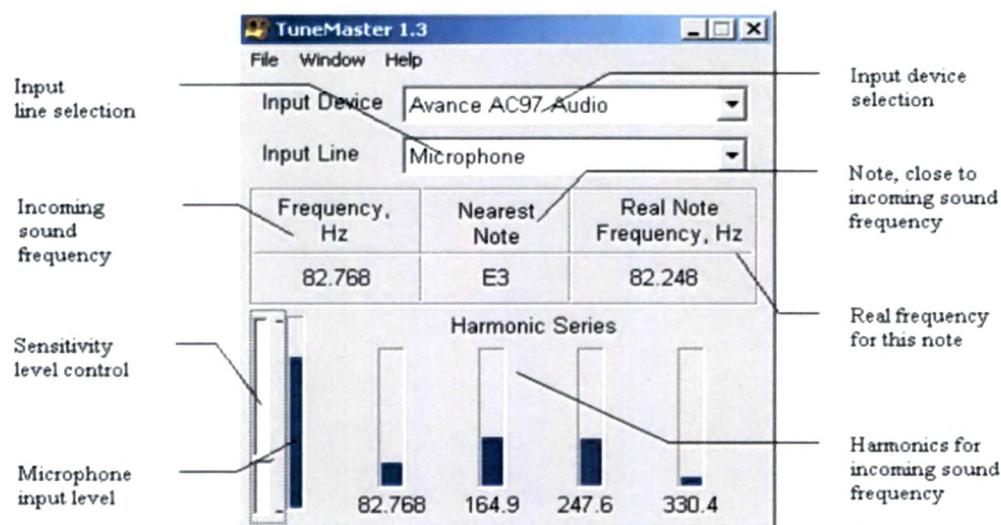


Analysis of Ragas of Indian Classical Music through Computer Software

DETAILS OF SOFTWARE

Tuning Instructions



In this software one can easily find out the frequency of any sound by connecting microphone, Tape recorder or CD to computer. Software shows all frequencies which are present in that sound up to four harmonics.

I measured frequency of all notes through this software and have found frequency of C of Shruti Box as 263.79 Hz which is very near to frequency found by my experiment on oscilloscope. In the software, accuracy is more.

I took cassettes of different eminent artistes and analyzed a few ragas of Indian Classical Music through the software and found the frequency of each swar in each raga and the associated Interval. Using that Interval, I compared ragas of nearly similar notes.

I did four different type of analysis.

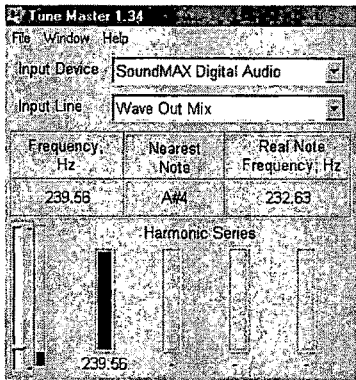
1. One Raga - Different Artiste
2. Different Raga - Different Artiste
3. One Raga - Sung by one artiste at different time.
4. Different raga - one artiste

Since aalap contains all the information of rendered raga and also it is easy to analyze due to its slow speed, I have taken the aalaps of these ragas for my analysis.

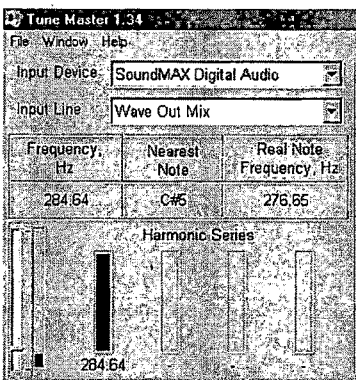
ANALYSIS: ONE RAGA SUNG BY DIFFERENT ARTISTE

NO	Name of the Raga	Name of the Artiste
1	BAGESHREE	SMT.ASHWINI Bhide PT.RAJAN SAJAN MISRA
2	JAUNPURI	SMT.ASHWINI Bhide PT.BHIMSEN JOSHI PT.AJOY CHAKRABORTY PT.RAJAN SAJAN MISRA
3	DARBARI KANADA	PT.UMAKANT RAMAKANT GUNDECHA PT.BHIMSEN JOSHI PT.ULHAS KASHALKAR PT.RAJAN SAJAN MISRA
4	MIYA KI TODI	PT.BHIMSEN JOSHI USTAD RASHID KHAN

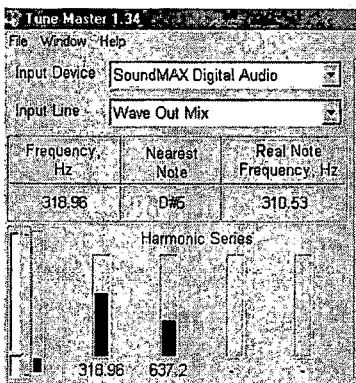
NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: BAGESHREE



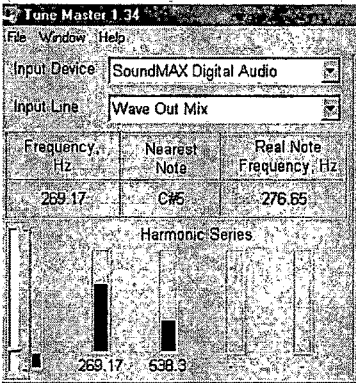
SWAR SA



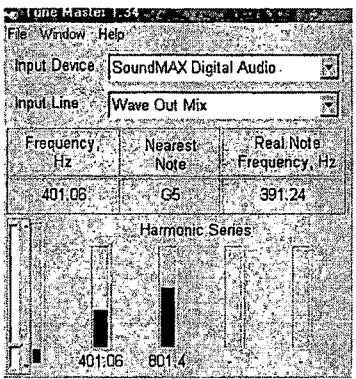
SWAR GA KOMAL



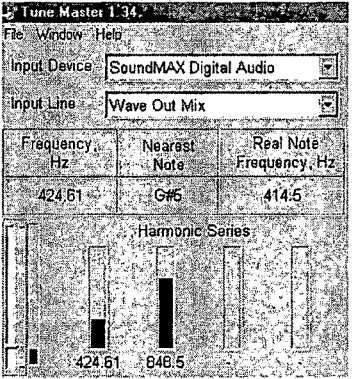
SWAR MA



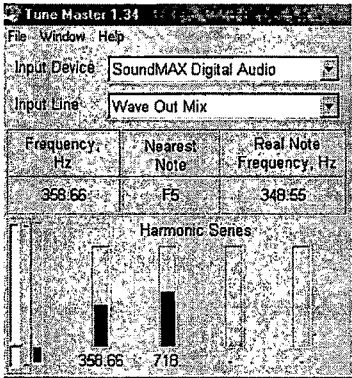
SWAR RE



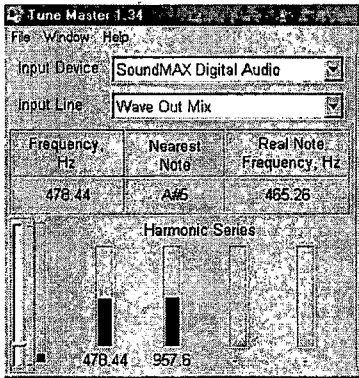
SWAR DHA



SWAR NI KOMAL



SWAR PA



SWAR SA TAR

NAME OF THE ARTIST: SMT.ASHWINI BHIDE

RAGA: BAGESHREE

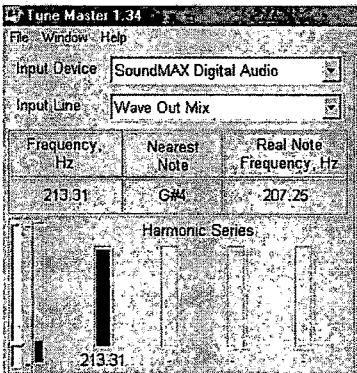
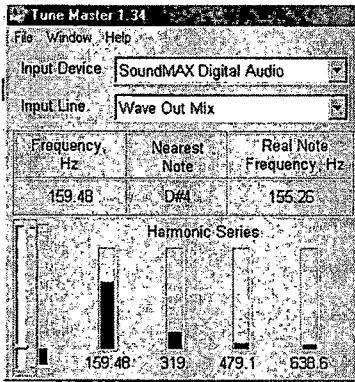
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	239.56	सा - रे	$\frac{269.17}{239.56}$	=1.123
रे	269.17	सा - ग्	$\frac{284.64}{239.56}$	=1.188
ग्	284.64	सा - म	$\frac{318.96}{239.56}$	=1.331
म	318.96	सा - प	$\frac{358.66}{239.56}$	=1.497
प	358.66	सा - ध	$\frac{401.06}{239.56}$	=1.674
ध	401.06	सा - नी	$\frac{424.61}{239.56}$	=1.772
नी	424.61	सा - सां	$\frac{478.44}{239.56}$	=1.997
सां	478.44			

CONSONANCE & DISSONANCE IN THIS RAGA

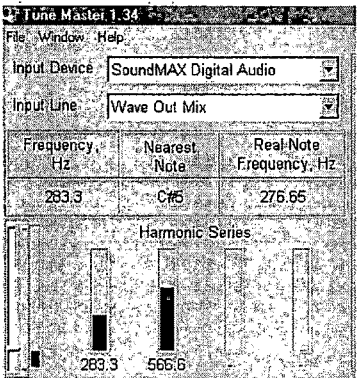
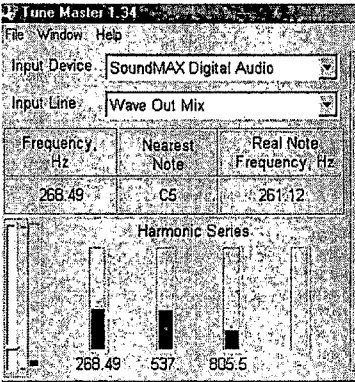
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
रे-ध	रे-प		सा - नी
ग्-नी	म-नी		
म-सां	प-सां		

NAME OF THE ARTIST: PT RAJAN SAJAN MISRA
RAGA: BAGESHREE



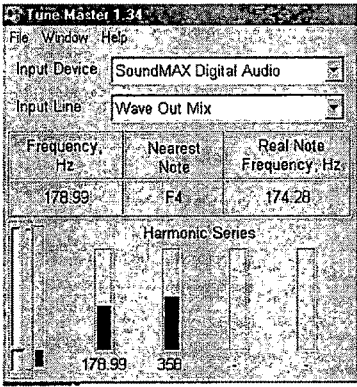
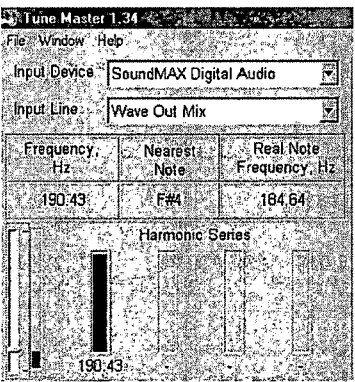
SWAR SA

SWAR MA



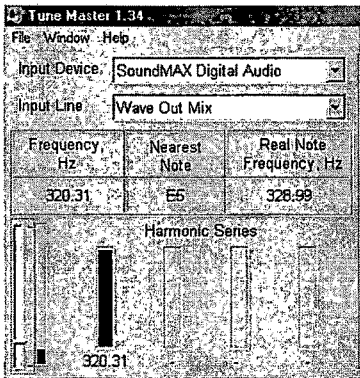
SWAR DHA

SWAR NI KOMAL

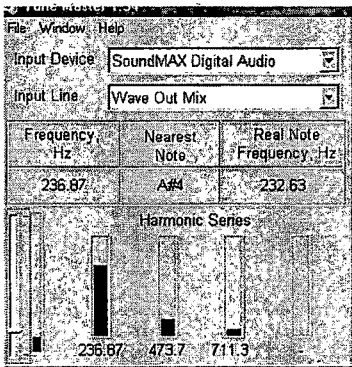


SWAR GA KOMAL

SWAR RE



SWAR SA TAR



SWAR PA

NAME OF THE ARTIST: PT. RAJAN SAJAN MISRA
RAGA: BAGESHREE

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	159.48	सा - रे	$\frac{178.99}{159.48}$	=1.122
रे	178.99	सा - ग्	$\frac{190.43}{159.48}$	=1.194
ग्	190.43	सा - म	$\frac{213.31}{159.48}$	=1.337
म	213.31	सा - प	$\frac{236.87}{159.48}$	=1.485
प	236.87	सा - ध	$\frac{268.49}{159.48}$	=1.683
ध	268.49	सा - नी	$\frac{283.3}{159.48}$	=1.776
नी	283.3	सा - सां	$\frac{320.31}{159.48}$	=2.008
सां	320.31			

CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
रे-ध	रे-प		सा - नी
ग्-नी	म-नी		
म-सां	प-सां		

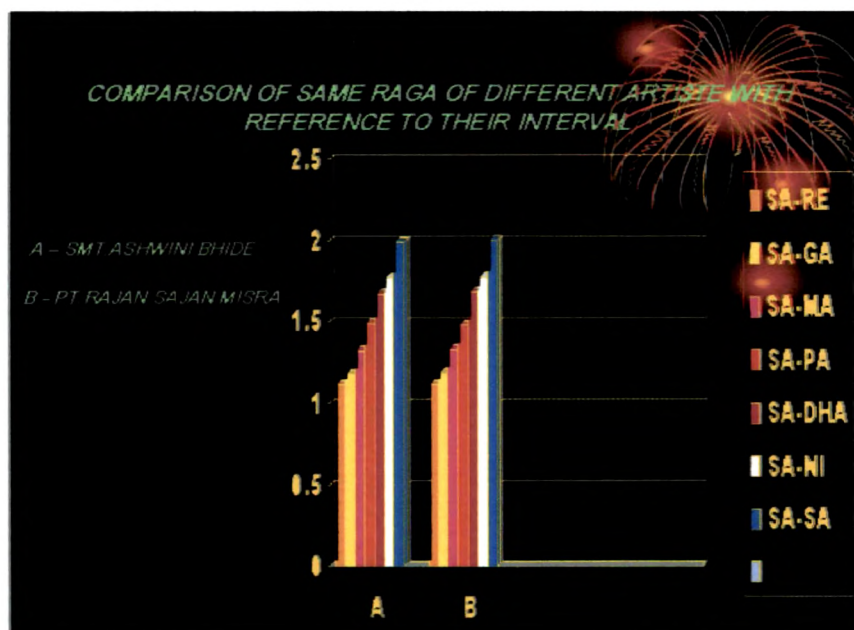
Comparison of one Raga of different artiste with reference to their Interval

RAGA BAGESHREE

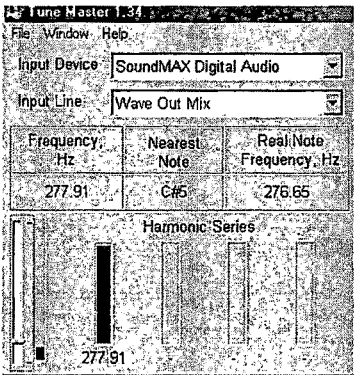
INTERVAL

INTERVAL	SMT.ASHWINI BHIDE	PT.RAJAN SAJAN MISRA	STANDARD VALUE
सा - रे	=1.123	=1.122	1.12753
सा - ग्	=1.188	=1.194	1.19895
सा - म	=1.331	=1.337	1.33671
सा - प	=1.497	=1.485	1.50511
सा - ध	=1.674	=1.683	1.6632
सा - नी	=1.772	=1.776	1.77549
सा - सां	=1.997	=2.008	2

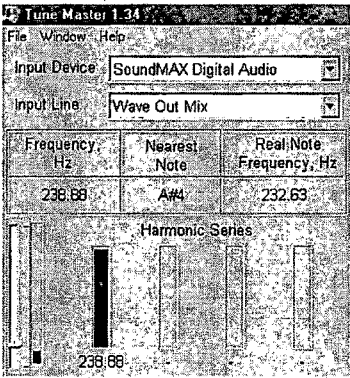
Graphical representation of one Raga of different artiste with reference to their Interval



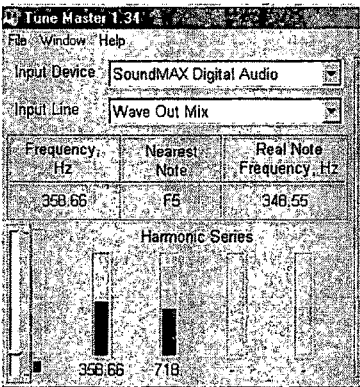
NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: JAUNPURI



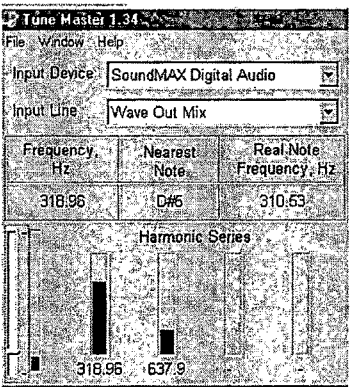
SWAR GA KOMAL



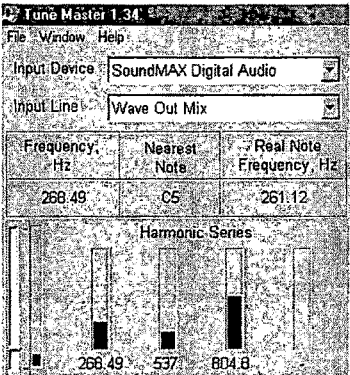
SWAR SA



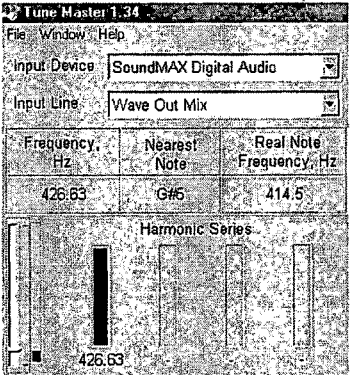
SWAR PA



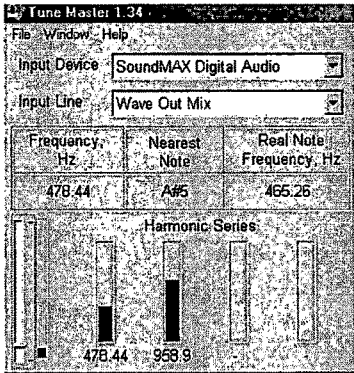
SWAR MA



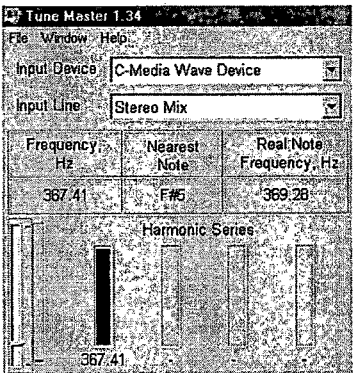
SWAR RE



SWAR NI KOMAL



SWAR SA TAR



SWAR DHA KOMAL

NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: JAUNPURI

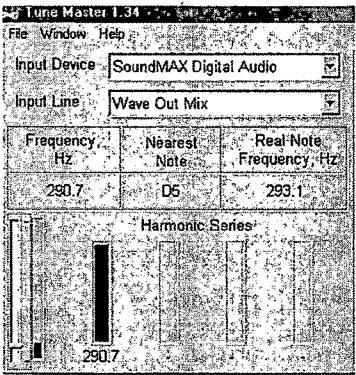
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	238.88	सा - रे	$\frac{268.49}{238.88}$	=1.123
रे	268.49	सा - ग्	$\frac{277.91}{238.88}$	=1.163
ग्	277.91	सा - म	$\frac{318.96}{238.88}$	=1.335
म	318.96	सा - प	$\frac{358.66}{238.88}$	=1.501
प	358.66	सा - ध्	$\frac{367.41}{238.88}$	=1.538
ध्	367.41	सा - न्नी	$\frac{426.63}{238.88}$	=1.785
न्नी	426.63	सा - सां	$\frac{478.44}{238.88}$	=2.002
सां	478.44			

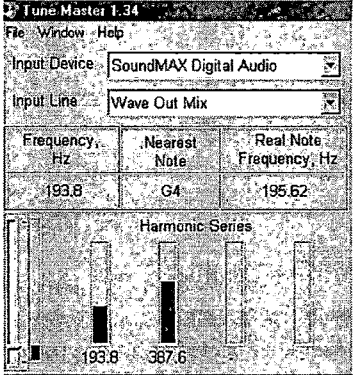
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
ग्-न्नी	रे-प	सा - ध्	सा - न्नी
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

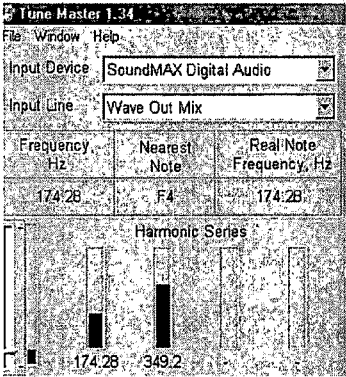
NAME OF THE ARTIST: PT BHIMSEN JOSHI
RAGA: JAUNPURI



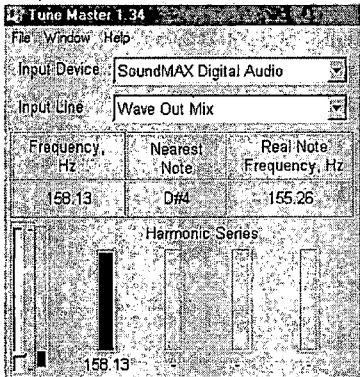
SWAR SA TAR



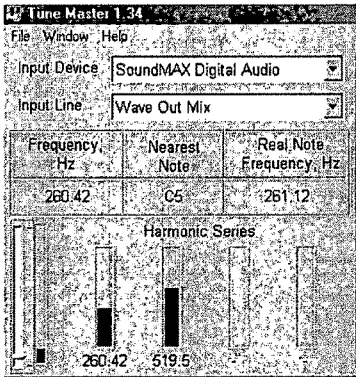
SWAR MA



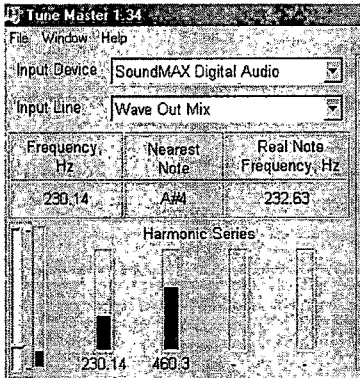
SWAR GA KOMAL



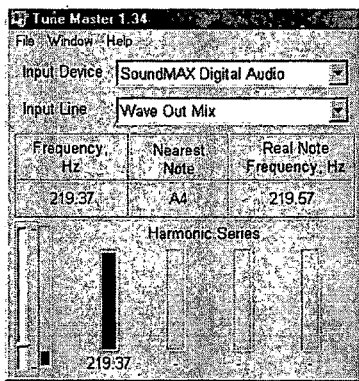
SWAR SA



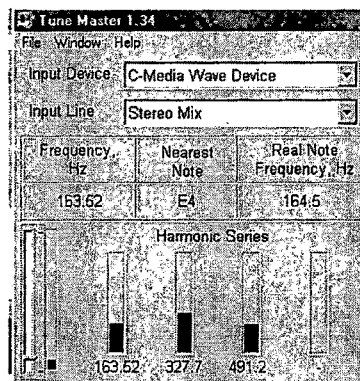
SWAR NI KOMAL



SWAR DHA KOMAL



SWAR PA



SWAR RE

NAME OF THE ARTIST: PT BHIMSEN JOSHI

RAGA: JAUNPURI

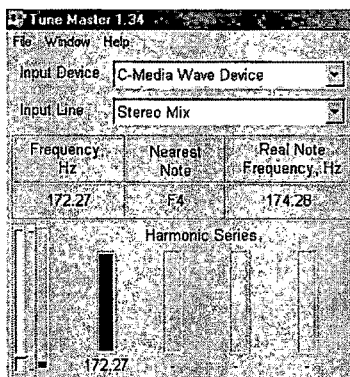
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	158.13	सा - रे	$\frac{163.52}{158.13}$	=1.034
रे	163.52	सा - ग्	$\frac{174.28}{158.13}$	=1.102
ग्	174.28	सा - म	$\frac{193.8}{158.13}$	=1.225
म	193.8	सा - प	$\frac{219.37}{158.13}$	=1.387
प	219.37	सा - ध्	$\frac{230.14}{158.13}$	=1.455
ध्	230.14	सा - न्नी	$\frac{260.42}{158.13}$	=1.646
न्नी	260.42	सा - सां	$\frac{290.7}{158.13}$	=1.838
सां	290.7			

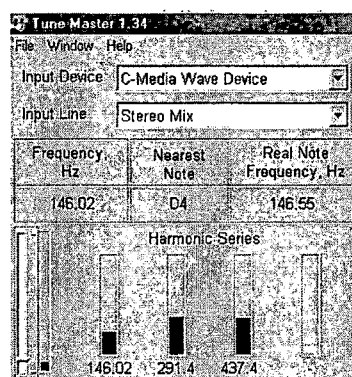
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग् सा - ध्	सा - रे सा - न्नी
सा - प	सा - म		
ग्-न्नी	रे-प		
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

