechBCThr	-6.00... 0.00	dB				
HF Clipping	0.0... 6.0					
HF Clip Thr (same as B5 Clip Thr in UL)	-16.00... 0.00, Off	dB				
HF Limiting	-4.0... 2.0	dB				
2B Clipping	-4.0... 5.0	dB				
MB Limit Threshold	-3.0... 6.0, Off	dB				
MB Speech Thr	-6.0... 0.0	dB				
MaxDistCtrl	0.0... 18.0	dB				
2B 6-15 kHz HF Limiter	Off, -23.75... 0.00	dB				
Lookahead	0.0... 5.0	ms				
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					
HF Clipping	0.0... 6.0					
HF Limiter	Off, -23.75... 0.00	dB				
B4 Clip Thr	-16.00... 0.00, Off	dB				
B5 Clip Thr (called HF Clip Thr in 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				
Bass Clip Shape (5b MX only)	0.0... 10.0					
2B Clipping (2b MX only)	-4.0... 5.0	dB				
Bass Pre-Limiting	0...1					
Bass Pre-Limit Mode	Soft, Med, Hard					
Speech Bass Pre-Limiting	0...1					
Peak Limiter Drive	-6.00...+6.0	dB				
Bass Limiting	0...-6	dB				
Distortion Control	0...1					
Final Clipping						
Overshoot Comp Dr (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	Hard, Half-Cos					
Pilot Protect	On, Off					
MPX Power Offset	-12.0...0.0	dB				
HD ADVANCED MODIFY						
HD Equalizer						

DJ Bass (not in 2B)	Off, 0... 10					
Bass Gain	0 ... 12	dB				
Bass Freq	80... 500	Hz				
Bass Slope	6,12,18	dB/Oct				
Low Gain	-10.0... 10.0	dB				
Low Freq	20.0 ... 500.0	Hz				
Low Width	4.0... 0.8	dB				
Mid Gain	-10.0... +10.0	dB				
Mid Freq	250... 6000	Hz				
Mid Width	4.0... 0.8	dB				
High Gain	-10.0...10.0	dB				
High Freq	1.0... 15.0	Hz				
High Width	4.0... 0.8	dB				
Brilliance (not in 2B)	0.0... 6.0					
HF Enhance	0... 15					
HD Multiband (5 Band)						
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 Thres	-18.0... +12.0	dB				
MB Gate Threshold	Off, -44.0... -15.0	dB				
DwnExpStCpl (Down Expander Stereo Coupling)	On, Off					
B1/B2 Crossover	100, 200	Hz				
B2/B1 Coupl	0... 100%					
B2/B3 Coupl	0... 100%					
B3/B2 Coupl	0... 100%					
B3/B4 Coupl	0... 100%					
B4/B5 Coupl	0... 100%					
B1MaxDeltGR	0... 24, Off	dB				
B2MaxDeltGR	0... 24, Off	dB				
B3MaxDeltGR	0... 24, Off	dB				
B4MaxDeltGR	0... 24, Off	dB				
B5MaxDeltGR	0... 24, Off	dB				
HD Compressors (5 Band)						
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				
Delta Rel 1	-6... 6					
Delta Rel 2	-6... 6					
Delta Rel 3	-6... 6					
Delta Rel 4	-6... 6					
Delta Rel 5	-6... 6					
B1 Compression Threshold	-16.0... 0.0, Off	dB				
B2 Compression Threshold	-16.0... 0.0, Off	dB				
B3 Compression Threshold	-16.0... 0.0, Off	dB				
B4 Compression Threshold	-16.0... 0.0, Off	dB				

B5 Compression Threshold	-16.0... 10.0, Off	dB				
B1 Lim Att	0%... 100%	%				
B2 Lim Att	0%... 100%	%				
B3 Lim Att	0%... 100%	%				
B4 Lim Att	0%... 100%	%				
B5 Lim Att	0%... 100%	%				
HD Speech Mode						
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				
B1 Compression Threshold	-16.0... 0.0, Off	dB				
B2 Compression Threshold	-16.0... 0.0, Off	dB				
B3 Compression Threshold	-16.0... 0.0, Off	dB				
B4 Compression Threshold	-16.0... 0.0, Off	dB				
B5 Compression Threshold	-16.0... 10.0, Off	dB				
MB Release	Slow, Slow2, Med, Med2, Mfast, Mfast2, Fast					
Lookahead	In, Out, Auto					
HD Two Band (2 Band)						
2B Drive	-10... 25	dB				
2B Master Attack	4.0... 50.0, Off	none				
2B Bass Attack	4.0... 50.0, Off	none				
2B Release	0.5... 20.0	dB/s				
2B MastCmp Thr	-15.0...0.0, Off	dB				
2B BassCmp Thr	-10.0... 5.0, Off	dB				
2B Crossover	Linear, No Dly					
2B Bass Coupling	0... 100%	%				
2B Gate Threshold	Off, -44... -15	dB				
HD Band Mix (5 Band Only, not available in 2B)						
B1 Out Mix	-6.0 ...+6.0	dB				
B2 Out Mix	-6.0 ...+6.0	dB				
B3 Out Mix	-6.0 ...+6.0	dB				
B4 Out Mix	-6.0 ...+6.0	dB				
B5 Out Mix	-6.0 ...+6.0	dB				
B1 On/Mute	On, Mute					
B2 On/Mute	On, Mute					
B3 On/Mute	On, Mute					
B4 On/Mute	On, Mute					
B5 On/Mute	On, Mute					
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 Limit Drive (2B & 5B)	0.0...+12.0 dB	dB				
HF De-ess (5B only)	Off, -23.75... 0.00	dB				
FM->HD Control Couple	FM->HD / Independent					
INTERMEDIATE MODIFY						
Stereo Enhancer						
Amount	0.00...10.00					