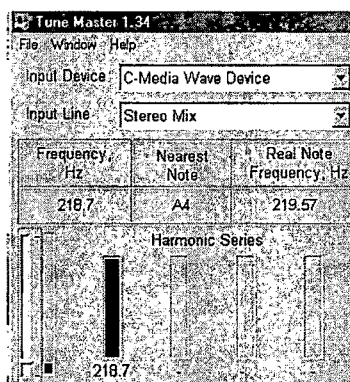
NAME OF THE ARTIST: PT.AJOY CHAKRABORTY
RAGA: JAUNPURI



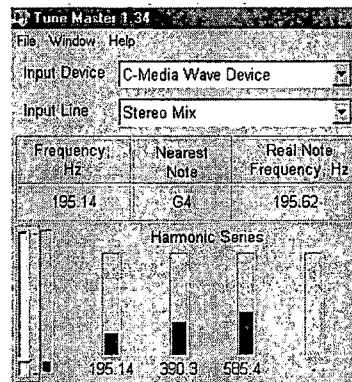
SWAR GA KOMAL



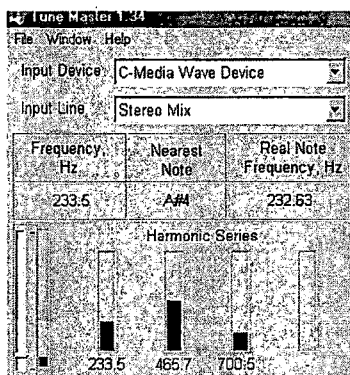
SWAR SA



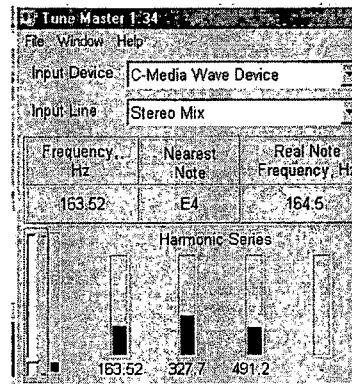
SWAR PA



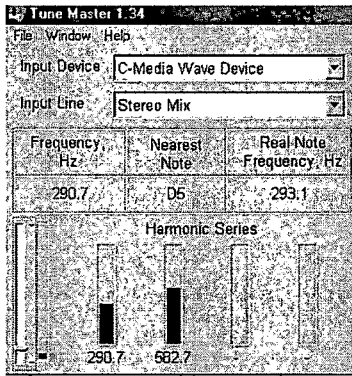
SWAR MA



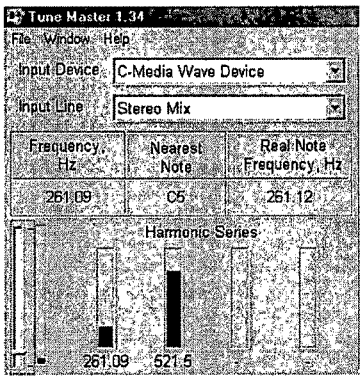
SWAR DHA KOMAL



SWAR RE



SWAR SA TAR



SWAR NI KOMAL

NAME OF THE ARTIST: PT.AJOY CHAKRABORTY
RAGA: JAUNPURI

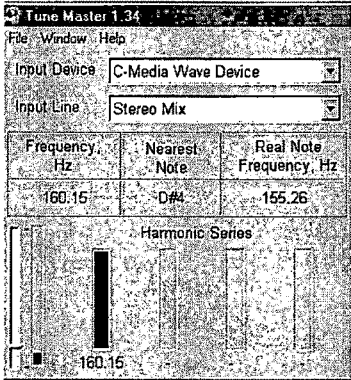
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	146.02	सा - रे	$\frac{163.52}{146.02}$	=1.119
रे	163.52	सा - ग्	$\frac{172.27}{146.02}$	=1.179
ग्	172.27	सा - म	$\frac{195.14}{146.02}$	=1.336
म	195.14	सा - प	$\frac{218.7}{146.02}$	=1.497
प	218.7	सा - ध्	$\frac{233.5}{146.02}$	=1.599
ध्	233.5	सा - न्नी	$\frac{261.09}{146.02}$	=1.788
न्नी	261.09	सा - सां	$\frac{290.7}{146.02}$	=1.990
सां	290.7			

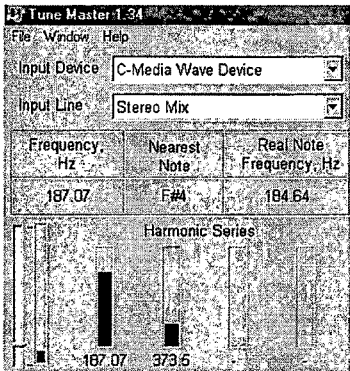
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
ग्-न्नी	रे-प	सा - ध्	सा - न्नी
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

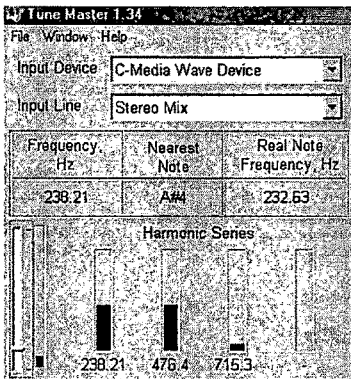
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: JAUNPURI



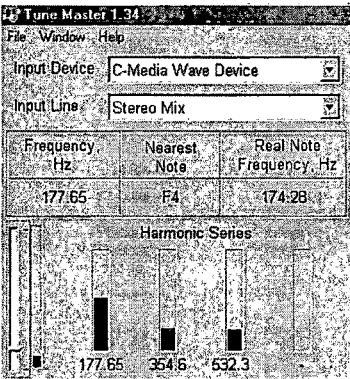
SWAR SA



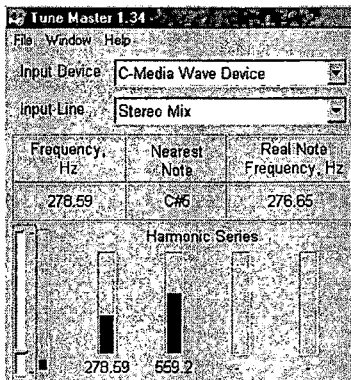
SWAR GA KOMAL



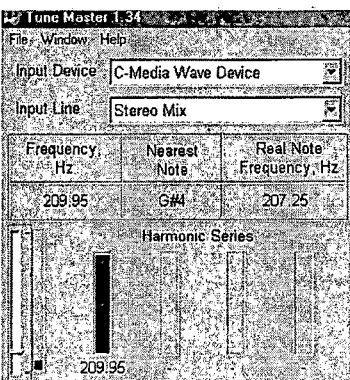
SWAR PA



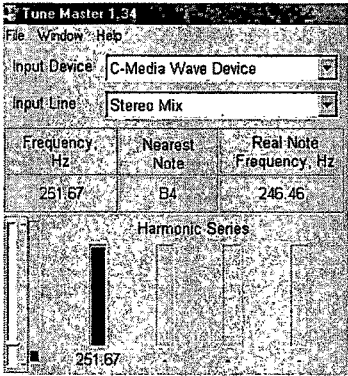
SWAR RE



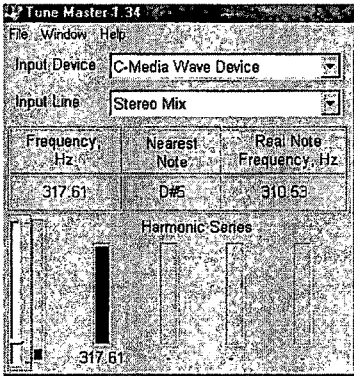
SWAR NI KOMAL



SWAR MA



SWAR DHA KOMAL



SWAR SA TAR

NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA

RAGA: JAUNPURI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	160.15	सा - रे	$\frac{177.65}{160.15}$	=1.109
रे	177.65	सा - ग्	$\frac{187.07}{160.15}$	=1.168
ग्	187.07	सा - म	$\frac{209.95}{160.15}$	=1.310
म	209.95	सा - प	$\frac{238.21}{160.15}$	=1.487
प	238.21	सा - ध्	$\frac{251.67}{160.15}$	=1.571
ध्	251.67	सा - न्नी	$\frac{278.59}{160.15}$	=1.739
न्नी	278.59	सा - सां	$\frac{317.61}{160.15}$	=1.983
सां	317.61			

CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
ग्-न्नी	रे-प	सा - ध्	सा - न्नी
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

Comparison of one Raga of different artiste with reference to their Interval

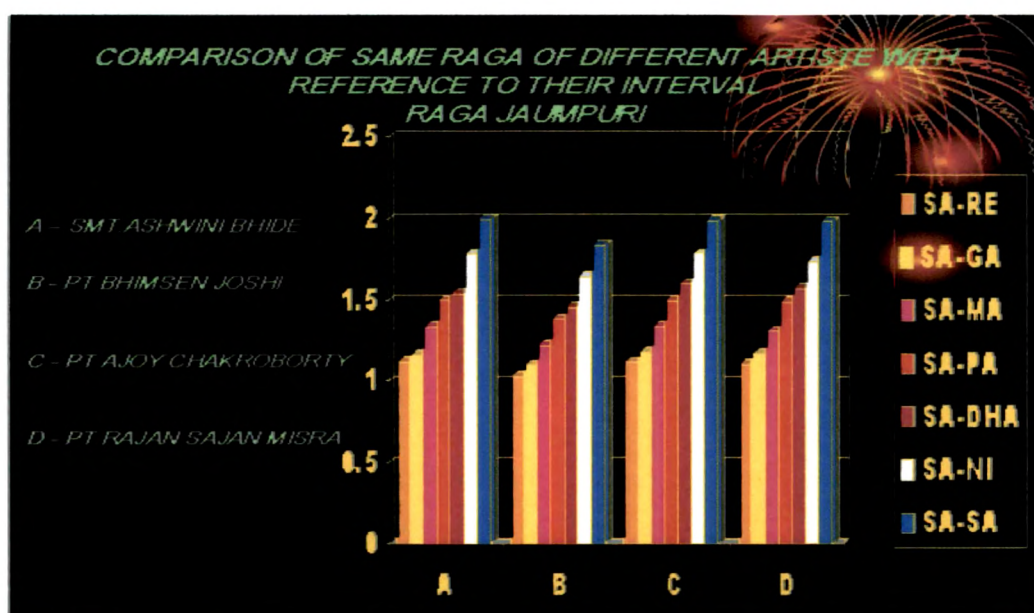
RAGA JAUNPURI

INTERVAL

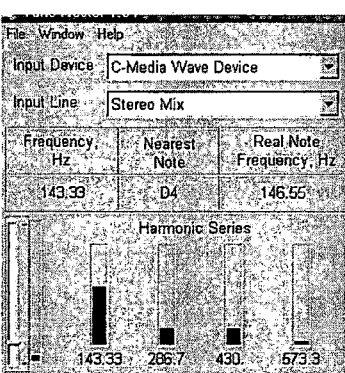
INTERVAL	Smt.Ashwini Bhide	PT.BHIMSEN JOSHI	PT.AJOY CHAKRABORTY	PT.BHIMSEN JOSHI	STANDARD VALUE
सा - रे	=1.123	=1.034	=1.119	=1.109	1.12753
सा - ग	=1.163	=1.102	=1.179	=1.168	1.19895
सा - म	=1.335	=1.225	=1.336	=1.310	1.33671
सा - प	=1.501	=1.387	=1.497	=1.487	1.50511
सा - ध	=1.538	=1.455	=1.599	=1.571	1.581
सा - नी	=1.785	=1.646	=1.788	=1.739	1.77549
सा - सां	=2.002	=1.838	=1.990	=1.983	2

Graphical representation of one Raga of different artiste with reference to their Interval

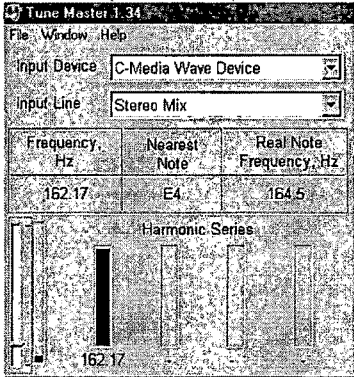
RAGA JAUNPURI



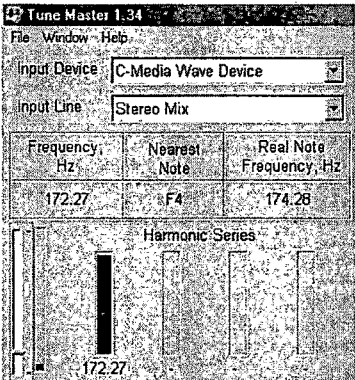
NAME OF THE ARTIST: PT.UMAKANT RAMAKNAT GUNDECHA
RAGA: DARBARI KANADA



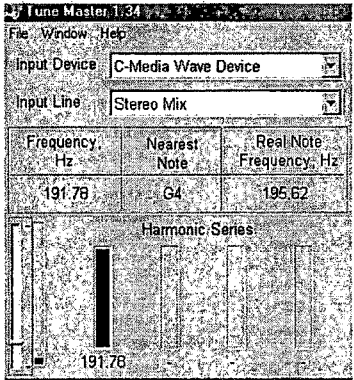
SWAR SA



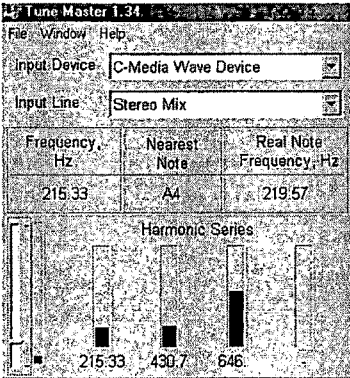
SWAR RE



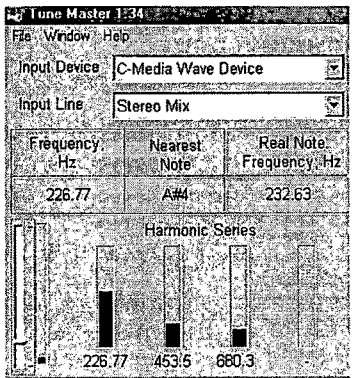
SWAR GA KOMAL



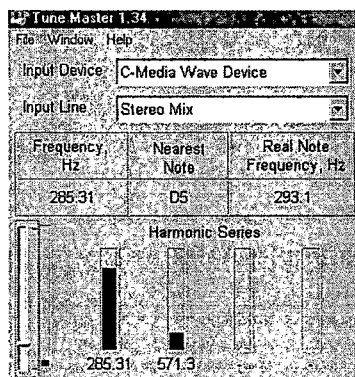
SWAR MA



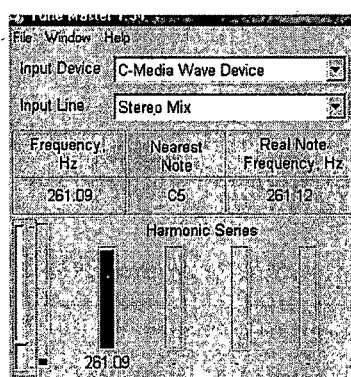
SWAR PA



SWAR DHA KOMAL



SWAR SA TAR



SWAR NI KOMAL

NAME OF THE ARTIST: PT.UMAKANT RAMAKNAT GUNDECHA

RAGA: DARBARI KANADA

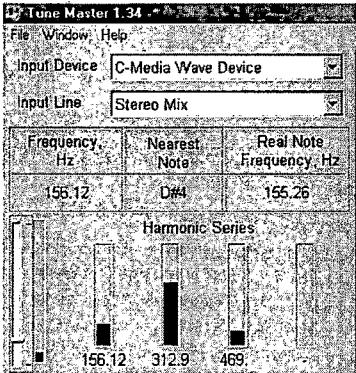
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	143.33	सा - रे	$\frac{162.17}{143.33}$	=1.131
रे	162.17	सा - ग्	$\frac{172.27}{143.33}$	=1.201
ग्	172.27	सा - म	$\frac{191.78}{143.33}$	=1.338
म	191.78	सा - प	$\frac{215.33}{143.33}$	=1.502
प	215.33	सा - ध्	$\frac{226.77}{143.33}$	=1.582
ध्	226.77	सा - नी	$\frac{261.09}{143.33}$	=1.821
नी	261.09	सा - सां	$\frac{285.31}{143.33}$	=1.990
सां	285.31			

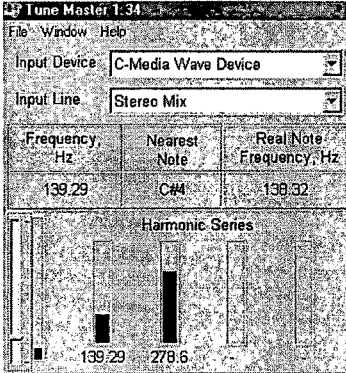
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म		
ग्-नी	रे-प	सा - ध्	सा - नी
म-सां	ग्-ध्		
	म-नी		
	प-सां		

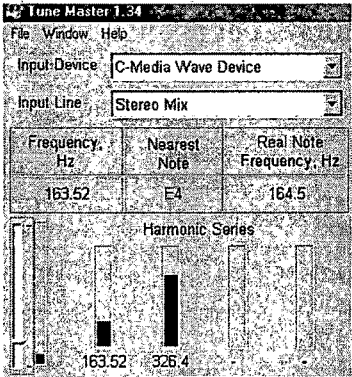
NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: DARBARI KANADA



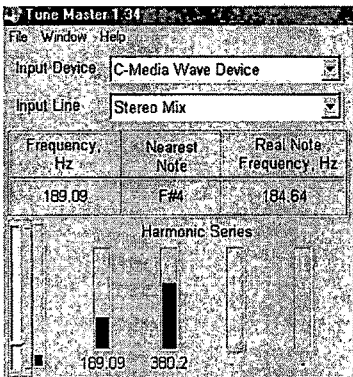
SWAR RE



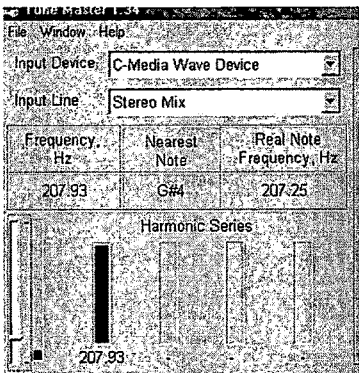
SWAR SA



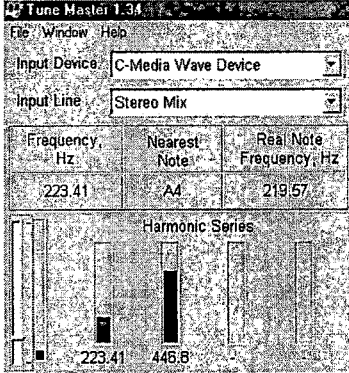
SWAR GA KOMAL



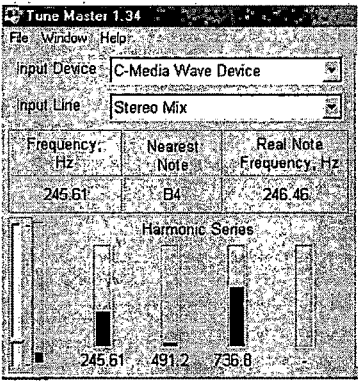
SWAR MA



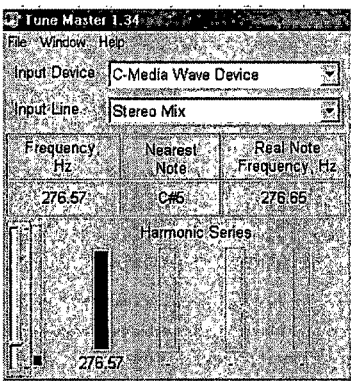
SWAR PA



SWAR DHA KOMAL



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: DARBARI KANADA

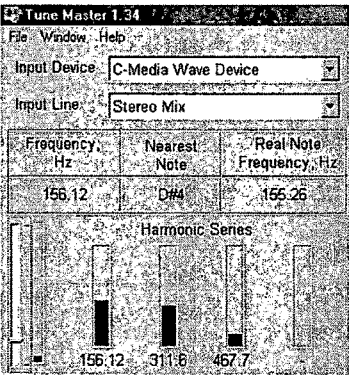
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	139.29	सा - रे	$\frac{156.12}{139.29}$	=1.120
रे	156.12	सा - ग्	$\frac{163.52}{139.29}$	=1.173
ग्	163.52	सा - म	$\frac{189.09}{139.29}$	=1.357
म	189.09	सा - प	$\frac{207.93}{139.29}$	=1.492
प	207.93	सा - ध्	$\frac{223.41}{139.29}$	=1.603
ध्	223.41	सा - न्नी	$\frac{245.61}{139.29}$	=1.763
न्नी	245.61	सा - सां	$\frac{276.57}{139.29}$	=1.985
सां	276.57			

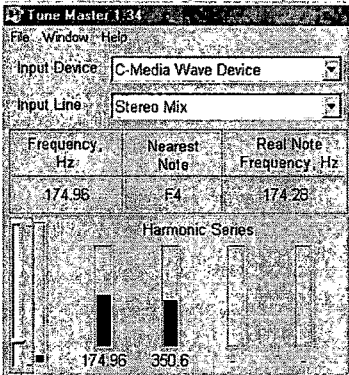
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग् सा - ध्	सा - रे सा - न्नी
सा - प	सा - म		
ग्-न्नी	रे-प		
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

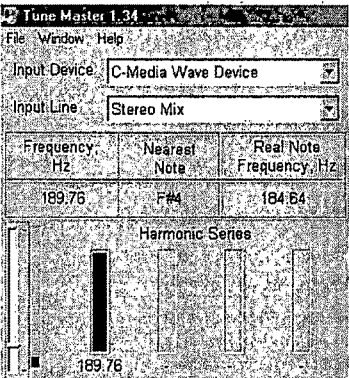
NAME OF THE ARTIST: PT.ULHAS KASHALKAR
RAGA: DARBARI KANADA



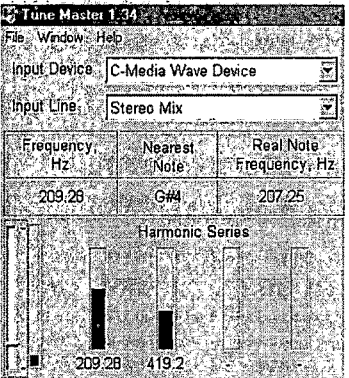
SWAR SA



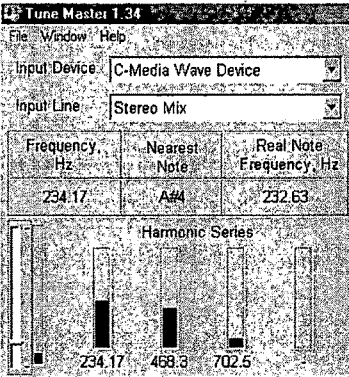
SWAR RE



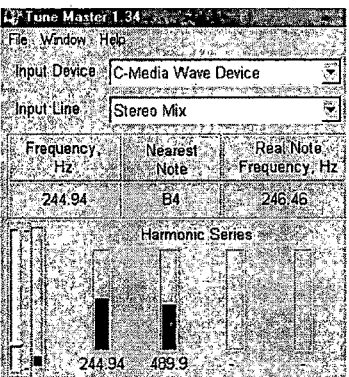
SWAR GA KOMAL



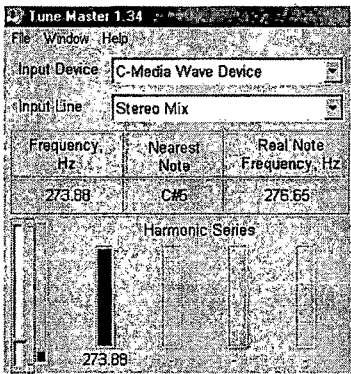
SWAR MA



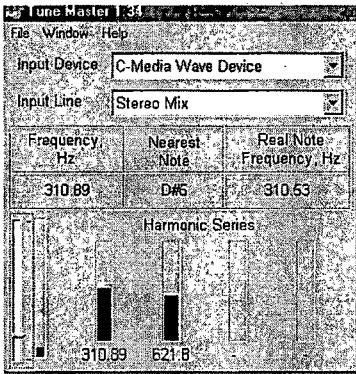
SWAR PA



SWAR DHA KOMAL



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTIST: PT.ULHAS KASHALKAR
RAGA: DARBARI KANADA

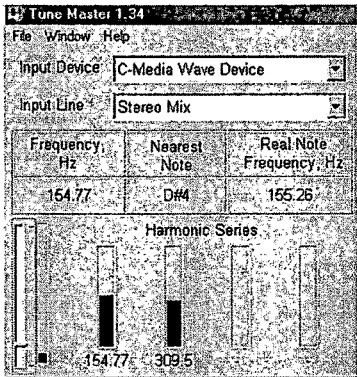
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	156.12	सा - रे	$\frac{174.96}{156.12}$	=1.120
रे	174.96	सा - ग्	$\frac{189.76}{156.12}$	=1.215
ग्	189.76	सा - म	$\frac{209.28}{156.12}$	=1.340
म	209.28	सा - प	$\frac{234.17}{156.12}$	=1.499
प	234.17	सा - ध्	$\frac{244.94}{156.12}$	=1.568
ध्	244.94	सा - न्नी	$\frac{273.88}{156.12}$	=1.754
न्नी	273.88	सा - सां	$\frac{310.89}{156.12}$	=1.991
सां	310.89			

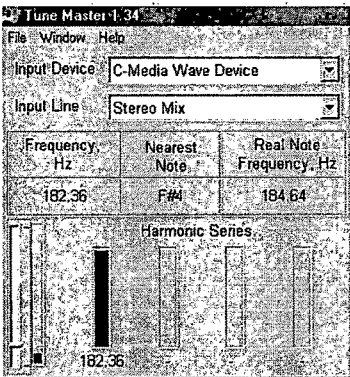
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग्	सा - रे
सा - प	सा - म	सा - ध्	सा - न्नी
ग्-न्नी	रे-प		
म-सां	ग्-ध्		
	म-न्नी		
	प-सां		

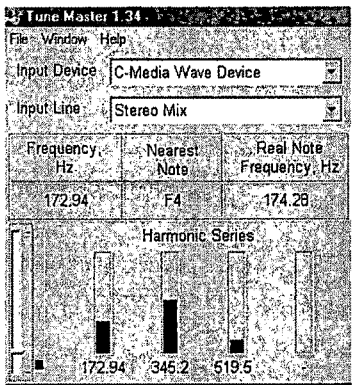
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: DARBARI KANADA



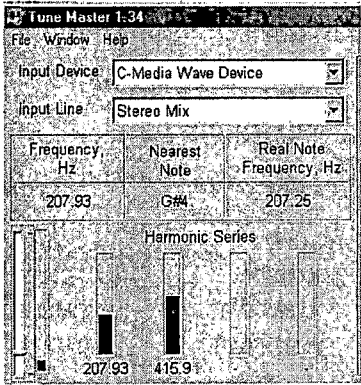
SWAR SA



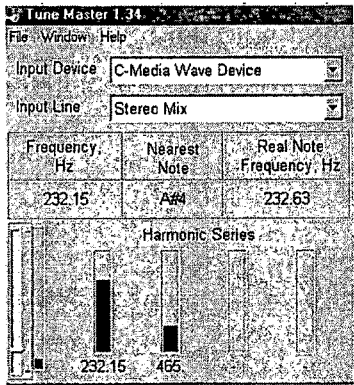
SWAR GA KOMAL



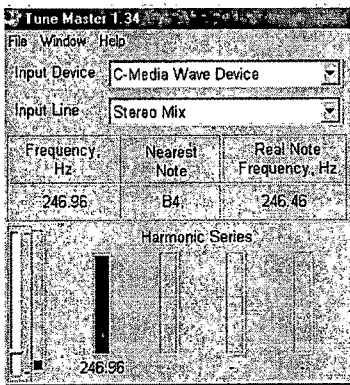
SWAR RE



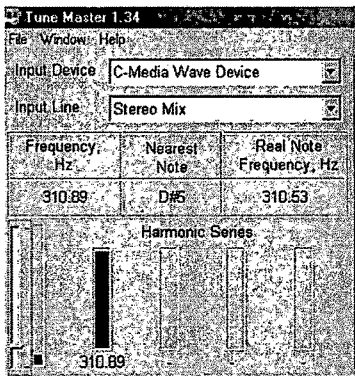
SWAR MA



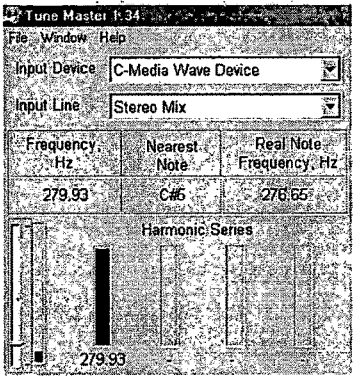
SWAR PA



SWAR DHA KOMAL



SWAR SA TAR



SWAR NI KOMAL

NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: DARBARI KANADA

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	154.77	सा - रे	$\frac{172.94}{154.77}$	=1.117
रे	172.94	सा - ग्	$\frac{182.36}{154.77}$	=1.178
ग्	182.36	सा - म	$\frac{207.93}{154.77}$	=1.343
म	207.93	सा - प	$\frac{232.15}{154.77}$	=1.499
प	232.15	सा - ध्	$\frac{246.96}{154.77}$	=1.595
ध्	246.96	सा - नी	$\frac{279.93}{154.77}$	=1.808
नी	279.93	सा - सां	$\frac{310.89}{154.77}$	=2.008
सां	310.89			

CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग् सा-ध्	सा - रे
सा - प	सा - म		
ग्-नी	रे-प		सा - नी
म-सां	ग्-ध्		
	म-नी		
	प-सां		

Comparison of one Raga of different artiste with reference to their Interval

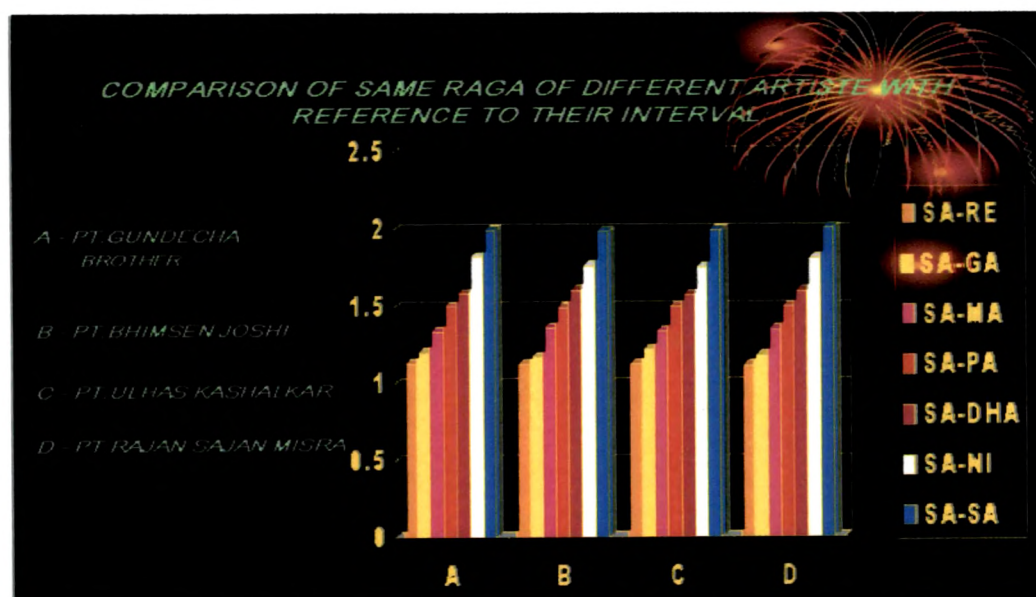
RAGA DARBARI KANADA

INTERVAL

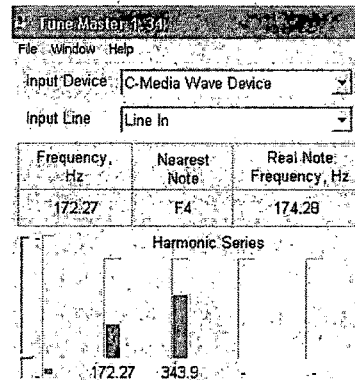
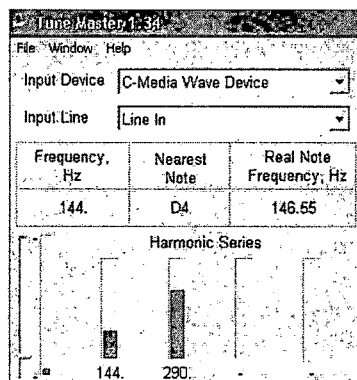
INTERVAL	PT.UMAKANT RAMAKANT GUNDECHA	PT.BHIMSEN JOSHI	PT.ULHAS KASHALKER	PT.RAJAN SAJAN MISRA	STANDARD VALUE
सा - रे	=1.131	=1.120	=1.120	=1.117	1.12753
सा - ग्	=1.201	=1.173	=1.215	=1.178	1.19895
सा - म	=1.338	=1.357	=1.340	=1.343	1.33671
सा - प	=1.502	=1.492	=1.499	=1.499	1.50511
सा - ध्	=1.582	=1.603	=1.568	=1.595	1.581
सा - नी	=1.821	=1.763	=1.754	=1.808	1.77549
सा - सां	=1.990	=1.985	=1.991	=2.008	2

Graphical representation of one Raga of different artiste with reference to their Interval

RAGA DARBARI KANADA

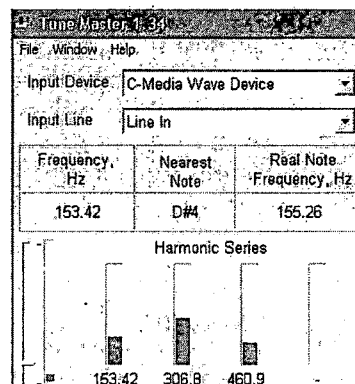
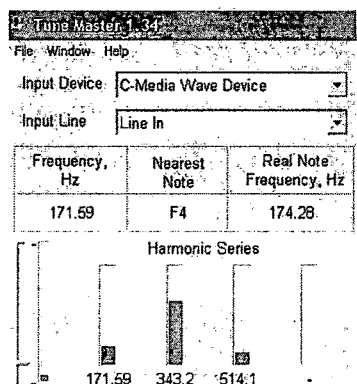


ARTIST:PT BHIMSEN JOSHI
RAGA MIYA KI TODI



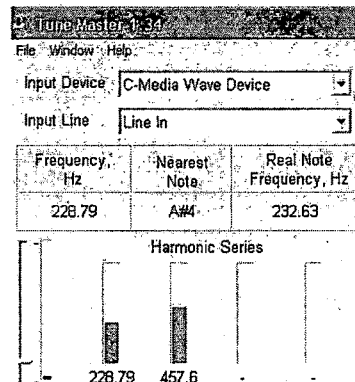
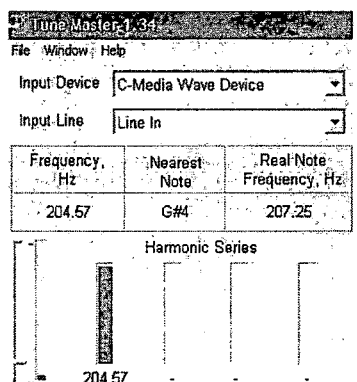
SWAR SA

SWAR GA KOMAL



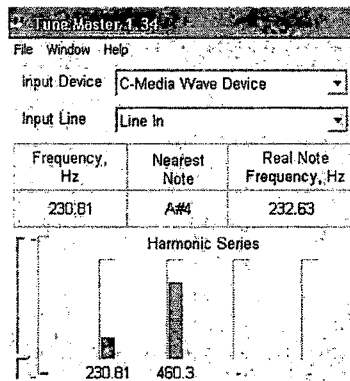
SWAR GA KOMAL

SWAR RE KOMAL

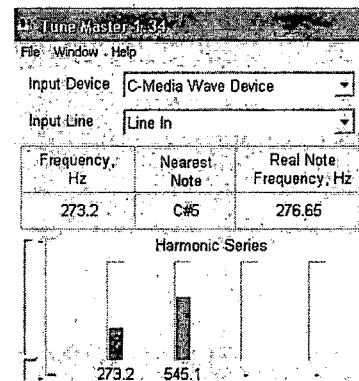


SWAR MA TIVRA

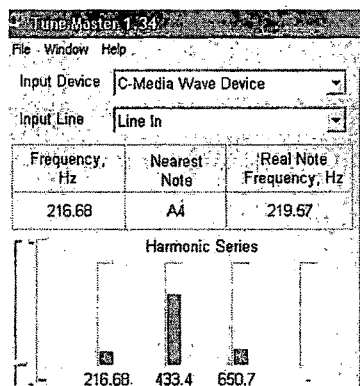
SWAR DHA KOMAL



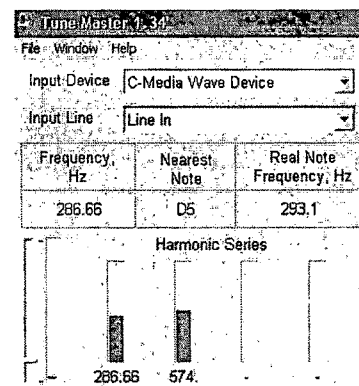
SWAR DHA KOMAL



SWAR NI



SWAR PA



SWAR SA TAR

NAME OF THE ARTIST: PT.BHIMSEN JOSHI

RAGA: MIYA KI TODI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

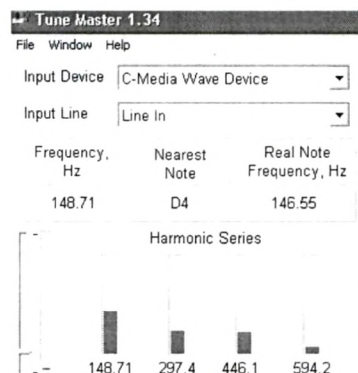
NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	144	सा - रे	$\frac{153.42}{144}$	=1.065
रे	153.42	सा - ग्	$\frac{171.59}{144}$	=1.191
ग्	171.59	सा - म	$\frac{204.57}{144}$	=1.420
म	204.57	सा - प	$\frac{216.68}{144}$	=1.504
प	216.68	सा - ध	$\frac{228.79}{144}$	=1.588
ध	228.79	सा - नी	$\frac{273.2}{144}$	=1.897
नी	273.2	सा - सां	$\frac{286.66}{144}$	=1.990
सां	286.66			

CONSONANCE & DISSONANCE IN THIS RAGA

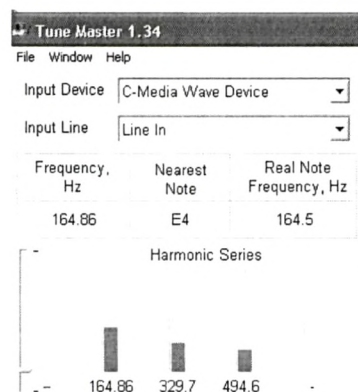
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग् सा-ध	सा- रे सा- म
सा-प	रे-म		
रे-ध	ग्-ध		
	म-नी		
	प-सां		



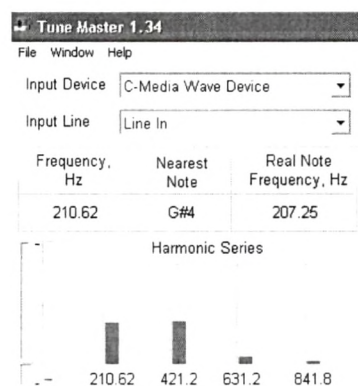
ARTIST: USTAD RASHID KHAN RAGA MIYA KI TODI



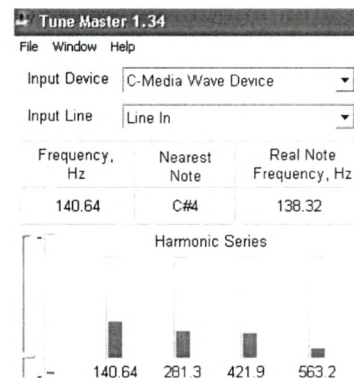
SWAR RE KOMAL



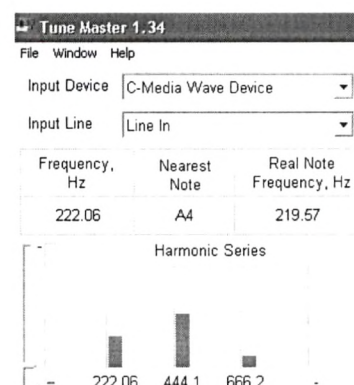
SWAR GA KOMAL



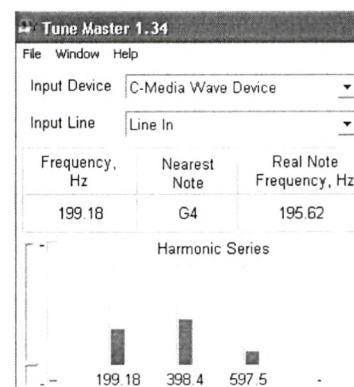
SWAR PA



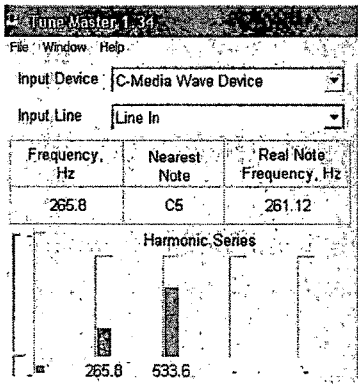
SWAR SA



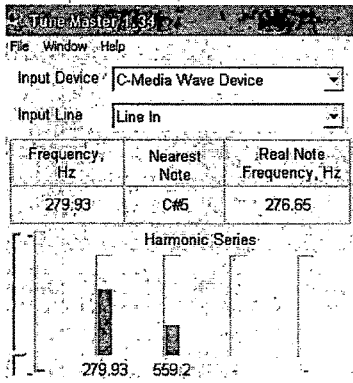
SWAR DHA KOMAL



SWAR MA TIVRA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST: USTAD RASHID KHAN

RAGA: MIYA KI TODI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	140.64	सा - रे	$\frac{148.71}{140.64}$	=1.057
रे	148.71	सा - ग्	$\frac{164.86}{140.64}$	=1.172
ग्	164.86	सा - म	$\frac{199.18}{140.64}$	=1.416
म	199.18	सा - प	$\frac{210.62}{140.64}$	=1.497
प	210.62	सा - ध्	$\frac{222.06}{140.64}$	=1.578
ध्	222.06	सा - नी	$\frac{265.8}{140.64}$	=1.889
नी	265.8	सा - सां	$\frac{279.93}{140.64}$	=1.990
सां	279.93			

CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE:
FIFTH	FOURTH	सा-ग् सा-ध्	सा- रे सा- म
सा - प	रे-म		
रे-ध्	ग्-ध्		
	म-नी		
	प-सां		

Comparison of one Raga of different artiste with reference to their Interval

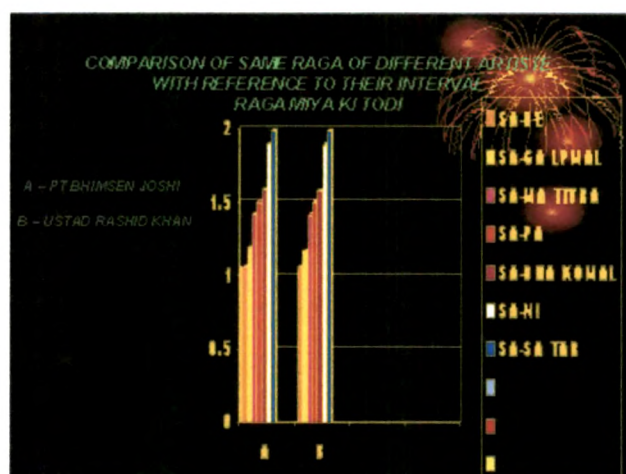
RAGA MIYA KI TODI

INTERVAL

INTERVAL	PT.BHIMSEN JOSHI	USTAD RASHID KHAN	STANDARD VALUE
सा - रे	=1.065	=1.057	1.051
सा - ग	=1.191	=1.172	1.198
सा - म	=1.420	=1.416	1.336
सा - प	=1.504	=1.497	1.505
सा - ध	=1.588	=1.578	1.581
सा - नी	=1.897	=1.889	1.882
सा - सां	=1.990	=1.990	2

Graphical representation of one Raga of different artiste with reference to their Interval

RAGA MIYA KI TODI



Observation

In my analysis of ragas I have taken one raga sung by different artistes. In th raga Bageshree there is a difference in all intervals of two artistes but major difference seems in the interval of Sa-ga komal.

In the raga Jaunpuri there is a major difference in all intervals of Pt.Bhimsen Joshi compared with other three artistes. Besides this there is a difference in all intervals of other three artistes.

In the raga Darbari Kanada there is a difference in all intervals but major difference seems in the interval of Sa-ga komal, sa-dha komal & sa-ni komal of all four artistes.

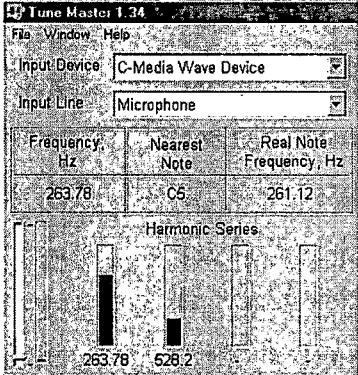
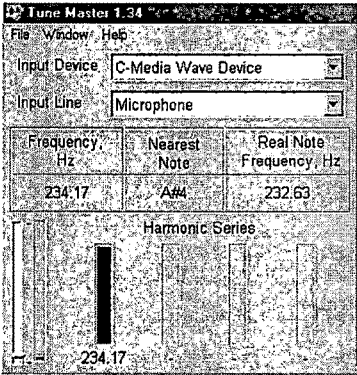
In the raga Miya ki Todi there is a major difference in interval of Sa-ga komal, other interval have minute difference.

From the above observations I can say that there is a difference in the frequency of swar of same raga sung/played by different artistes.

ANALYSIS: DIFFERENT RAGA SUNG/PLAYED BY DIFFERENT ARTISTE

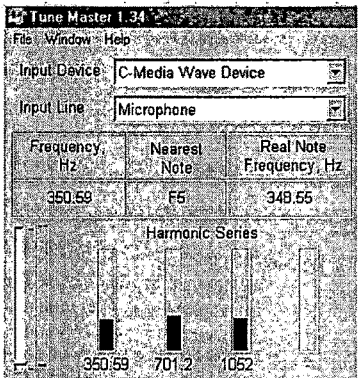
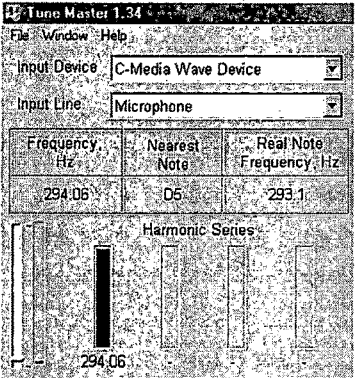
NO	Name of the Raga	Name of the Artiste
1	BHUPALI	SMT.ASHWINI Bhide
2	SHUDDHA KALYAN	PT.BHIMSEN JOSHI
3	BRINDABANI SARANG	PT.BHIMSEN JOSHI
4	MADHMAAD SARANG	PT.GUNDECHA BROTHERS
5	GAVATI	PT.RAJAN SAJAN MISRA
6	BHIMPALASI	PANDIT JASRAJ
7	PATDEEP	PT.BHIMSEN JOSHI
8	GORAKH KALYAN	PT.RAJAN SAJAN MISRA
9	DURGA	PT.BHIMSEN JOSHI
10	JOG	PT.HARIPRASAD CHAURASIA (FLUTE)
11	JOGKAUNS	USTAD RASHID KHAN
12	POORVI	SHRI SANJEEV ABHYANKER
13	PURIYA DHANASHRI	USTAD RASHID KHAN
14	MIYA MALHAR	SMT.AARTI ANKLIKER
15	GAUD MLAHAR	SMT.ASHWINI Bhide
16	MARUBIHAG	PT.RAJAN SAJAN MISRA
17	BIHAG	SMT.ASHWINI Bhide
18	PURIYA KALYAN	PT.HARIPRASAD CHAURASIA (FLUTE)
19	YAMAN KALYAN	USTAD SHAID PARVEZ (SITAR)
20	SHYAM KALYAN	PT.VISHWA MOHAN BHATT (GUITAR)
21	YAMAN	PT.RAJAN SAJAN MISRA

NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: BHUPALI



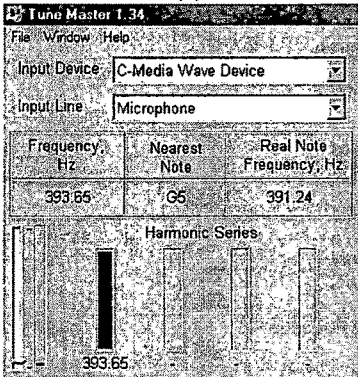
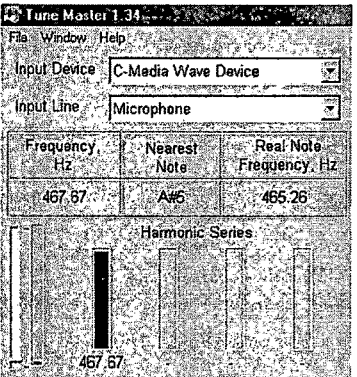
SWAR SA

SWAR RE



SWAR GA

SWAR PA



SWAR SA TAR

SWAR DHA

NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: BHUPALI

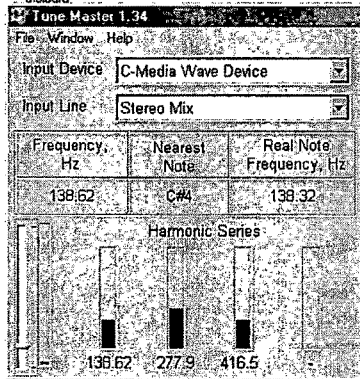
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	234.17	सा-रे	$\frac{263.78}{234.17}$	=1.126
रे	263.78	सा-ग	$\frac{294.06}{234.17}$	=1.255
ग	294.06	सा-प	$\frac{350.59}{234.17}$	=1.497
प	350.59	सा-ध	$\frac{393.65}{234.17}$	=1.681
ध	393.65	सा-सां	$\frac{467.67}{234.17}$	=1.997
सां	467.67			

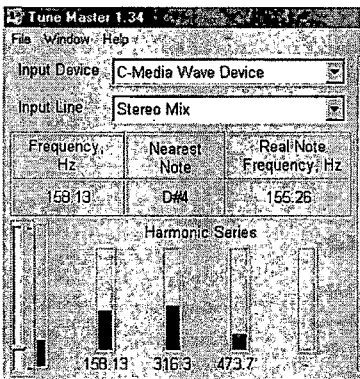
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	ग-ध		
रे-ध	प-सां		

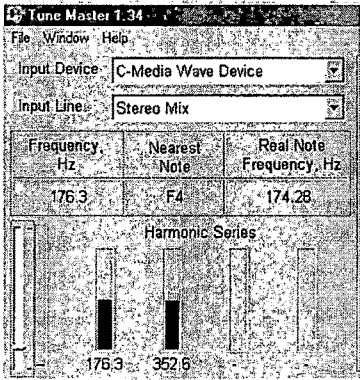
NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: SHUDDHA KALYAN