Enhancer	In, Out					
Ratio Limit	70%... 100%	%				
Diffusion	Off, 0.3... 10.0					
Style	222, Delay					
Depth	0...10					
Rumble Filter	In, Out					
Phase Rotator	In, Out					
AGC						
AGC on/off	On, Off					
Drive	-10.0... 25.0	dB				
Release	0.5... 20.0	dB/s				
Gate Threshold	Off, -44... -15	dB				
Bass Coupling	Off, 12...0	dB				
Equalizer						
Bass Gain	0.0... 12.0	dB				
Bass Freq	80... 500	Hz				
Bass Slope	6,12,18	db/Oct				
Low Gain	-10.0...+10.0	dB				
Low Freq	20.0 ... 500.0	Hz				
Low Width	4.0... 0.8	dB				
Mid Gain	-10.0... +10.0	dB				
Mid Freq	250... 6000	Hz				
Mid Width	4.0... 0.8	dB				
High Gain	-10.0... +10.0	dB				
High Freq	1.0... 15.0	Hz				
High Width	4.0... 0.8	dB				
Brilliance (not in 2B)	0.0... 6.0					
DJ Bass (not in 2B)	Off, 0... 10					
HF Enhance	0... 15					
Multiband						
Drive	0... 25	dB				
Release	Slow, Slow2, Med, Med2, Mfast, Mfast2, Fast					
Gate Threshold	Off, -44.0... -15.0	dB				
Clipping	-4.0... +5	dB				
Down Expander	Off, -6.0... +12.0	dB				
B5 Down Expander	Off, -6.0... +12.0	dB				
2/1 Coupling	0%... 100%					
2/3 Coupling	0%... 100%					
3/2 Coupling	0%... 100%					
3/4 Coupling	0%... 100%					
Band Mix						
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	On, Off					
B2 On/Off	On, Off					
B3 On/Off	On, Off					

B4 On/Off	On, Off					
B5 On/Off	On, Off					
Two Band (2 Band only)						
Drive	-10... 25	dB				
Release	0.5... 20.0	dB/s				
Gate Threshold	Off, -44... -15	dB				
Bass Coupling	0... 100%	%				
5B Clippers (but not UL or MX)						
Bass Clip Threshold	-6.00... 0.00	dB				
Bass Clip Mode	Soft, Med, Hard, LL Hard					
HF Clip Thr	-16.00... 0.00, Off	dB				
Final Clip Drive	-3.0... +5.0	dB				
Composite Limit Drive	Off, 0.0... 3.0	dB				
Pilot Protect	On, Off					
2B Clippers (but not MX)						
Bass Clip Threshold (not in MX)	-6.00... 0.00	dB				
Bass Clip Mode (not in UL)	Soft, Med, Hard, LL Hard					
HF Limiting (2B only)	-4.0... 2.0	dB				
Final Clip Drive (not in MX)	-3.0... +5.0	dB				
Composite Limit Drive	Off, 0.0... 3.0	dB				
Pilot Protect	On, Off					
UL Clippers						
Bass Clip Thres	-6.00... 0.00	dB				
B4 Clip Thr	-16.00... 0.00, Off	dB				
B5 Clip Thr	-16.00... 0.00, Off	dB				
Final Clip Drive	-3.0... +5.0	dB				
Composite Limit Drive	Off, 0.0... 3.0	dB				
Pilot Protect	On, Off					
MX Clippers (5 Band & 2 Band)						
Bass PreLimit Mode	Soft, Med, Hard					
Bass PreLimiting	0...1					
Speech Bass PreLimiting	0...1					
Peak Limiter Drive	0...+10	dB				
Distortion Control	0...1					
Composite Limit Drive	Off, 0.0... 3.0	dB				
BASIC MODIFY						
Stereo Enhancer						
Amount	0.00...10.00					
Enhancer	In, Out					
Ratio Limit	70%... 100%					
Diffusion	Off, 0.3... 10.0					
Style	222, Delay					
Depth	0...10					
Rumble Filter	In, Out					
Phase Rotator	In, Out					

Less/More						
Less More	1... 10					
Equalizer						
Bass Gain	0.0... 12.0	dB				
Bass Freq	80... 500	Hz				
Bass Slope	6,12,18	dB/Oct				
Low Gain	-10.0... 10.0	dB				
Low Freq	20.0 ... 500.0	dB				
Low Width	4.0... 0.8	dB				
Mid Gain	-10.0... +10.0	dB				
Mid Freq	250... 6000	Hz				
Mid Width	4.0... 0.8	dB				
High Gain	-10.0...10.0	dB				
High Freq	1.0... 15.0	Hz				
High Width	4.0... 0.8	dB				
Brilliance (not in 2B)	0.0... 6.0					
DJ Bass (not in 2B)	Off, 0... 10					
HF Enhance	0... 15					