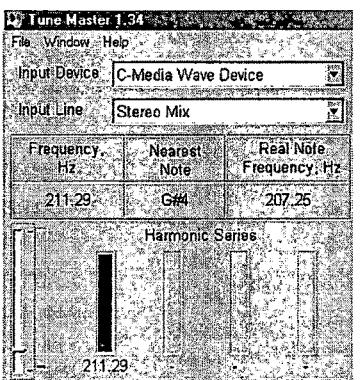
SWAR SA



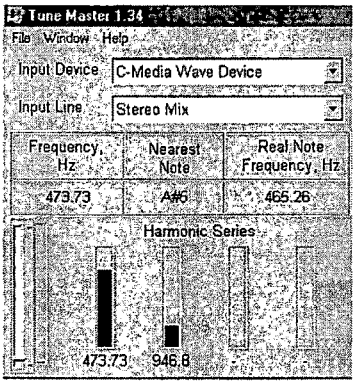
SWAR RE



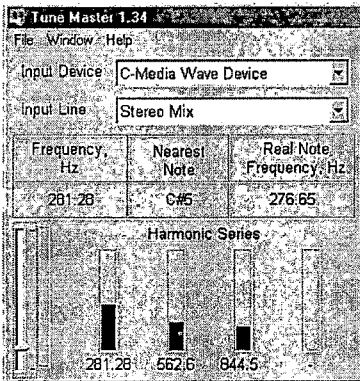
SWAR GA



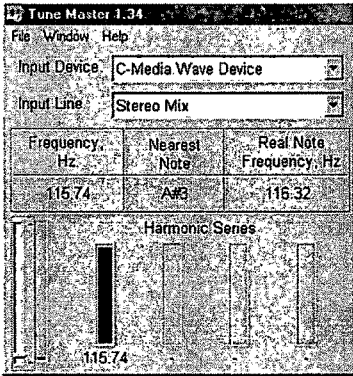
SWAR PA



SWAR DHA



SWAR SA TAR



SWAR DHA MANDRA

NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: SHUDDHA KALYAN

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	138.62	सा-रे	$\frac{158.13}{138.62}$	=1.140
रे	158.13	सा-ग	$\frac{176.3}{138.62}$	=1.271
ग	176.3	सा-घ	$\frac{211.29}{138.62}$	=1.524
घ	211.29	सा-ध	$\frac{473.73}{138.62}$	=1.706
ध	473.73	सा-सां	$\frac{281.28}{138.62}$	=2.029
सां	281.28			

CONSONANCE & DISSONANCE IN THIS RAGA

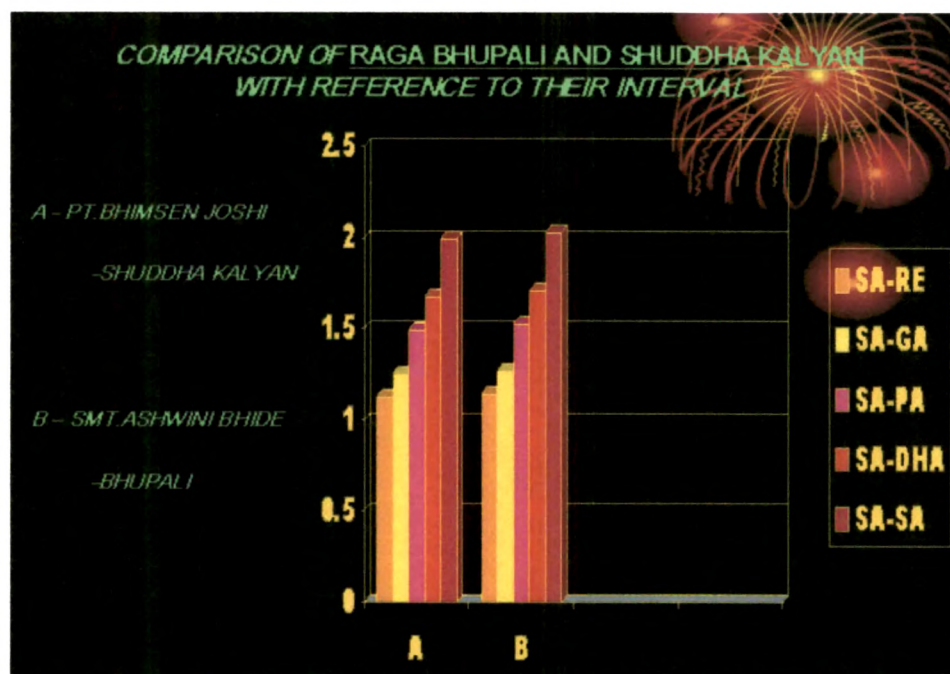
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-घ	ग-ध		
रे-ध	घ-सां		

Comparison of different Raga of different artiste with reference to their Interval

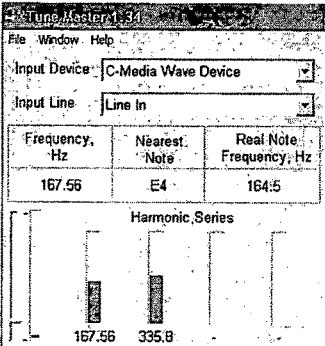
INTERVAL

INTERVAL	RAGA SHUDDHA KALYAN	RAGA BHUPALI	STANDARD VALUE
सा - रे	=1.140	=1.126	1.127
सा - ग	=1.271	=1.255	1.255
सा - प	=1.524	=1.497	1.505
सा - ध	=1.706	=1.681	1.663
सा - सां	=2.029	=1.997	2

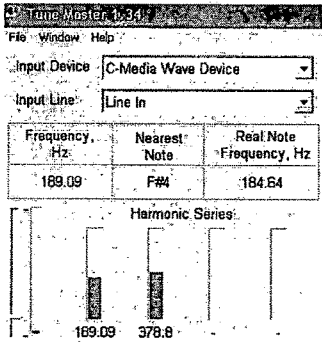
Graphical representation of different Raga of different artiste with reference to their Interval



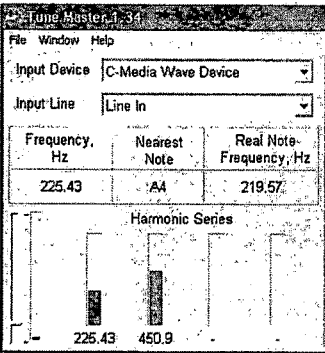
NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: BRINDIABANI SARANG



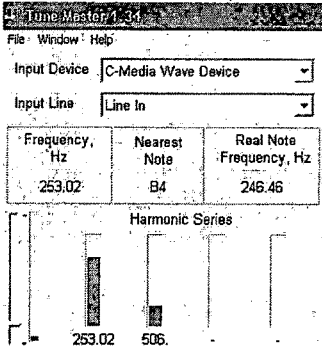
SWAR SA



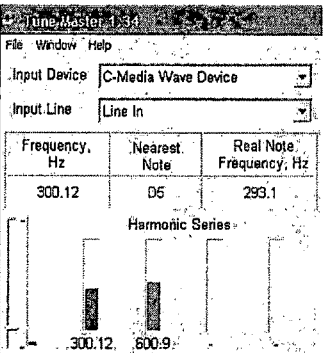
SWAR RE



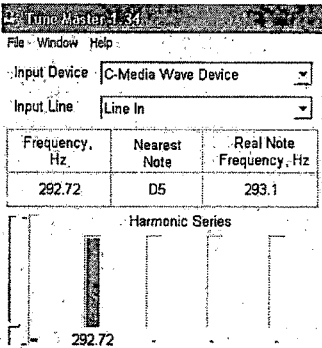
SWAR MA



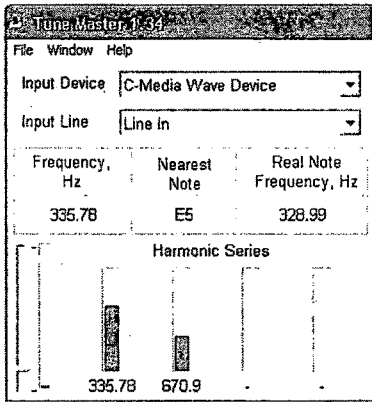
SWAR PA



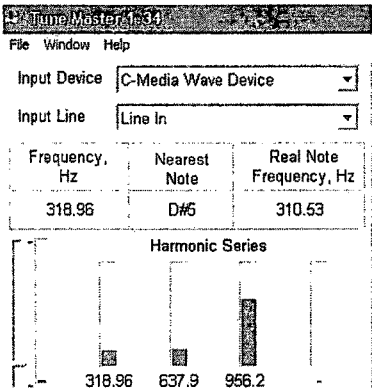
SWAR NI KOMAL



SWAR NI KOMAL



SWAR SA TAR



SWAR NI

NAME OF THE ARTIST: PT.BHIMSEN JOSHI

RAGA: BRINDABANI SARANG

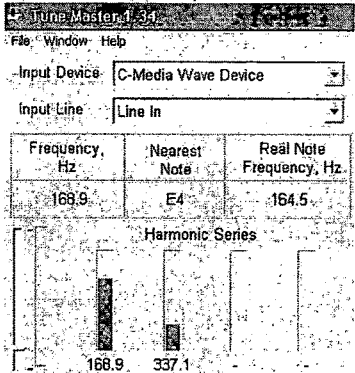
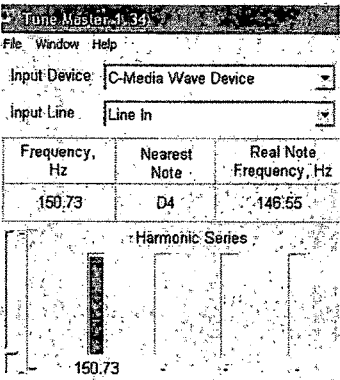
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	167.56	सा-रे	$\frac{189.09}{167.56}$	=1.128
रे	189.09	सा-म	$\frac{225.43}{167.56}$	=1.345
म	225.43	सा-प	$\frac{253.02}{167.56}$	=1.510
प	253.02	सा-नी	$\frac{292.72}{167.56}$	=1.746
नी	292.72	सा-नी	$\frac{318.96}{167.56}$	=1.903
नी	318.96	सा-सां	$\frac{335.78}{167.56}$	=2.003
सां	335.78			

CONSONANCE & DISSONANCE IN THIS RAGA

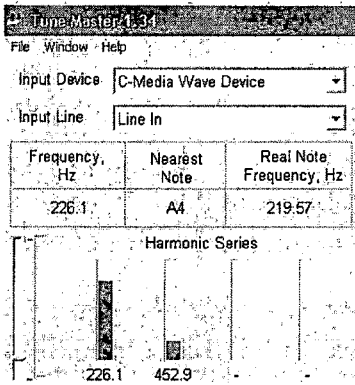
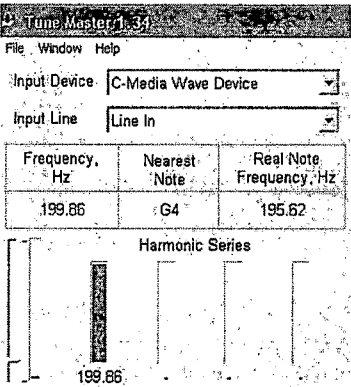
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH		सा - रे
सा-प	सा-म		सा - नी
म-सां	रे-प		
	म-नी		
	प-सां		

NAME OF THE ARTIST: PT.GUNDECHA BANDHU
RAGA: MADHMAAD SARANG



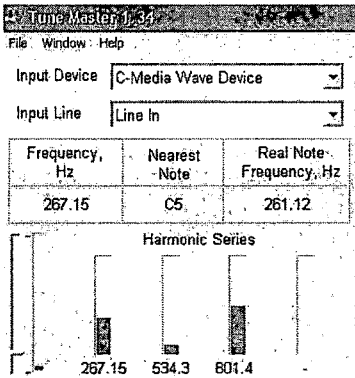
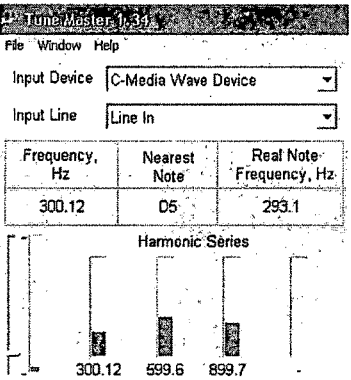
SWAR SA

SWAR RE



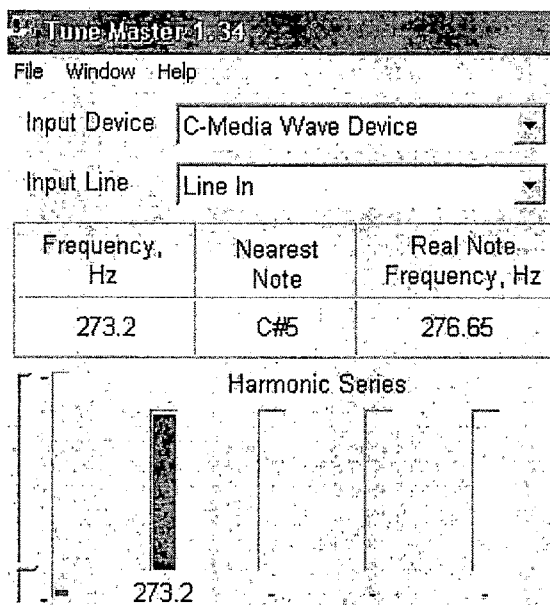
SWAR MA

SWAR PA



SWAR SA TAR

SWAR NI KOMAL



SWAR KOMAL NI

Note: Komal ni is higher and giving shuddha ni note

NAME OF THE ARTIST: PT.GUNDECHA BANDHU

RAGA: MADHMAAD SARANG

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	150.73	सा-रे	$\frac{168.9}{150.73}$	=1.120
रे	168.9	सा-म	$\frac{199.86}{150.73}$	=1.325
म	199.86	सा-प	$\frac{226.1}{150.73}$	=1.500
प	226.1	सा-नी	$\frac{267.15}{150.73}$	=1.772
नी	267.15	सा-सां	$\frac{300.12}{150.73}$	=1.991
सां	300.12			

CONSONANCE & DISSONANCE IN THIS RAGA

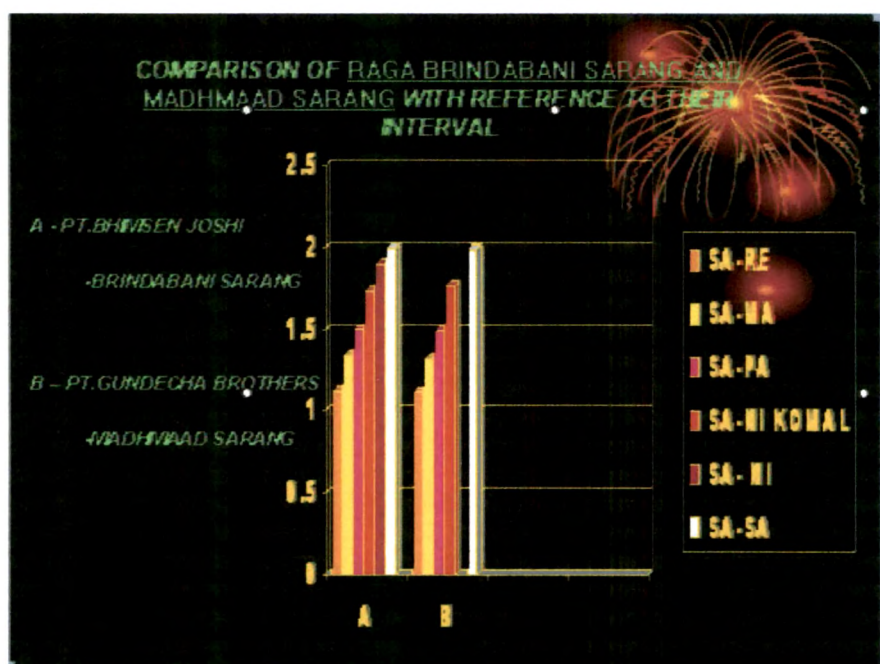
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	-	सा - रे
सा-प	सा-म		
म-सां	रे-प		सा - नी
	म-नी		
	प-सां		

Comparison of different Raga of different artiste with reference to their Interval

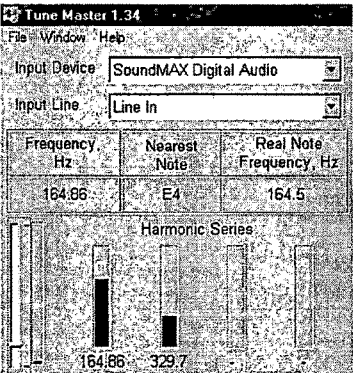
INTERVAL

INTERVAL	RAGA BRINDABA NI SARANG	RAGA MADHMAAD SARANG	STANDARD VALUE
सा- रे	=1.128	=1.120	1.127
सा-म	=1.345	=1.325	1.336
सा- प	=1.510	=1.500	1.505
सा- नी	=1.746	=1.772	1.775
सा- नी	=1.903		1.882
सा- सां	=2.003	=1.991	2

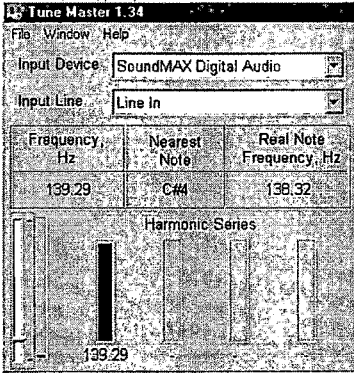
Graphical representation of different Raga of different artiste with reference to their Interval



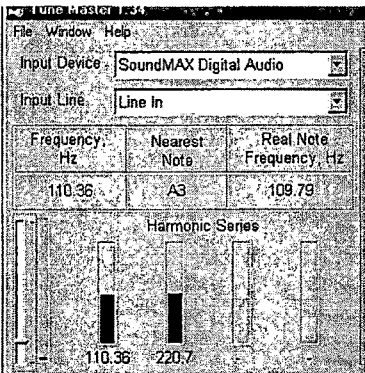
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: GAVATI



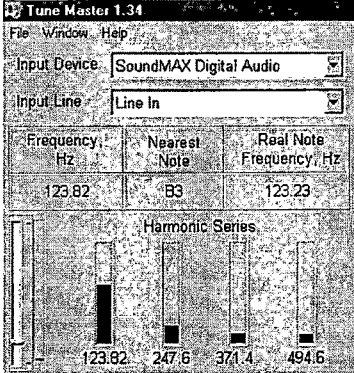
SWAR SA



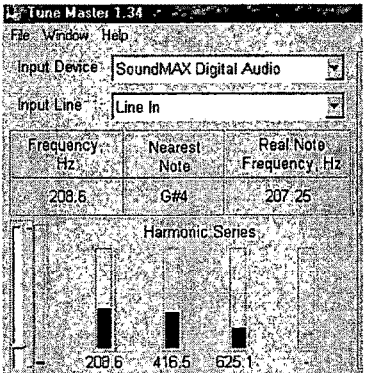
SWAR DHA (MANDRA)



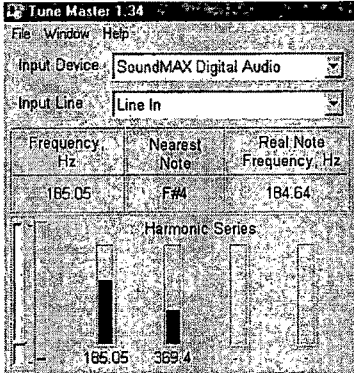
SWAR MA Tivra(MANDRA)



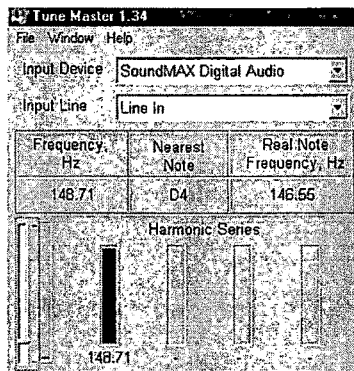
SWAR PA (MANDRA)



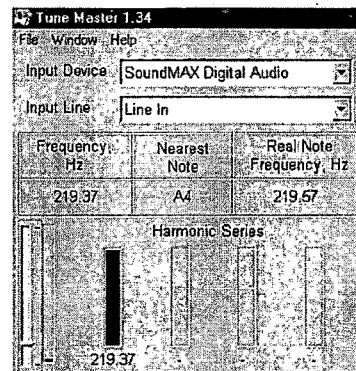
SWAR GA



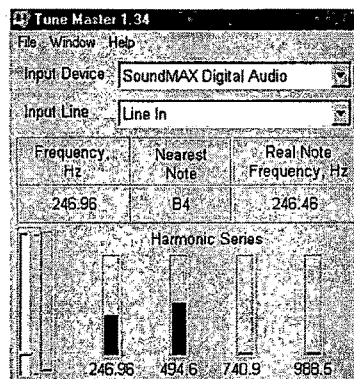
SWAR RE



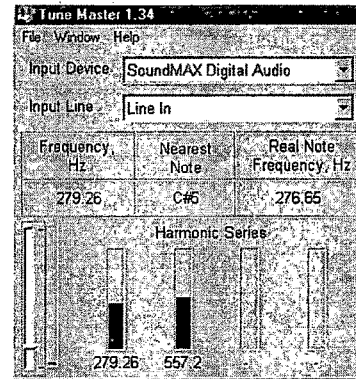
SWAR NI KOMAL (MANDRA)



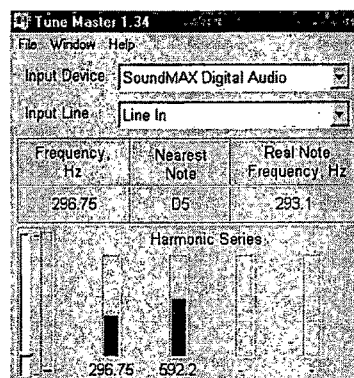
SWAR MA



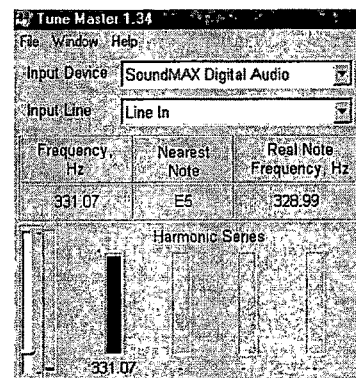
SWAR PA



SWAR : DHA



SWAR NI KOMAL



SWAR SA(TAR)

NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: GAVATI

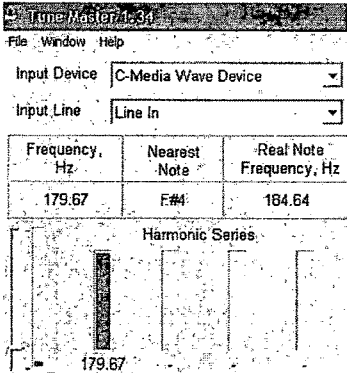
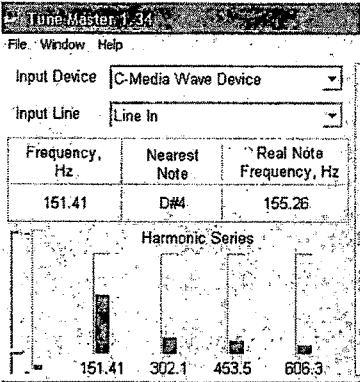
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	164.86	सा- रे	$\frac{185.05}{164.86}$	=1.122
रे	185.05	सा- ग	$\frac{208.60}{164.86}$	=1.265
ग	208.6	सा- म	$\frac{219.37}{164.86}$	=1.330
म	219.37	सा- प	$\frac{246.96}{164.86}$	=1.497
प	246.96	सा- ध	$\frac{279.26}{164.86}$	=1.693
ध	279.26	सा- नी	$\frac{296.95}{164.86}$	=1.801
नी	296.95	सा- सां	$\frac{331.07}{164.86}$	=2.008
सां	331.07			

CONSONANCE & DISSONANCE IN THIS RAGA

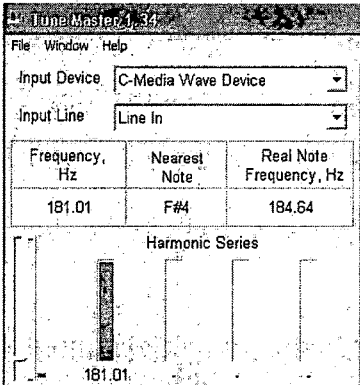
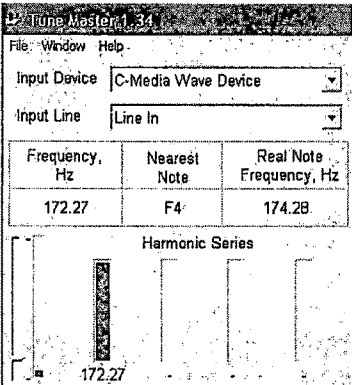
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE: ,
FIFTH	FOURTH	सा- ग	सा- रे
सा- प	सा- म		सा- नी
रे- ध	रे- प		
म- सां	ग- ध		
	म- नी		
	प- सां		

NAME OF THE ARTIST: PANDIT JASRAJ
RAGA: BHIMPALASI



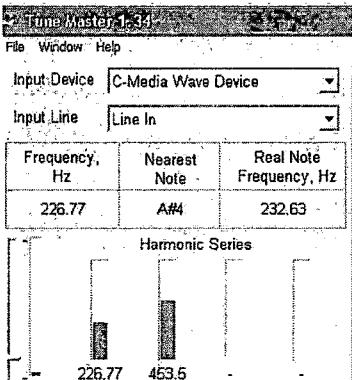
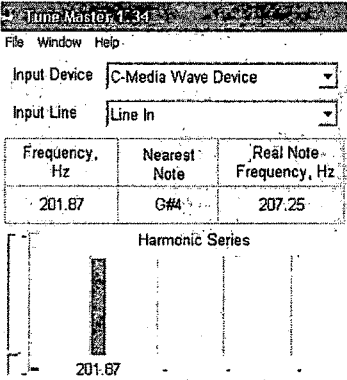
SWAR SA

SWAR GA KOMAL



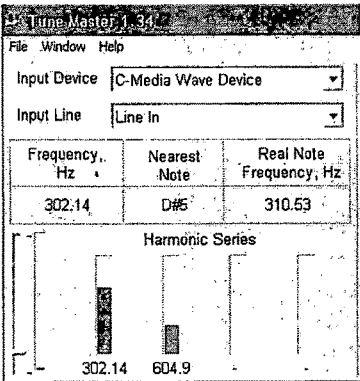
SWAR RE

SWAR GA KOMAL

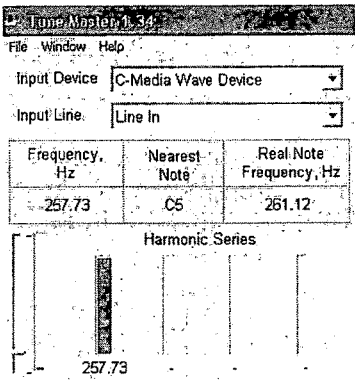


SWAR MA

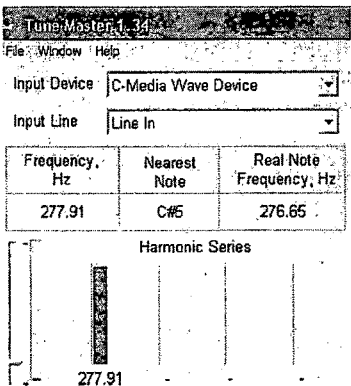
SWAR PA



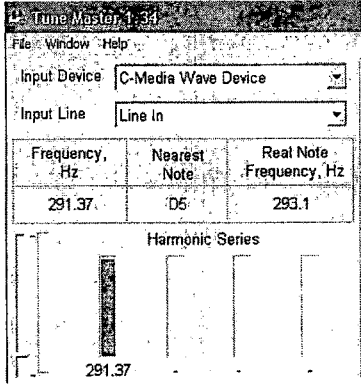
SWAR SA TAR



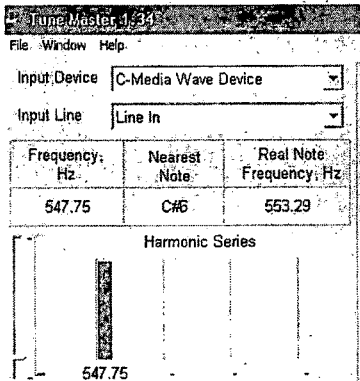
SWAR DHA



SWAR NI KOMAL



SWAR NI KOMAL



SWAR NI KOMAL ON VIOLIN

NOTE: Swar ni Komal Producing shuddha ni in aaroh

NAME OF THE ARTIST: PANDIT JASRAJ

RAGA: BHIMPALASI

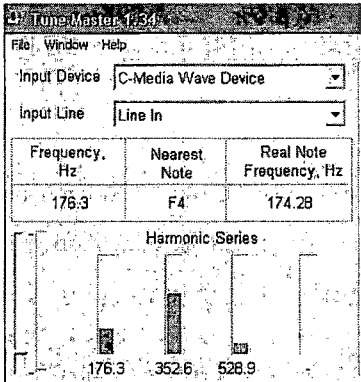
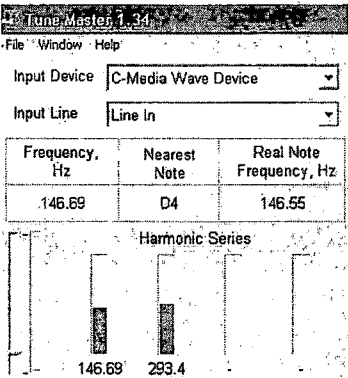
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	151.41	सा-रे	$\frac{172.27}{151.41}$	=1.137
रे	172.27	सा-ग्	$\frac{179.67}{151.41}$	=1.186
ग्	179.67	सा-म	$\frac{201.87}{151.41}$	=1.353
म	201.87	सा-प	$\frac{226.77}{151.41}$	=1.497
प	226.77	सा-ध	$\frac{257.73}{151.41}$	=1.702
ध	257.73	सा-नी	$\frac{291.37}{151.41}$	=1.924
नी	291.37	सा-सां	$\frac{302.14}{151.41}$	=1.995
सां	302.14			

CONSONANCE & DISSONANCE IN THIS RAGA

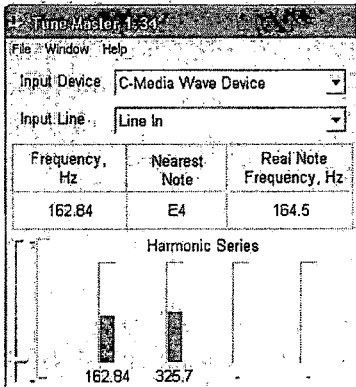
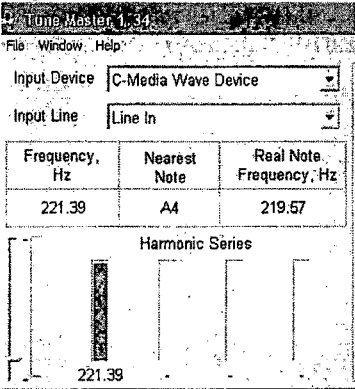
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा - रे
सा-प	सा-म		
रे-ध	रे-प		सा - नी
म-सां	म-नी		
ग्-नी	प-सां		

NAME OF THE ARTIST:PT.BHIMSEN JOSHI
RAGA: PATDEEP



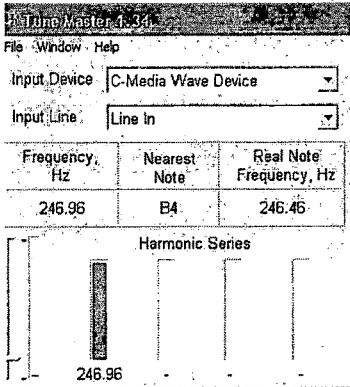
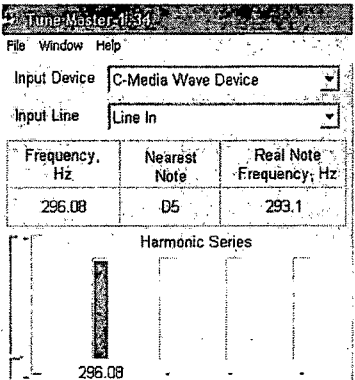
SWAR SA

SWAR GA KOMAL



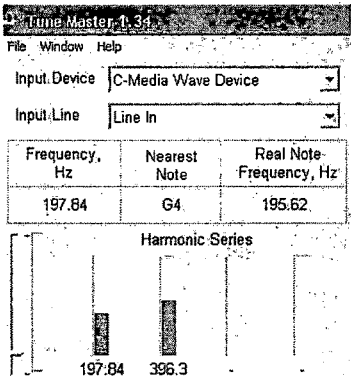
SWAR PA

SWAR RE

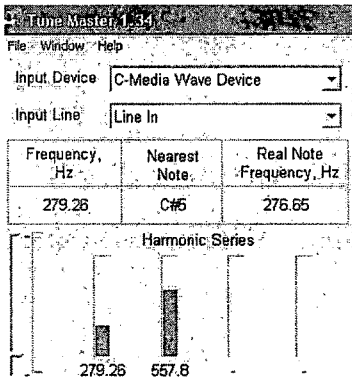


SWAR SA TAR

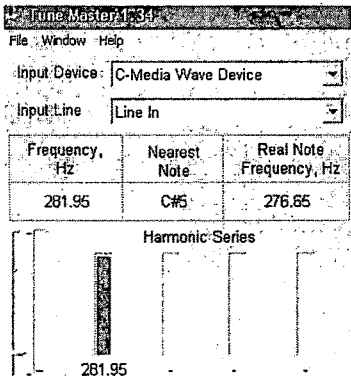
SWAR DHA



SWAR MA



SWAR NI



SWAR NI

NAME OF THE ARTIST: PT.BHIMSEN JOSHI

RAGA: PATDEEP

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	146.69	सा-रे	$\frac{162.84}{146.69}$	=1.110
रे	162.84	सा-ग्	$\frac{176.3}{146.69}$	=1.201
ग्	176.3	सा-म	$\frac{197.84}{146.69}$	=1.348
म	197.84	सा-प	$\frac{221.39}{146.69}$	=1.509
प	221.39	सा-ध	$\frac{246.96}{146.69}$	=1.683
ध	246.96	सा-नी	$\frac{281.95}{146.69}$	=1.922
नी	281.95	सा-सां	$\frac{296.08}{146.69}$	=2.018
सां	296.08			

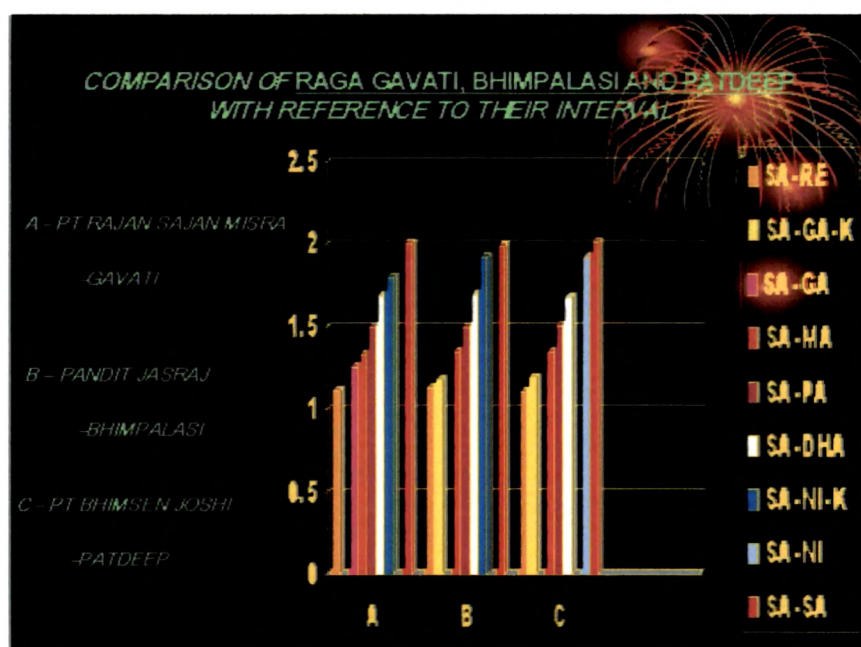
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा - रे
सा-प	सा-म		
रे-ध	रे-प		
म-सां	प-सां		

Comparison of different Raga of different artiste with reference to their Interval

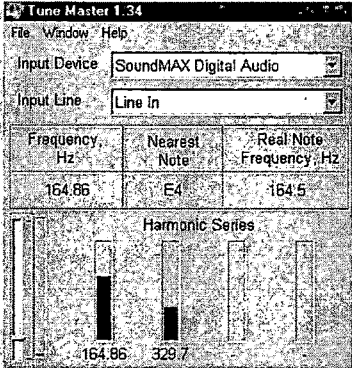
INTERVAL

INTERVAL	RAGA GAVATI	RAGA BHIMPALASI	RAGA PATDEEP	STANDARD VALUE
सा- रे	=1.122	=1.137	=1.110	1.127
सा-ग्		=1.186	=1.201	1.198
सा- ग	=1.265			1.255
सा- म	=1.330	=1.353	=1.348	1.336
सा- प	=1.497	=1.497	=1.509	1.505
सा- ध	=1.693	=1.702	=1.683	1.663
सा- नी	=1.801	=1.924		1.775
सा-नी			=1.922	1.882
सा- सां	=2.008	=1.995	=2.018	2

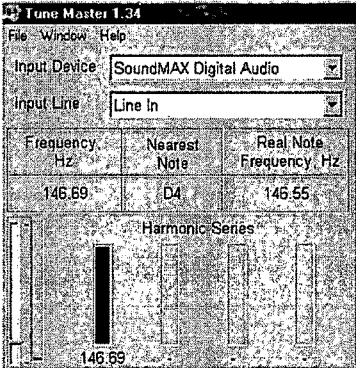
Graphical representation of different Raga of different artiste with reference to their Interval



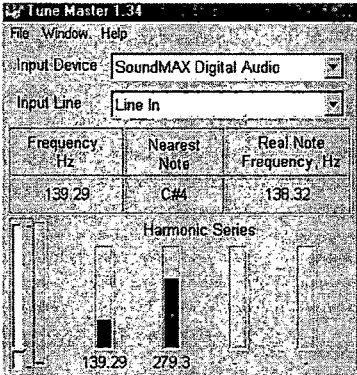
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: GORAKH KALYAN



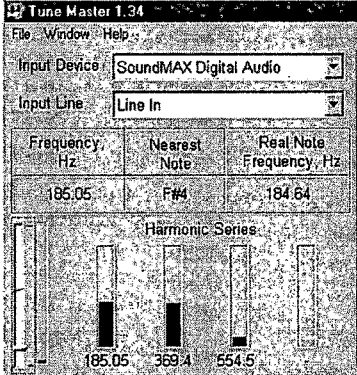
SWAR : SA



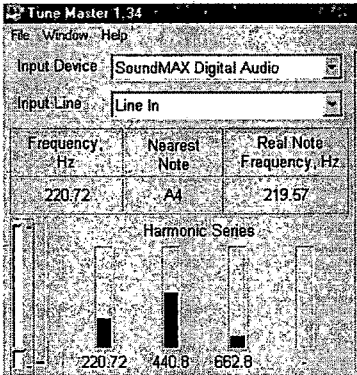
SWAR : NI(MANDRA)



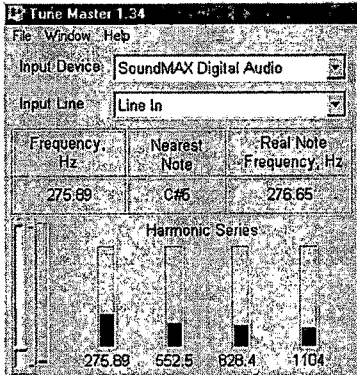
SWAR DHA (MANDRA)



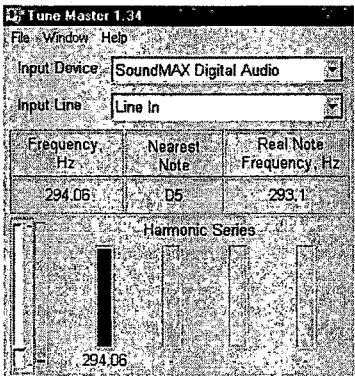
SWAR RE



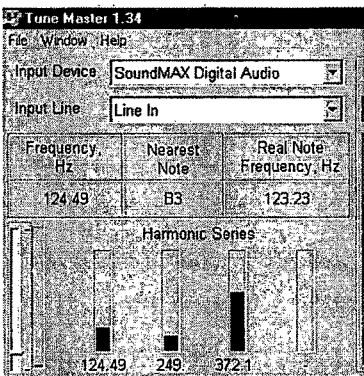
SWAR MA



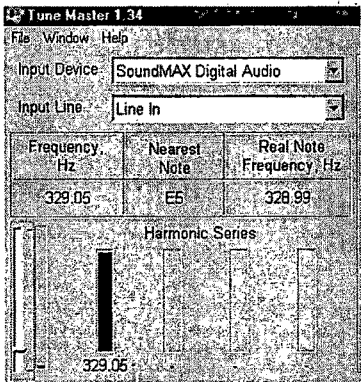
SWAR DHA



SWAR NI



SWAR PA



SWAR SA (TAR)

NAME OF THE ARTIST: PT. RAJAN SAJAN MISRA
RAGA: GORAKH KALYAN

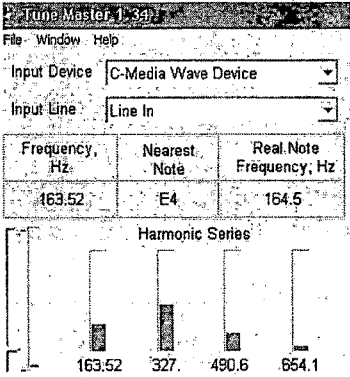
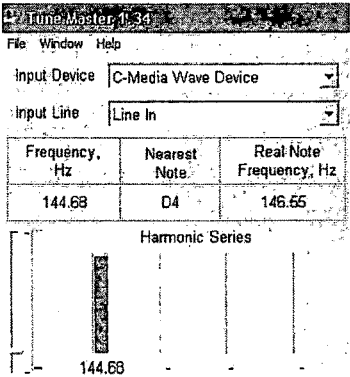
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	164.86	सा- रे	$\frac{185.05}{164.86}$	=1.122
रे	185.05	सा- म	$\frac{220.72}{164.86}$	=1.338
म	220.72	सा- प	$\frac{249}{164.86}$	=1.510
प	249	सा- ध	$\frac{275.89}{164.86}$	=1.673
ध	275.89	सा- नी	$\frac{294.06}{164.86}$	=1.783
नी	294.06	सा- सां	$\frac{329.05}{164.86}$	=1.995
सां	329.05			

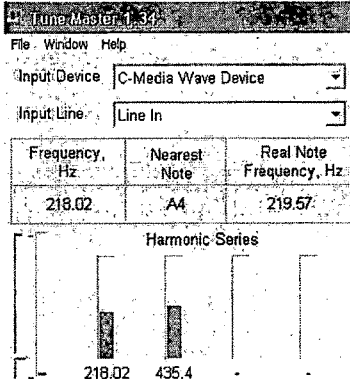
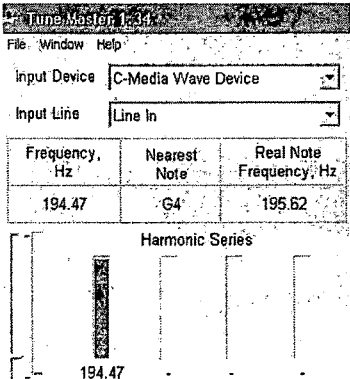
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH		सा- रे
सा- प	सा- म		सा- नी
रे- ध	रे- प		
म- सां	म- नी		
	प- सां		

NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: DURGA

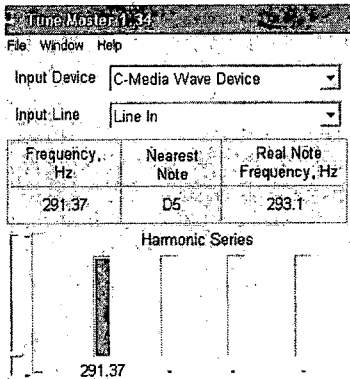
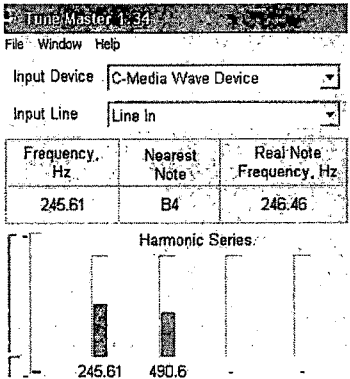


SWAR SA



SWAR RE

SWAR MA



SWAR PA

SWAR DHA

SWAR SA TAR

NAME OF THE ARTIST: PT.BHIMSEN JOSHI
RAGA: DURGA

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	144.68	सा-रे	$\frac{163.52}{144.68}$	=1.130
रे	163.52	सा-म	$\frac{194.47}{144.68}$	=1.344
म	194.47	सा-प	$\frac{218.02}{144.68}$	=1.506
प	218.02	सा-ध	$\frac{245.61}{144.68}$	=1.697
ध	245.61	सा-सां	$\frac{291.37}{144.68}$	=2.013
सां	291.37			

CONSONANCE & DISSONANCE IN THIS RAGA

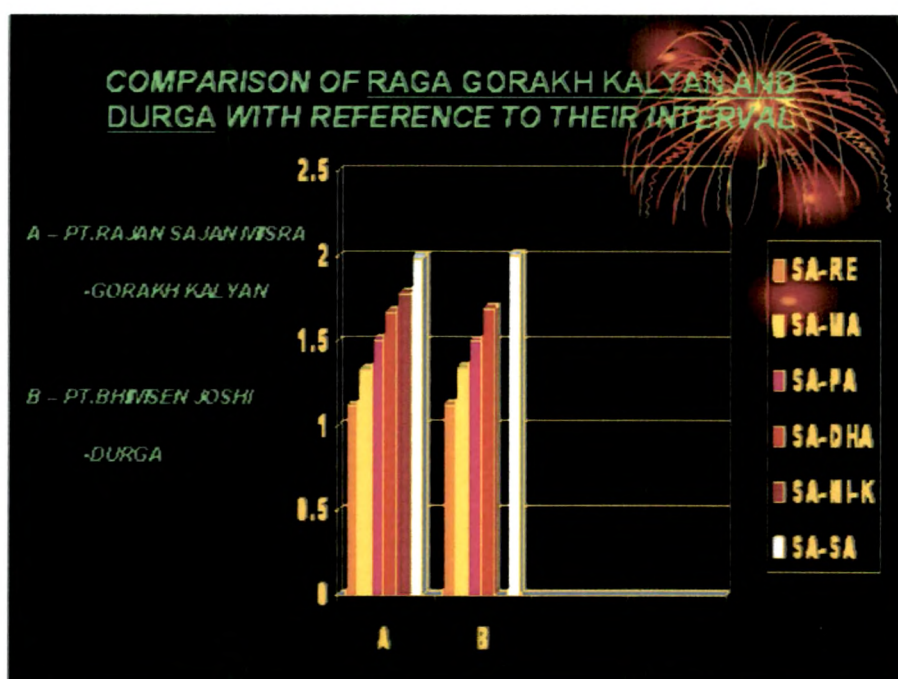
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH		सा- रे
सा-प	सा-म		
रे-ध	रे-प		
म-सां	प-सां		

Comparison of different Raga of different artiste with reference to their Interval

INTERVAL

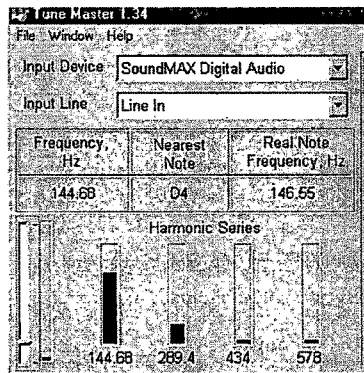
INTERVAL	<u>RAGA GORAKH KALYAN</u>	<u>RAGA DURGA</u>	STANDARD VALUE
सा- रे	=1.122	=1.130	1.127
सा-म	=1.338	=1.344	1.336
सा- प	=1.510	=1.506	1.505
सा- ध	=1.673	=1.697	1.663
सा- नी	=1.783		1.775
सा- सां	=1.995	=2.013	2

Graphical representation of different Raga of different artiste with reference to their Interval

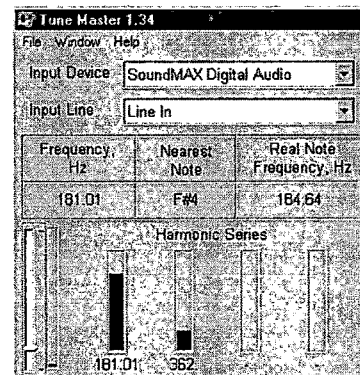


NAME OF THE ARTIST: SANJEEV ABHYANKER

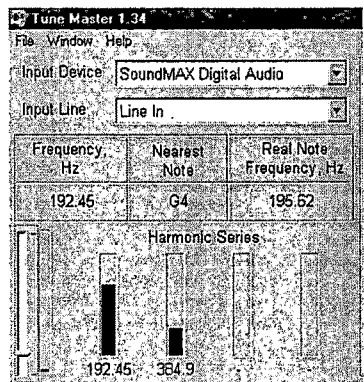
RAGA: JOG



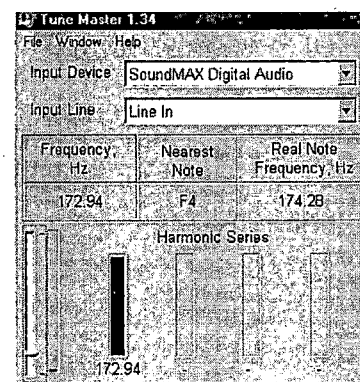
SWAR SA



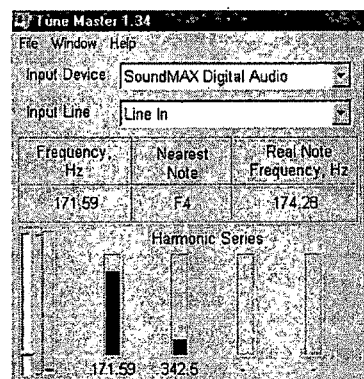
SWAR GA SHUDDHA



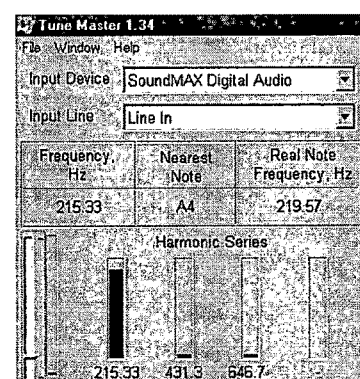
SWAR MA



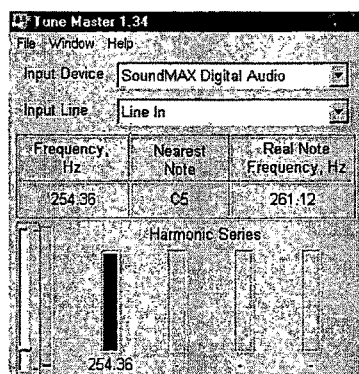
SWAR GA KOMAL



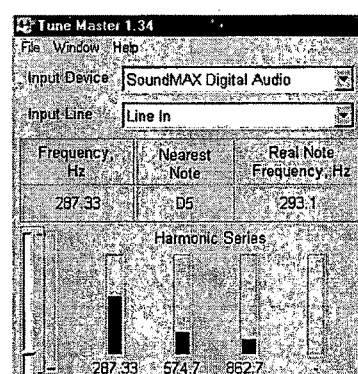
SWAR GA KOMAL



SWAR PA



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTIST: SANJEEV ABHYANKER
RAGA: JOG

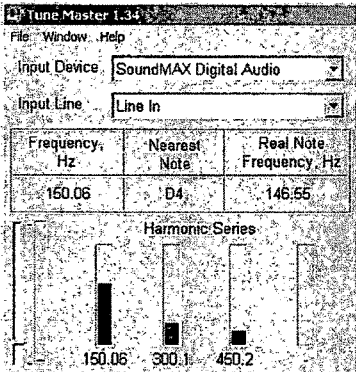
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	144.68	सा- ग्	$\frac{172.94}{144.68}$	=1.195
ग्	172.94	सा- ग	$\frac{181.01}{144.68}$	=1.251
ग	181.01	सा- म	$\frac{192.45}{144.68}$	=1.330
म	192.45	सा- प	$\frac{215.33}{144.68}$	=1.488
प	215.33	सा- न्नी	$\frac{254.36}{144.68}$	=1.758
न्नी	254.36	सा- सां	$\frac{287.33}{144.68}$	=1.985
सां	287.33			

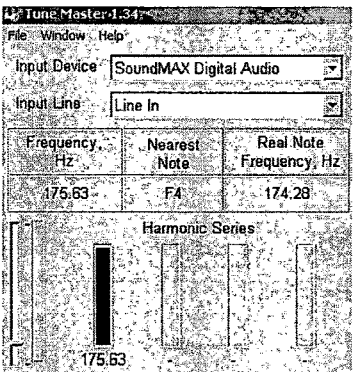
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा- ग्	सा- न्नी
सा- प	सा- म		
म- सां	म- न्नी	सा- ग	
ग्-न्नी			

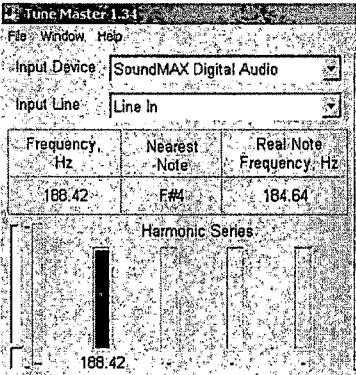
NAME OF THE ARTIST: USTAD RASHID KHAN
RAGA:JOGKAUNS



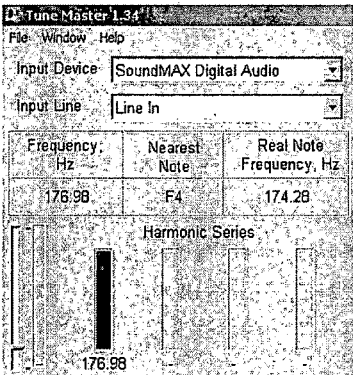
SWAR SA



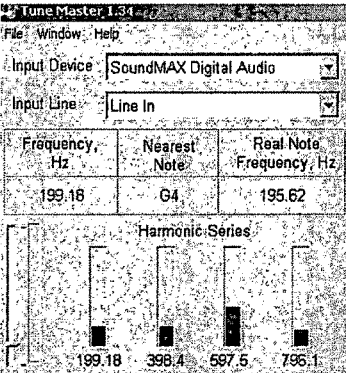
SWAR GA KOMAL



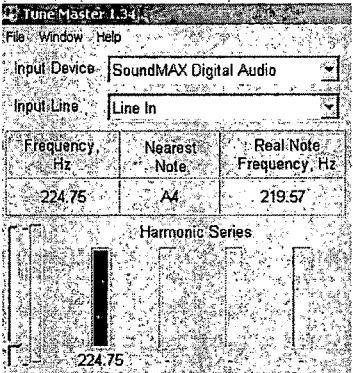
SWAR GA SHUDDHA



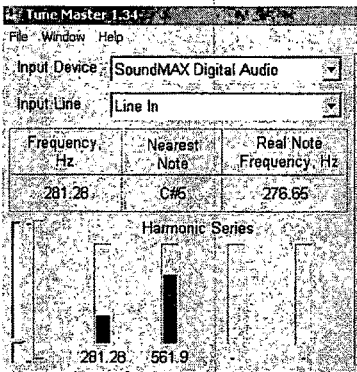
SWAR GA KOMAL (FROM SHUDDHA GA)



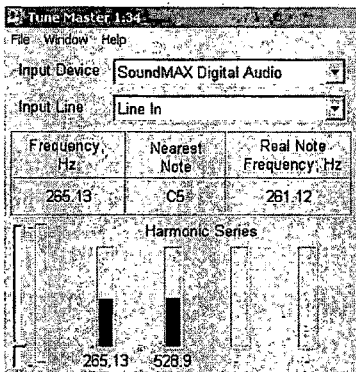
SWAR MA



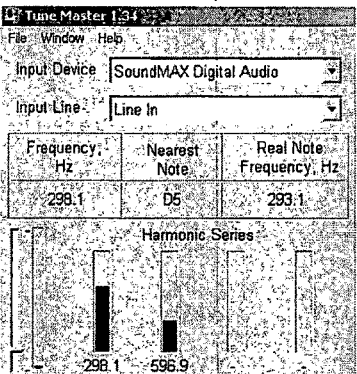
SWAR PA



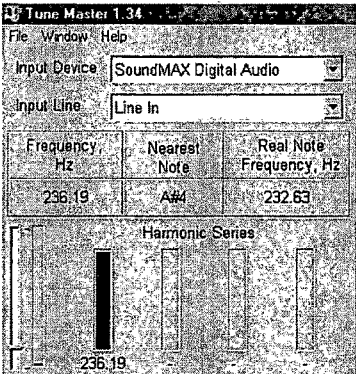
SWAR NI



SWAR NI KOMAL



SWAR SA TAR



SWAR DHA KOMAL

NAME OF THE ARTIST: USTAD RASHID KHAN
RAGA: JOGKAUNS

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	150.06	सा - ग्	$\frac{175.63}{150.06}$	=1.170
ग्	175.63	सा - ग	$\frac{188.42}{150.06}$	=1.255
ग	188.42	सा - म	$\frac{199.18}{150.06}$	=1.327
म	199.18	सा - प	$\frac{224.75}{150.06}$	=1.497
प	224.75	सा - ध्	$\frac{236.19}{150.06}$	=1.573
ध्	236.19	सा - न्नी	$\frac{265.13}{150.06}$	=1.766
न्नी	265.13	सा - न्नी	$\frac{281.28}{150.06}$	=1.874
न्नी	281.28	सा - सां	$\frac{298.1}{150.06}$	=1.986
सां	298.1			

CONSONANCE & DISSONANCE IN THIS RAGA

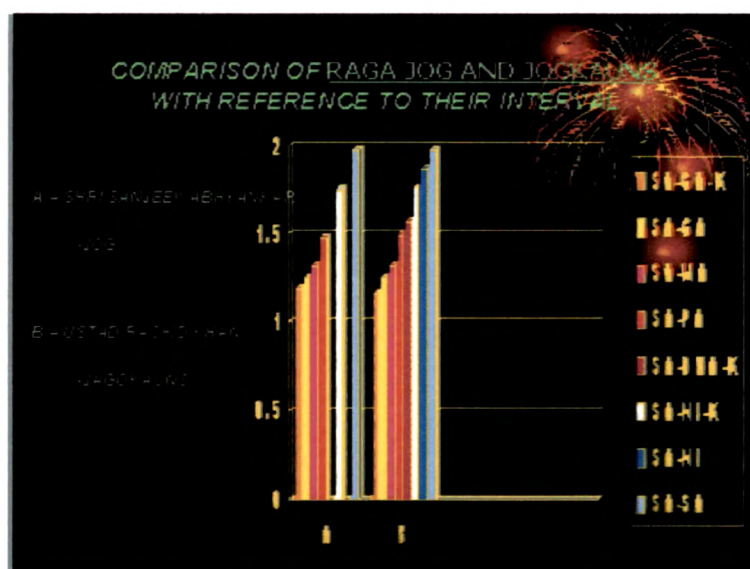
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा - न्नी
सा-प	सा-म		
म-सां	ग्-ध्	सा - ग्	
ग-न्नी	म-न्नी	सा - ध्	
	प-सां		

Comparison of different Raga of different artiste with reference to their Interval

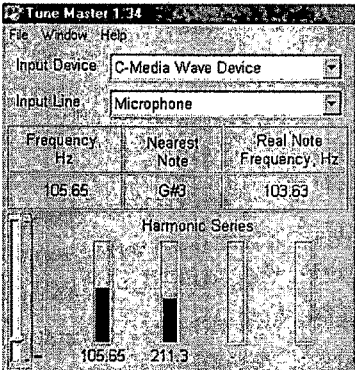
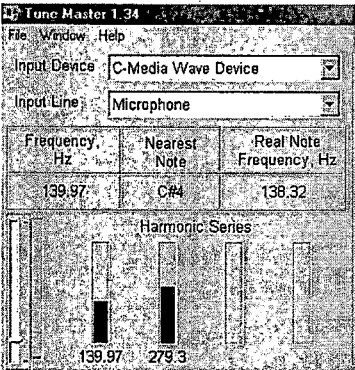
INTERVAL

INTERVAL	RAGA JOG	RAGA JOGKAUNS	STANDARD VALUE
सा-रू	=1.195	=1.170	1.198
सा-ग	=1.251	=1.255	1.255
सा-म	=1.330	=1.327	1.336
सा-प	=1.488	=1.497	1.505
सा-ध		=1.573	1.581
सा-नी	=1.758	=1.766	1.775
सा-नी		=1.874	1.882
सा-सां	=1.985	=1.986	2

Graphical representation of different Raga of different artiste with reference to their Interval

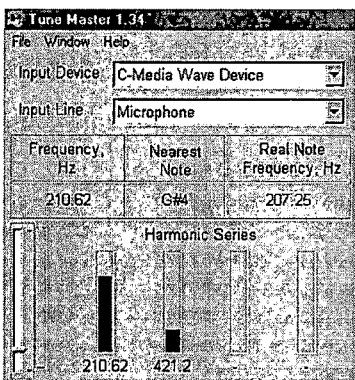
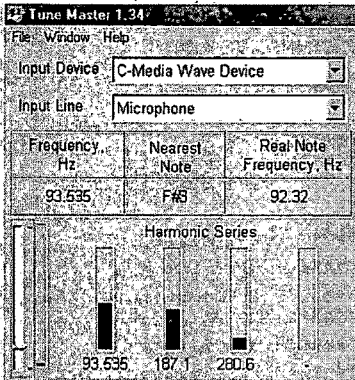


NAME OF THE ARTIST:SANJEEV ABHYANKER
RAGA: POORVI



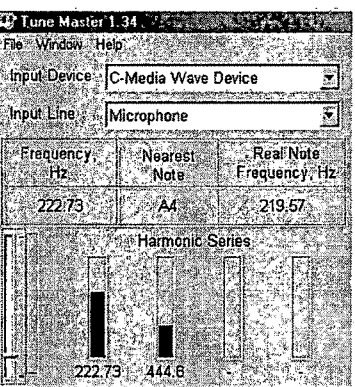
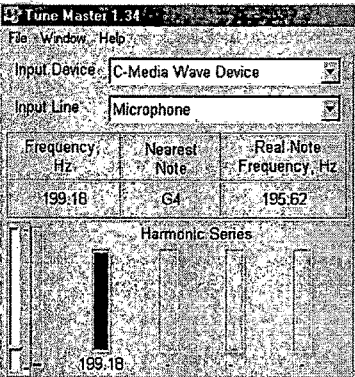
SWAR: SA

SWAR: PA (MANDRA)



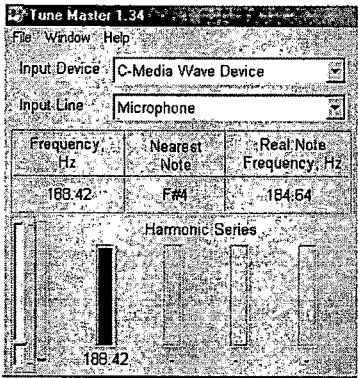
SWAR MA SHUDDHA (MANDRA)

SWAR: PA

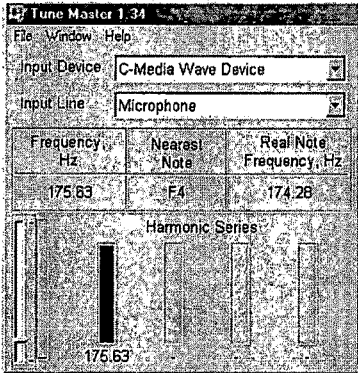


SWAR: MA TIVRA

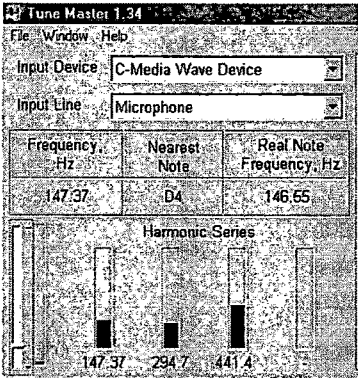
SWAR: DHA KOMAL



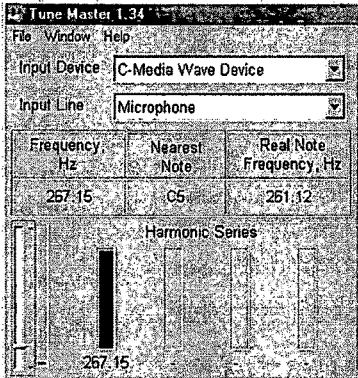
SWAR: MA SHUDDHA



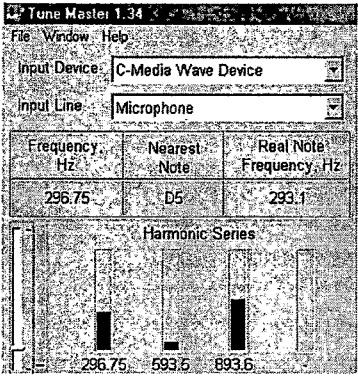
SWAR: GA



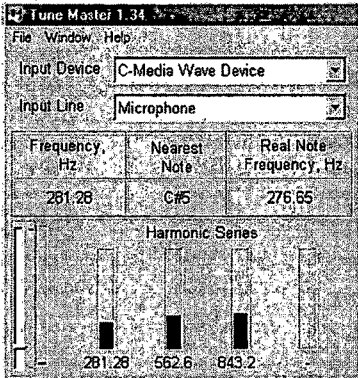
SWAR: RE KOMAL



SWAR: NI



SWAR: RE KOMAL(TAR)



SWAR : SA (TAR)

NAME OF THE ARTIST: SANJEEV ABHYANKER

RAGA: POORVI

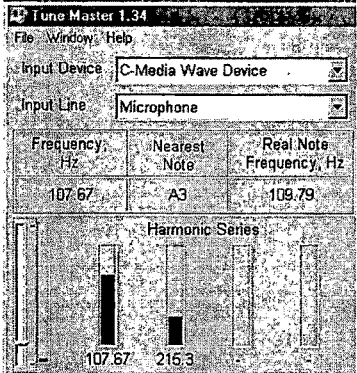
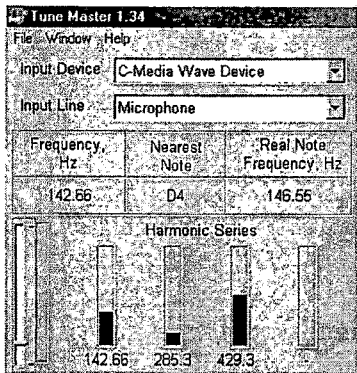
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	139.97	सा-रे	$\frac{147.37}{139.97}$	=1.052
रे	147.37	सा-ग	$\frac{175.63}{139.97}$	=1.254
ग	175.63	सा-म	$\frac{188.42}{139.97}$	=1.346
म	188.42	सा-म̇	$\frac{199.18}{139.97}$	=1.423
म̇	199.18	सा-प	$\frac{210.62}{139.97}$	=1.504
प	210.62	सा-ध्	$\frac{222.73}{139.97}$	=1.591
ध्	222.73	सा-नी	$\frac{267.15}{139.97}$	=1.908
नी	267.15	सा-सां	$\frac{281.28}{139.97}$	=2.009
सां	281.28			

CONSONANCE & DISSONANCE IN THIS RAGA

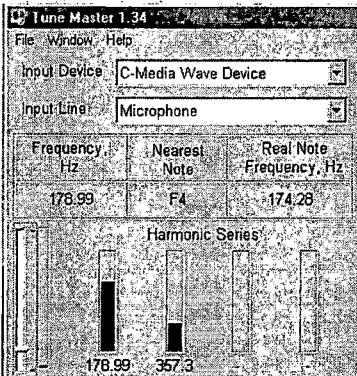
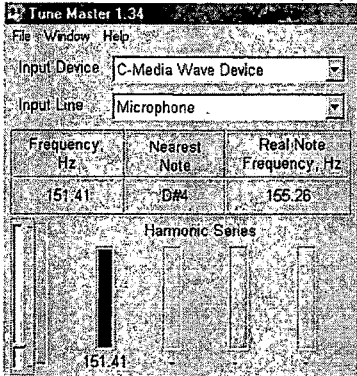
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म	सा-ध्	सा-म̇
रे-ध्	म̇-नी		
ग-नी	प-सां		
म-सां			

NAME OF THE ARTIST: USTAD RASHID KHAN
RAGA: PURIYA DHANASHRI



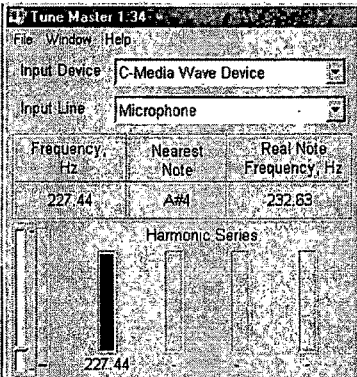
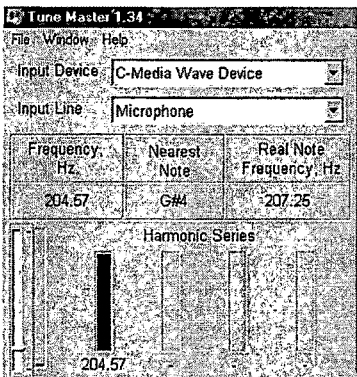
SWAR: SA

SWAR : PA MANDRA



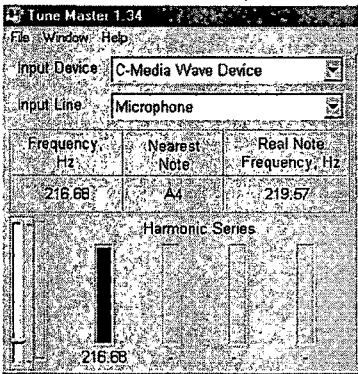
SWAR: RE KOMAL

SWAR: GA

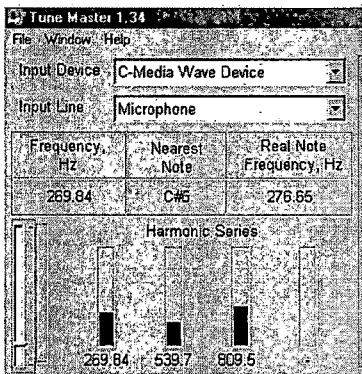


SWAR: MA TIVRA

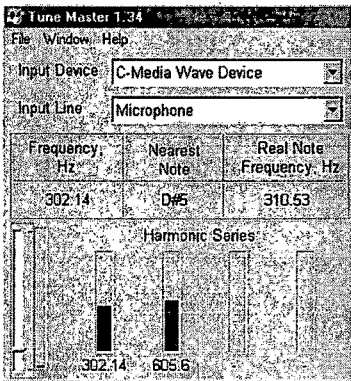
SWAR: DHA KOMAL



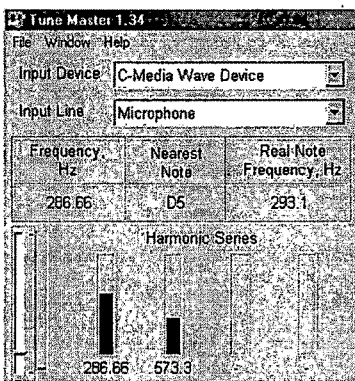
SWAR: PA



SWAR: NI



SWAR RE (TAR)



SWAR SA (TAR)

NAME OF THE ARTIST: USTAD RASHID KHAN
RAGA: PURIYA DHANASHRI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	142.66	सा-रे	$\frac{151.41}{142.66}$	=1.061
रे	151.41	सा-ग	$\frac{178.99}{142.66}$	=1.254
ग	178.99	सा-म	$\frac{204.57}{142.66}$	=1.433
म	204.57	सा-प	$\frac{216.68}{142.66}$	=1.518
प	216.68	सा-ध	$\frac{227.44}{142.66}$	=1.594
ध	227.44	सा-नी	$\frac{269.84}{142.66}$	=1.891
नी	269.84	सा-सां	$\frac{286.66}{142.66}$	=2.009
सां	286.66			

CONSONANCE & DISSONANCE IN THIS RAGA

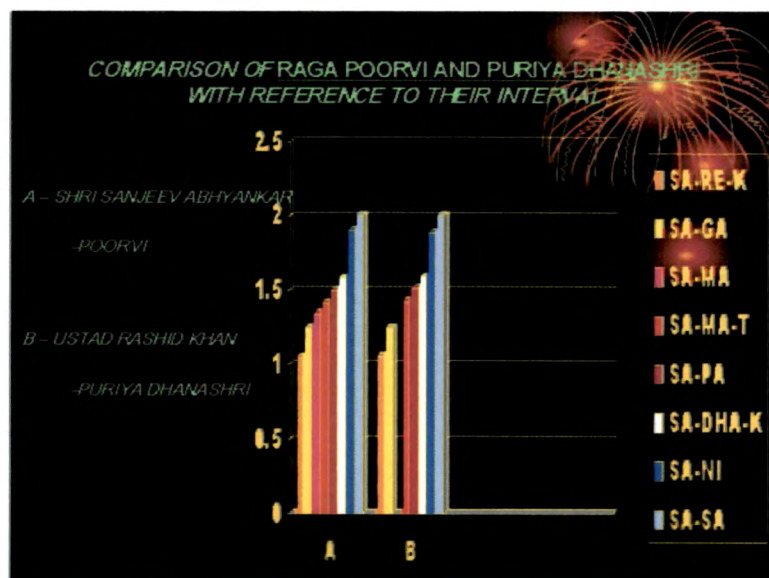
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	म-नी		
रे-ध	प-सां	सा-ध	सा-म
ग-नी			

Comparison of different Raga of different artiste with reference to their Interval

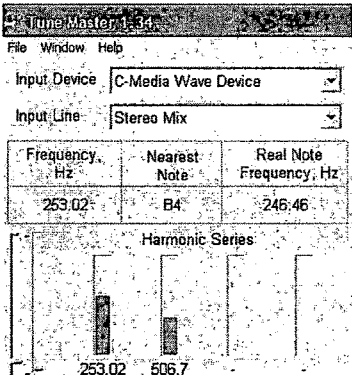
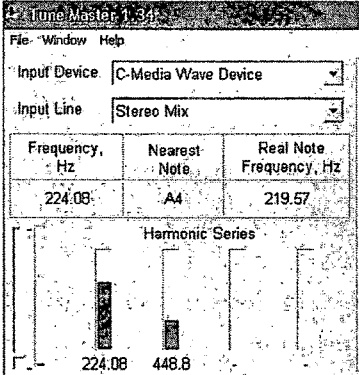
INTERVAL:

INTERVAL	RAGA POORVI	RAGA PURIYA DHANASHRI	STANDARD VALUE
सा-रे	=1.052	=1.061	1.051
सा-ग	=1.254	=1.254	1.255
सा-म	=1.346		1.336
सा-मं	=1.423	=1.433	1.408
सा-प	=1.504	=1.518	1.505
सा-ध	=1.591	=1.594	1.581
सा-नी	=1.908	=1.891	1.882
सा-सां	=2.009	=2.009	2

Graphical representation of different Raga of different artiste with reference to their Interval

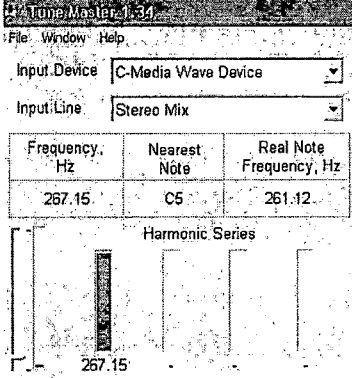
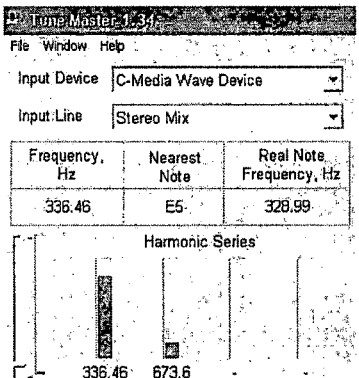


NAME OF THE ARTIST: AARATI ANKLIKER
RAGA: MIYA MALHAR



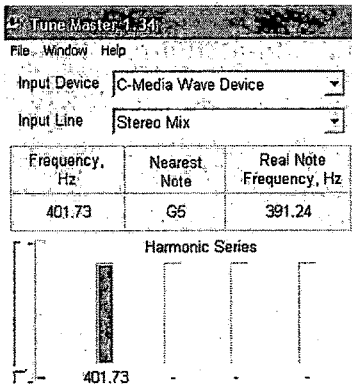
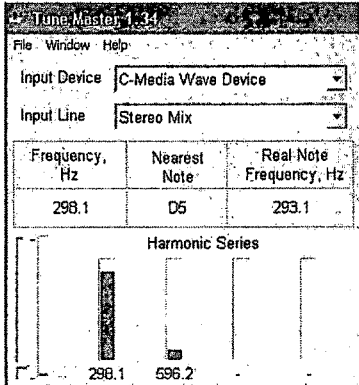
Swar sa

swa re



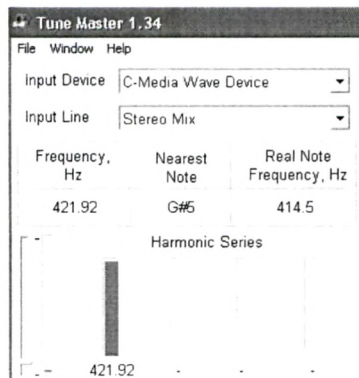
swar pa

swar ga komal

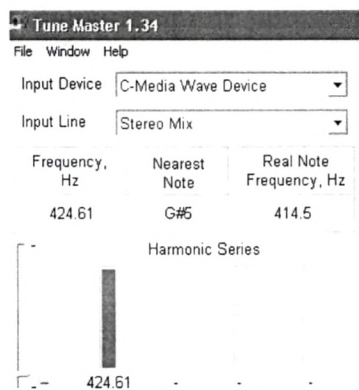


SWAR MA

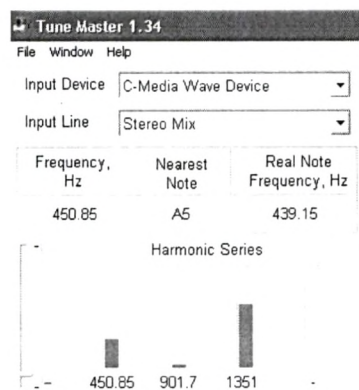
SWAR NI KOMAL



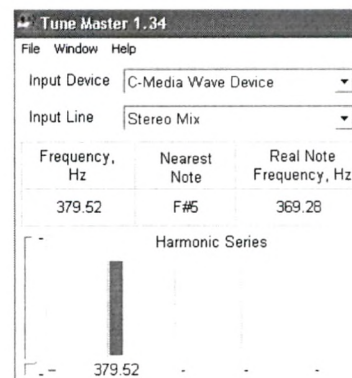
SWAR NI SHUDDHA



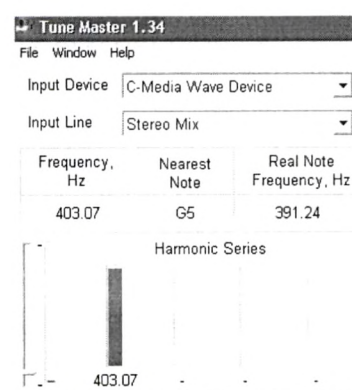
SWAR SHUDDHA NI



SWAR SA TAR



SWAR DHA



SWAR NI KOMAL

NAME OF THE ARTIST: AARATI ANKLIKER
RAGA: MIYA MALHAR

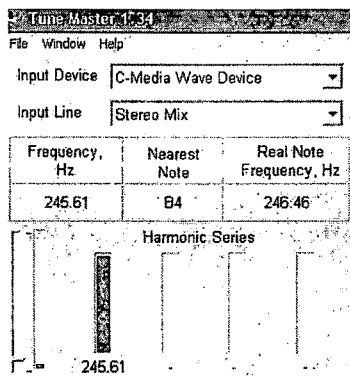
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	224.08	सा-रे	$\frac{253.02}{224.08}$	=1.129
रे	253.02	सा-ग्	$\frac{267.15}{224.08}$	=1.192
ग्	267.15	सा-म	$\frac{298.1}{224.08}$	=1.330
म	298.1	सा-प	$\frac{336.46}{224.08}$	=1.501
प	336.46	सा-ध	$\frac{379.52}{224.08}$	=1.693
ध	379.52	सा-नी	$\frac{403.07}{224.08}$	=1.798
नी	403.07	सा-नी	$\frac{424.61}{224.08}$	=1.894
नी	424.61	सा-सां	$\frac{450.85}{224.08}$	=2.012
सां	450.85			

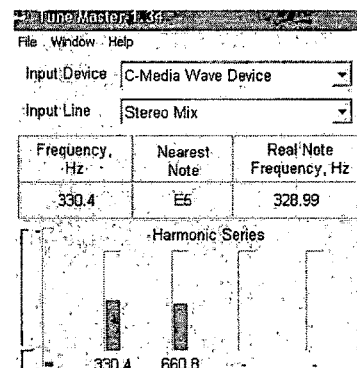
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	CONSONANCE
FIFTH	FOURTH	सा-ग्	सा- रे
सा-प	सा-म		सा-नी
रे-ध	रे-प		
ग्-नी	म-नी		
म-सां	प-सां		

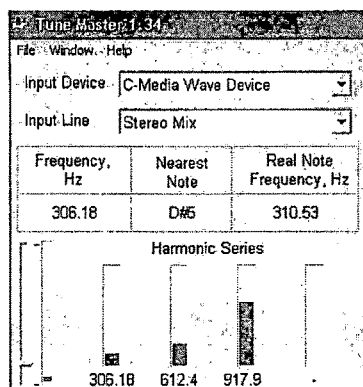
NAME OF THE ARTIST: SMT.ASHWINI BHIDE
RAGA: GAUD MALHAR



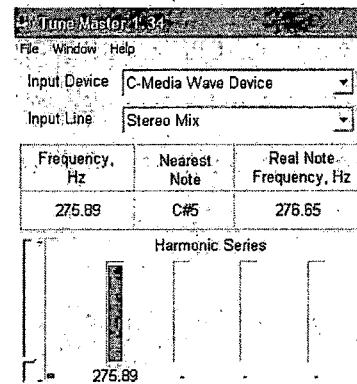
SWAR SA



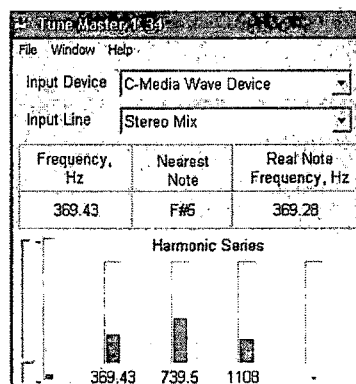
SWAR MA



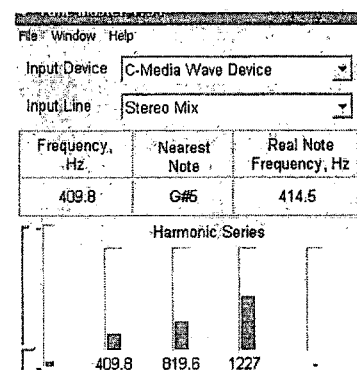
SWAR GA



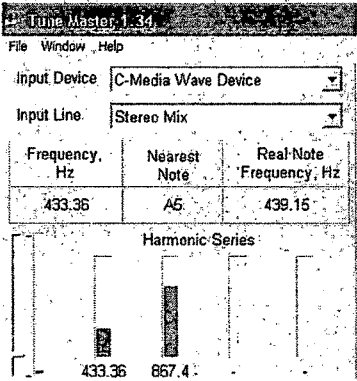
SWAR RE



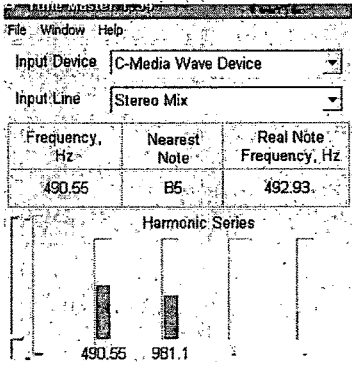
SWAR PA



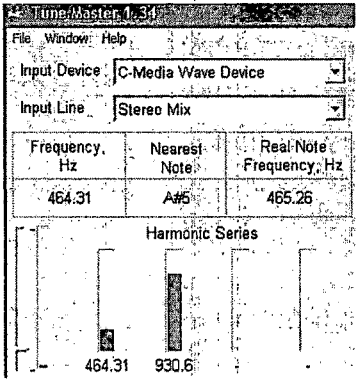
SWAR DHA



SWAR NI KOMAL



SWAR SA TAR



SWAR NI SHUDDHA

NAME OF THE ARTIST: SMT.ASHWINI BHIDE

RAGA: GAUD MALHAR

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	245.61	सा-रे	$\frac{275.89}{245.61}$	=1.123
रे	275.89	सा-ग	$\frac{306.18}{245.61}$	=1.246
ग	306.18	सा-म	$\frac{330.4}{245.61}$	=1.345
म	330.4	सा-प	$\frac{369.43}{245.61}$	=1.504
प	369.43	सा-ध	$\frac{409.8}{245.61}$	=1.668
ध	409.8	सा-नी	$\frac{433.36}{245.61}$	=1.764
नी	433.36	सा-नी	$\frac{464.31}{245.61}$	=1.890
नी	464.31	सा-सां	$\frac{490.55}{245.61}$	=1.997
सां	490.55			

CONSONANCE & DISSONANCE IN THIS RAGA

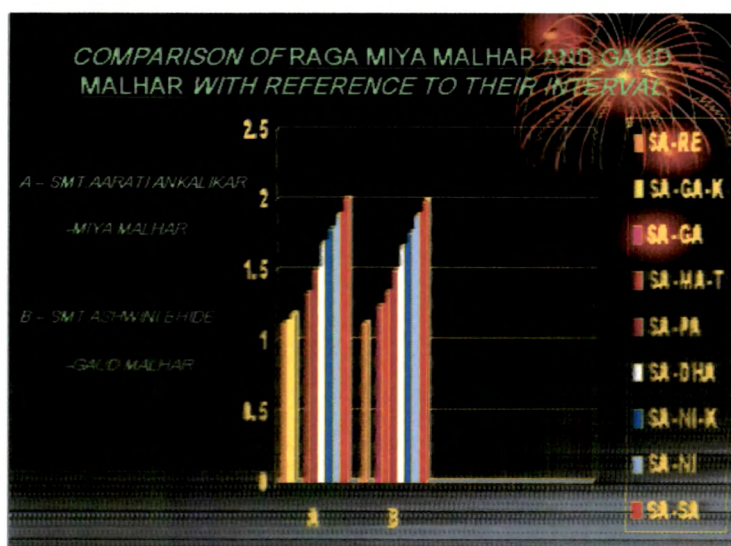
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		सा-नी
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	प-सां		
	म-नी		

Comparison of different Raga of different artiste with reference to their Interval

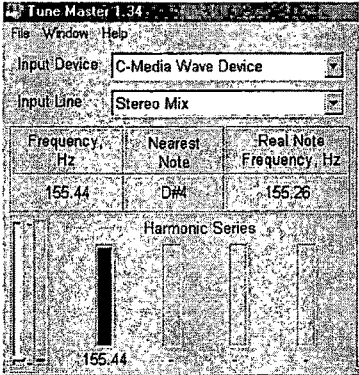
Interval

INTERVAL	RAGA MIYA MALHAR	RAGA GAUD MALHAR	STANDARD VALUE
सा-रे	=1.129	=1.123	1.127
सा-ग्	=1.192		1.198
सा-ग		=1.246	1.255
सा-म	=1.330	=1.345	1.336
सा-प	=1.501	=1.504	1.505
सा-ध	=1.693	=1.668	1.663
सा-नी	=1.798	=1.764	1.775
सा-नी	=1.894	=1.890	1.882
सा-सां	=2.012	=1.997	2

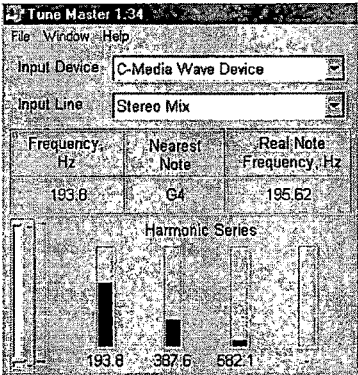
Graphical representation of different Raga of different artiste with reference to their Interval



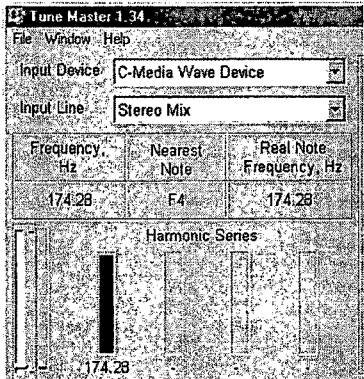
NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA
RAGA: MARU BIHAG



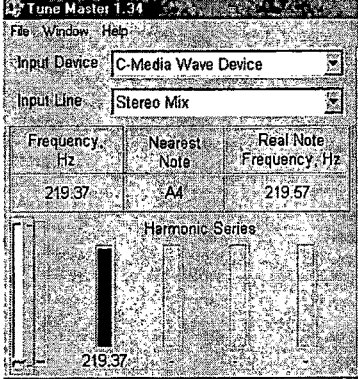
SWAR: SA



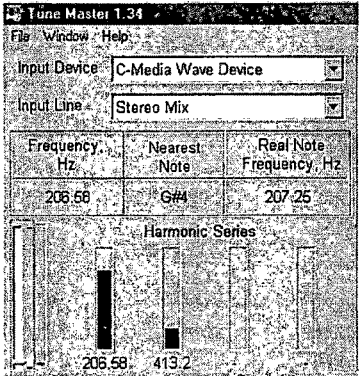
SWAR: GA



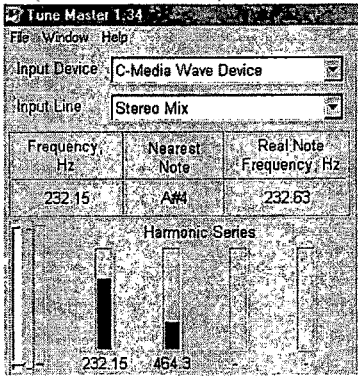
SWAR: RE



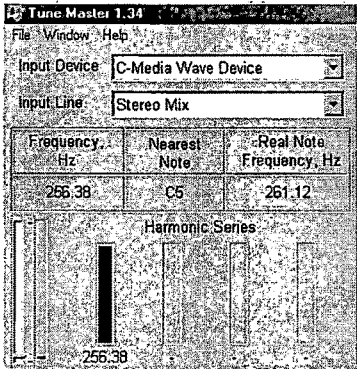
SWAR: MA TIVRA



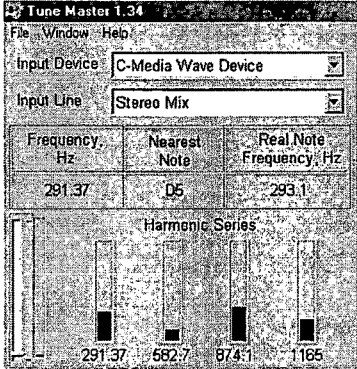
SWAR: MA SHUDHA



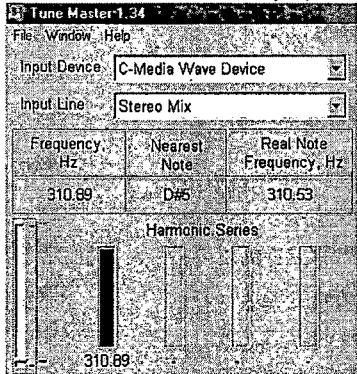
SWAR: PA



SWAR: DHA



SWAR: NI



SWAR: SA TAR

NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA

RAGA: MARU BIHAG

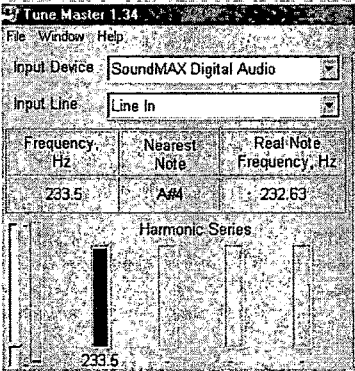
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	155.44	सा-रे	$\frac{174.28}{155.44}$	=1.121
रे	174.28	सा-ग	$\frac{193.8}{155.44}$	=1.246
ग	193.8	सा-म	$\frac{206.58}{155.44}$	=1.329
म	206.58	सा-मं	$\frac{219.37}{155.44}$	=1.411
मं	219.37	सा-प	$\frac{232.15}{155.44}$	=1.493
प	232.15	सा-ध	$\frac{256.38}{155.44}$	=1.649
ध	256.38	सा-नी	$\frac{291.37}{155.44}$	=1.874
नी	291.37	सा-सां	$\frac{310.89}{155.44}$	=2.000
सां	310.89			

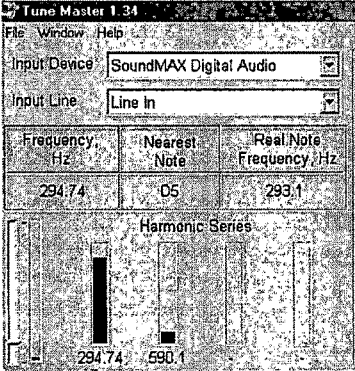
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे सा-मं
सा-प	सा-म		
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	मं-नी		

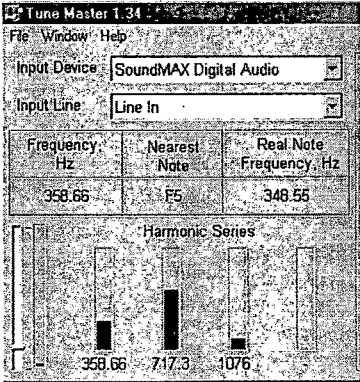
NAME OF THE ARTISTE: SMT.ASHWINI BHIDE
RAGA: BIHAG



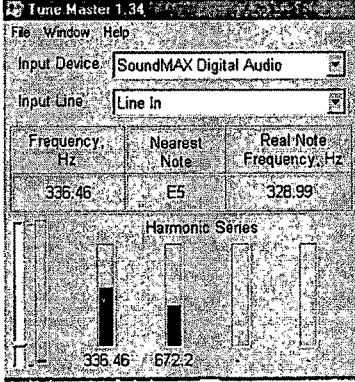
SWAR SA



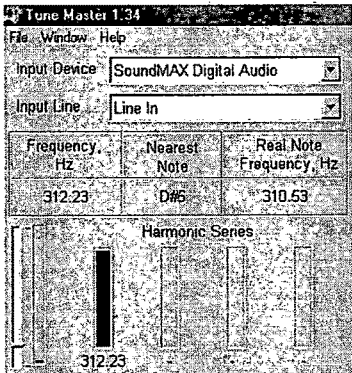
SWAR GA



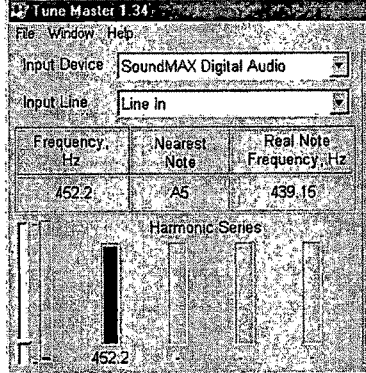
SWAR PA



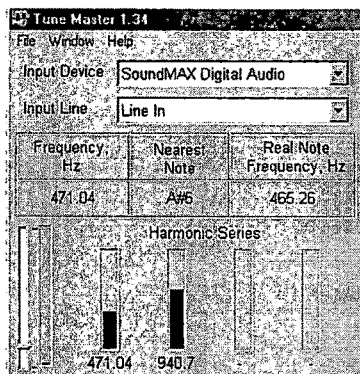
SWAR MA TIVRA



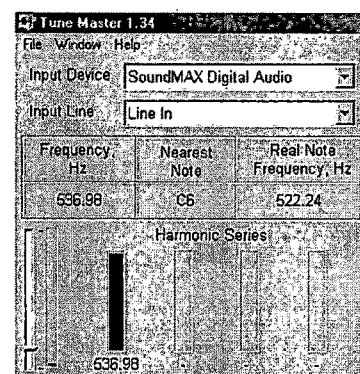
SWAR MA



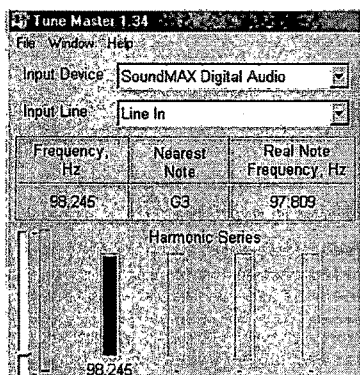
SWAR NI



SWAR SA TAR



SWAR RE TAR



SWAR DHA MANDRA

NAME OF THE ARTISTE: SMT.ASHWINI BHIDE
RAGA: BIHAG

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	233.5	सा-रे	$\frac{268.49}{233.5}$	=1.149
रे	268.49	सा-ग	$\frac{294.74}{233.5}$	=1.262
ग	294.74	सा-म	$\frac{312.23}{233.5}$	=1.337
म	312.23	सा-मं	$\frac{336.46}{233.5}$	=1.440
मं	336.46	सा-प	$\frac{358.66}{233.5}$	=1.536
प	358.66	सा-ध	$\frac{392.96}{233.5}$	=1.682
ध	392.96	सा-नी	$\frac{452.2}{233.5}$	=1.936
नी	452.2	सा-सां	$\frac{471.04}{233.5}$	=2.017
सां	471.04			

CONSONANCE & DISSONANCE IN THIS RAGA

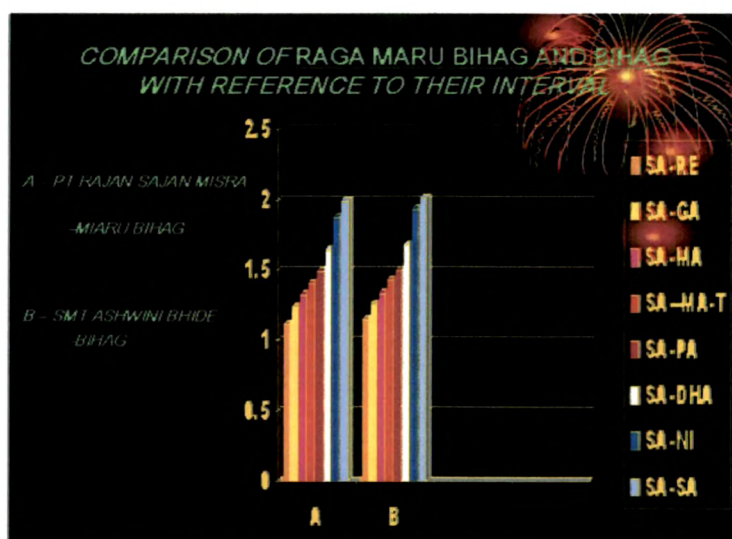
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे सा-मं
सा-प	सा-म		
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	म-नी		

Comparison of different Raga of different artiste with reference to their Interval

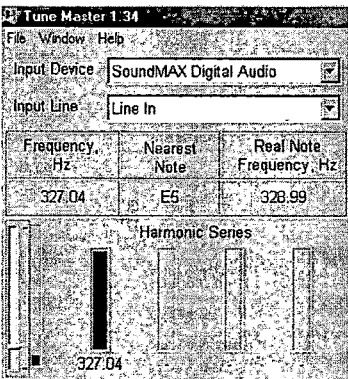
INTERVAL:

INTERVAL	RAGA MARU BIHAG	RAGA BIHAG	STANDARD VALUE
सा- रे	=1.121	=1.149	1.12753
सा-ग	=1.246	=1.262	1.25513
सा- म	=1.329	=1.337	1.33671
सा- मं	=1.411	=1.440	1.40814
सा- प	=1.493	=1.536	1.50511
सा- ध	=1.649	=1.682	1.6632
सा- नी	=1.874	=1.936	1.88262
सा- सां	=2.000	=2.017	2

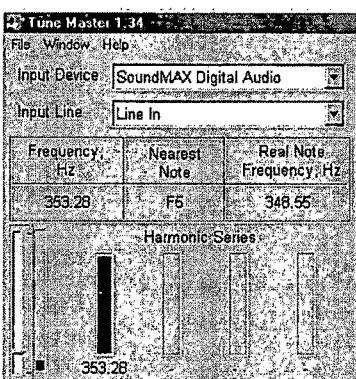
Graphical representation of different Raga of different artiste with reference to their Interval



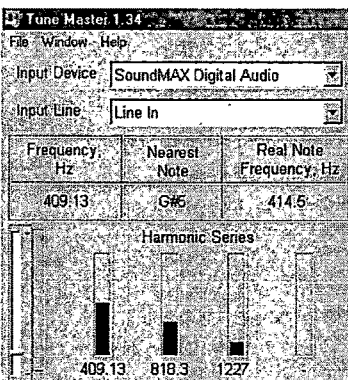
NAME OF THE ARTIST:PT.HARIPRASAD CHAURASIA
 RAGA: PURIYA KALYAN



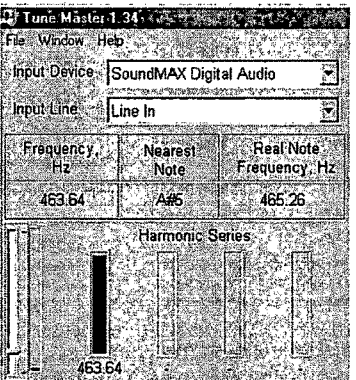
SWAR SA



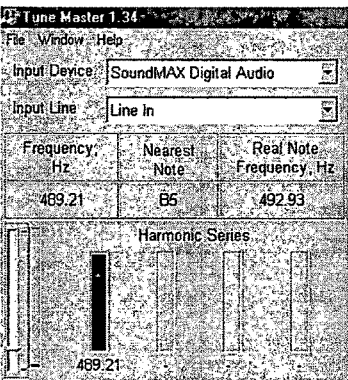
SWAR RE KOMAL



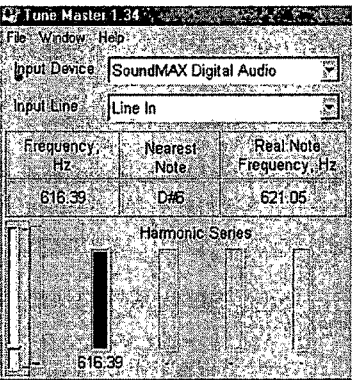
SWAR GA



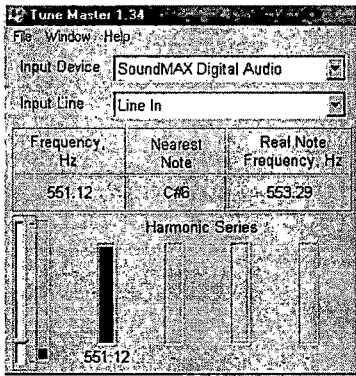
SWAR MA TIVRA



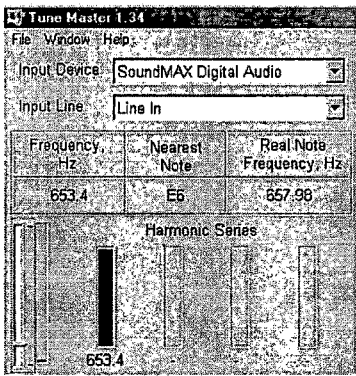
SWAR PA



SWAR NI



SWAR DHA



SWAR SA TAR

NAME OF THE ARTIST:PT.HARIPRASAD CHAURASIA
RAGA: PURIYA KALYAN'

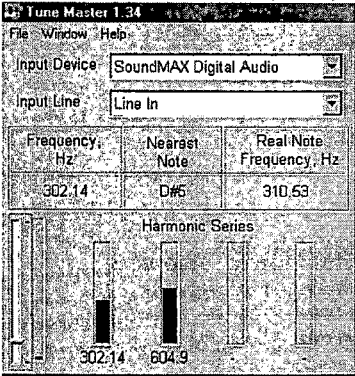
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	327.04	सा-रे	$\frac{353.28}{327.04}$	=1.080
रे	353.28	सा-ग	$\frac{409.13}{327.04}$	=1.251
ग	409.13	सा-म	$\frac{463.64}{327.04}$	=1.417
म	463.64	सा-प	$\frac{489.21}{327.04}$	=1.495
प	489.21	सा-ध	$\frac{551.12}{327.04}$	=1.685
ध	551.12	सा-नी	$\frac{616.39}{327.04}$	=1.884
नी	616.39	सा-सां	$\frac{653.4}{327.04}$	=1.997
सां	653.4			

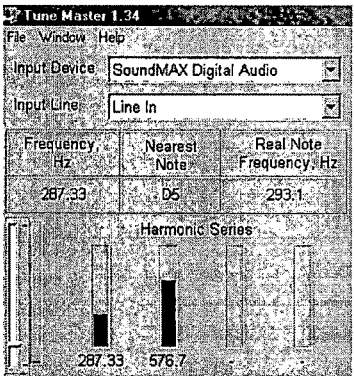
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	ग-ध		सा-म
ग-नी	म-नी		
	प-सां		

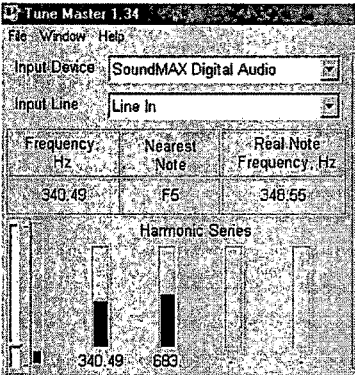
NAME OF THE ARTIST:USTAD SHAHID PARVEZ
RAGA: YAMAN KALYAN



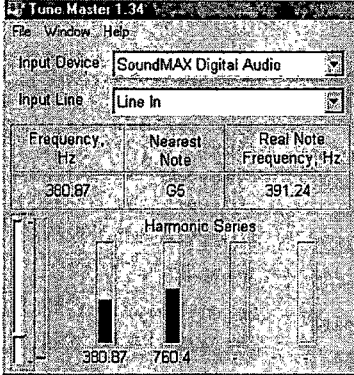
SWAR SA



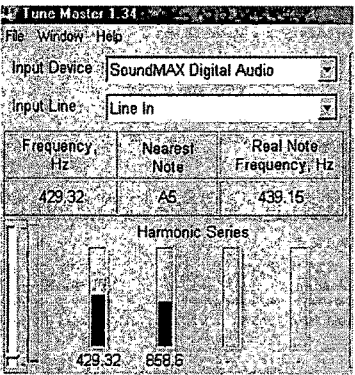
SWAR NI MANDRA



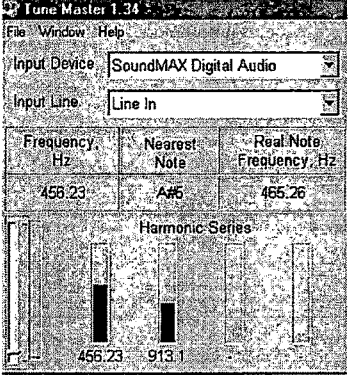
SWAR RE



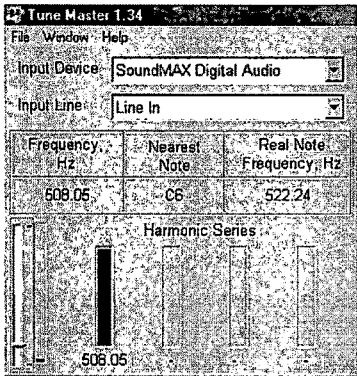
SWAR GA



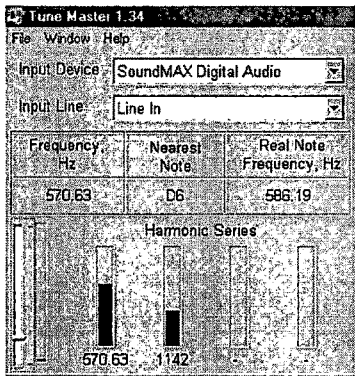
SWAR MA TIVRA



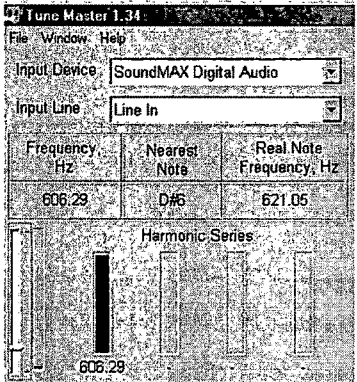
SWAR PA



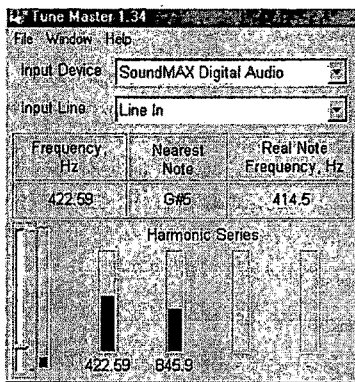
SWAR DHA



SWAR NI



SWAR SA TAR



SWAR MA SHUDDHA

NAME OF THE ARTIST:USTAD SHAHID PARVEZ
RAGA: YAMAN KALYAN

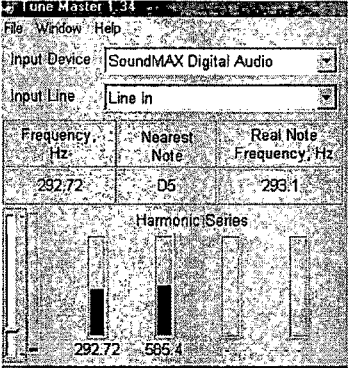
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	302.14	सा-रे	$\frac{340.49}{302.14}$	=1.126
रे	340.49	सा-ग	$\frac{380.87}{302.14}$	=1.260
ग	380.87	सा-म	$\frac{422.59}{302.14}$	=1.398
म	422.59	सा-मं	$\frac{429.32}{302.14}$	=1.420
मं	429.32	सा-प	$\frac{456.23}{302.14}$	=1.509
प	456.23	सा-ध	$\frac{508.05}{302.14}$	=1.681
ध	508.05	सा-नी	$\frac{570.63}{302.14}$	=1.888
नी	570.63	सा-सां	$\frac{606.29}{302.14}$	=2.006
सां	606.29			

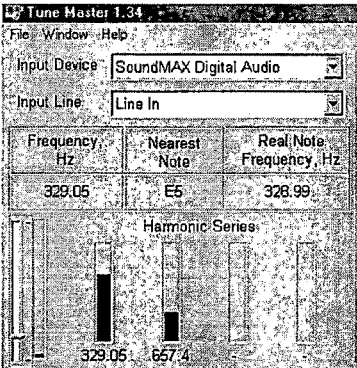
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		सा-मं
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	मं-नी		
	प-सां		

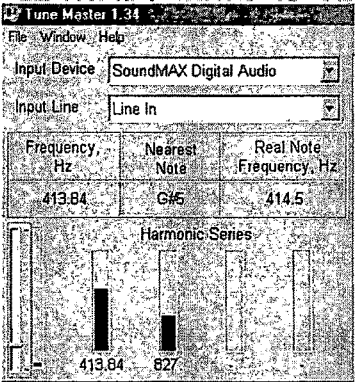
NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT
RAGA: SHYAM KALYAN



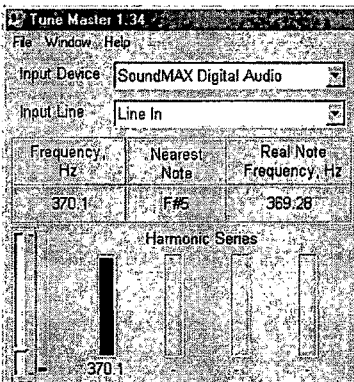
SWAR SA



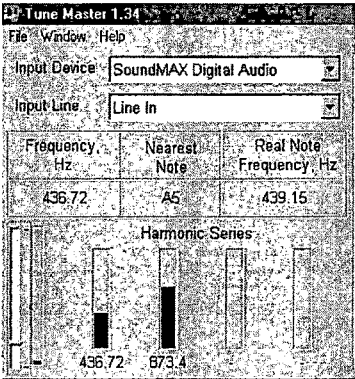
SWAR RE



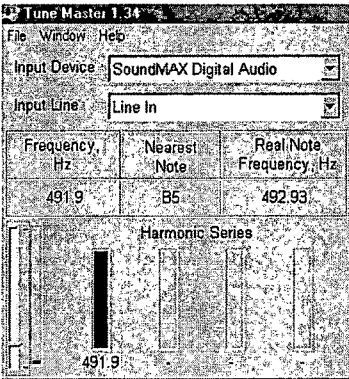
SWAR MA TIVRA



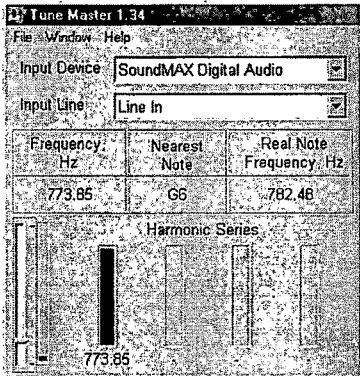
SWAR GA



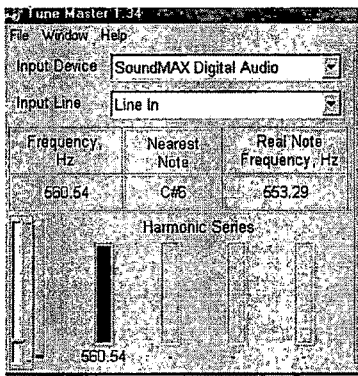
SWAR PA



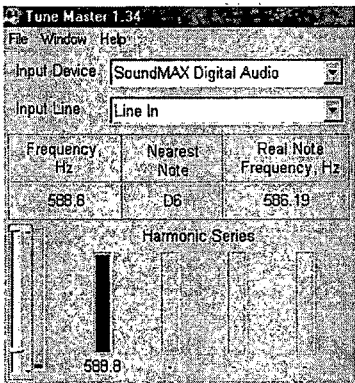
SWAR DHA



SWAR MA SHUDDHA



SWAR NI



SWAR SA

NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT
RAGA: SHYAM KALYAN

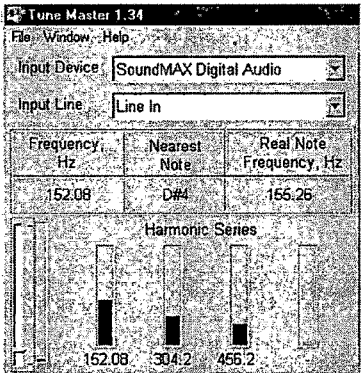
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	292.72	सा-रे	$\frac{329.05}{292.72}$	=1.124
रे	329.05	सा-ग	$\frac{370.1}{292.72}$	=1.264
ग	370.1	सा-म	$\frac{386.5}{292.72}$	=1.320
म	386.5	सा-म ^१	$\frac{413.84}{292.72}$	=1.413
म ^१	413.84	सा-प	$\frac{436.72}{292.72}$	=1.491
प	436.72	सा-ध	$\frac{491.9}{292.72}$	=1.680
ध	491.9	सा-नी	$\frac{560.54}{292.72}$	=1.914
नी	560.54	सा-सां	$\frac{588.8}{292.72}$	=2.011
सां	588.8			

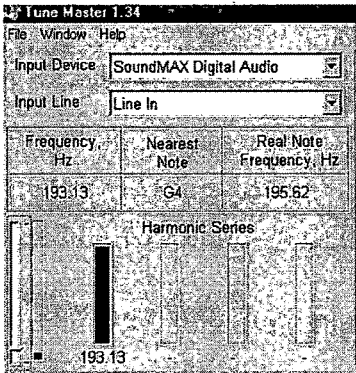
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		सा-म ^१
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	म-नी		
	प-सां		

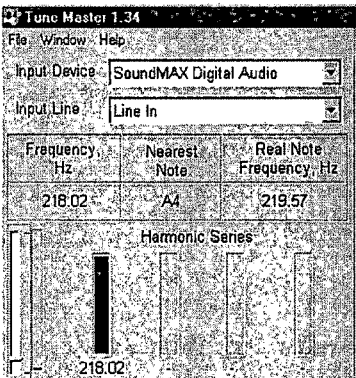
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: YAMAN



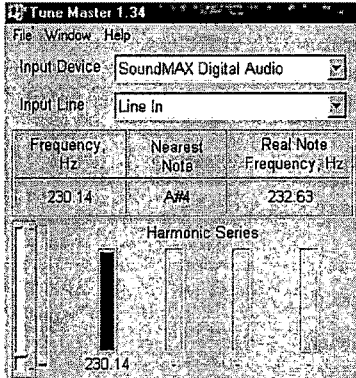
SWAR SA



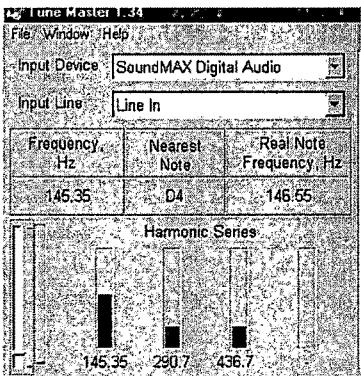
SWAR GA



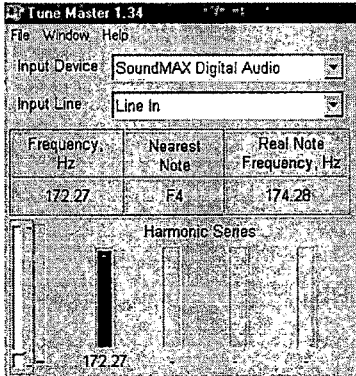
SWAR MA TIVRA



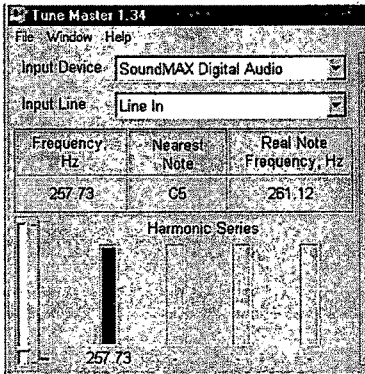
SWAR PA



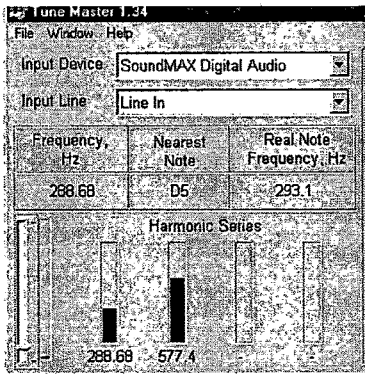
SWAR NI MANDRA



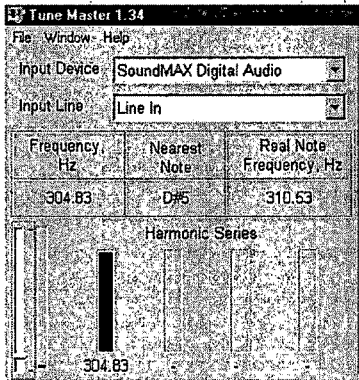
SWAR RE



SWAR DHA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST:PT.RAJAN SAJAN MISRA

RAGA: YAMAN

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	152.08	सा- रे	$\frac{172.27}{152.08}$	=1.132
रे	172.27	सा- ग	$\frac{193.13}{152.08}$	=1.269
ग	193.13	सा- म	$\frac{218.02}{152.08}$	=1.433
म	218.02	सा- प	$\frac{230.14}{152.08}$	=1.513
प	230.14	सा- ध	$\frac{257.73}{152.08}$	=1.694
ध	257.73	सा- नी	$\frac{288.68}{152.08}$	=1.898
नी	288.68	सा- सां	$\frac{304.83}{152.08}$	=2.004
सां	304.83			

CONSONANCE & DISSONANCE IN THIS RAGA

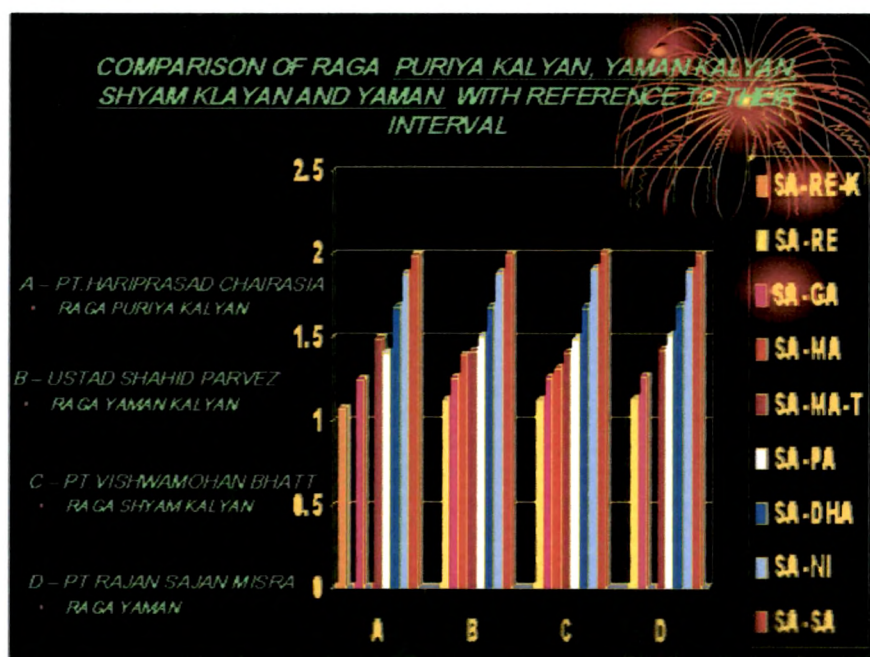
PERFECT CONSONANCE		IMPERFECT CONSONANCE	CONSONANCE
FIFTH	FOURTH	सा- ग	सा- रे
सा- प	रे- प		सा- म
रे- ध	ग- ध		
ग- नी	म- नी		
	प- सां		

Comparison of different Raga sung/played by artiste with reference to Interval

INTERVAL

INTERVAL	RAGA PURIYA KALYAN	RAGA YAMAN KALYAN	RAGA YAMAN	RAGA SHYAM KALYAN	STANDARD VALUE
सा- रे	=1.080				1.05102
सा- रे		=1.126	=1.132	=1.124	1.12753
सा-ग	=1.251	=1.260	=1.269	=1.264	1.25513
सा- म		=1.398		=1.320	1.33671
सा- म	=1.417	=1.420	=1.433	=1.413	1.40814
सा- प	=1.495	=1.509	=1.513	=1.491	1.50511
सा- ध	=1.685	=1.681	=1.694	=1.680	1.6632
सा- नी	=1.884	=1.888	=1.898	=1.914	1.88262
सा- सां	=1.997	=2.006	=2.004	=2.011	2

Graphical representation of different Raga sung/played by artiste with reference to Interval



Observation

In my analysis of ragas I have taken different ragas of almost same notes sung/played by different artists.

In the raga Shuddha Kalyan & Bhupali there is a difference in all intervals of two artistes but major difference seems in the interval of sa-ga and sa-dha.

In the raga Brindabani Sarang and Madhumad Sarang there is no major difference.

In the raga Gavati, Bhimpalsi & Patdeep there is a difference in all interval but major difference seems in the interval of sa-ga komal, sa-dha interval of Bhimpalasi and Patdeep & sa- ni of Gavati and Bhimpalasi.

In the raga Gorakh Kalyan and Durga there is major difference in interval of sa-dha other intervals have minute difference.

In the raga Miya Malhar & Gaud Malhar there is a major difference in the interval of sa-ma, sa-dha and sa-ni komal.

In the raga Marubihag and Bihag there is a major difference in the interval of sa-re, sa-pa, sa-dha and sa-ni.

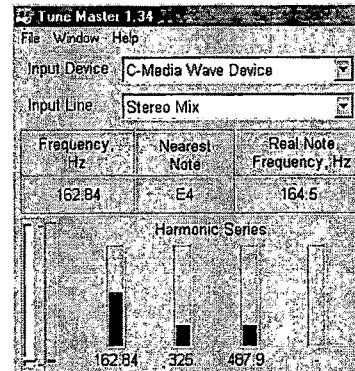
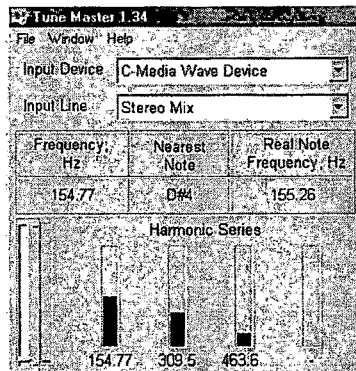
In the raga Puriya Kalyan Yaman Kalyan , Yaman and Shyam Kalyan there is a minor difference in all the intervals.

From the above observations I can say that there is a difference in the frequency of swar of different raga of almost same notes sung or played by different artistes.

ANALYSIS: DIFFERENT RAGA SUNG/PLAYED BY ONE ARTISTE

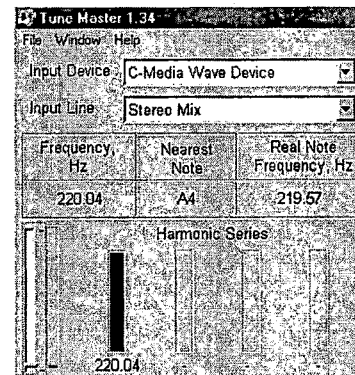
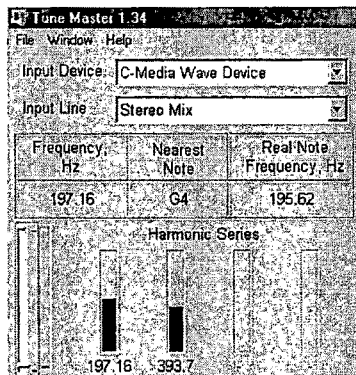
NO	Name of the Raga	Name of the Artiste
1	PURIYA	PT.RAJAN SAJAN MISRA
2	MARWA	PT.RAJAN SAJAN MISRA
3	SOHNI	PT.GUNDECHA BROTHERS
4	GURJARI TODI	PT.RAJAN SAJAN MISRA
5	MULTANI	PT.RAJAN SAJAN MISRA
6	MADHUVANTI	SMT.ASHWINI BHIDE
7	BILASKHANI TODI	PT.AJOY CHAKROBORTY
8	BHAIRAVI	PT.AJOY CHAKROBORTY
9	KOMAL RISHABH ASAVARI	PT.RAJAN SAJAN MISRA
10	DARBARI KANADA	PT.HARIPRASAD CHAURASIA (FLUTE)
11	KAUNSI KANADA	PT.HARIPRASAD CHAURASIA (FLUTE)
12	NAYAKI KANADA	SMT.ASHWINI BHIDE
13	CHARUKESHI	USTAD SUJAT KHAN
14	DES	PT.VISHWAMOHAN BHATT (GUITAR)
15	TILAKKAMOD	PT.VISHWAMOHAN BHATT (GUITAR)
16	ZINZOTI	USTAD SHAHID PARVEZ (SITAR)
17	RAMKALI	PT.BHIMSEN JOSHI
18	BHAIRAV	PT.BHIMSEN JOSHI
19	NATBHAIKAV	SHRI SANJEEV ABHYANKAR

NAME OF THE ARTIST: PT. RAJAN SAJAN MISRA
RAGA: MARWA



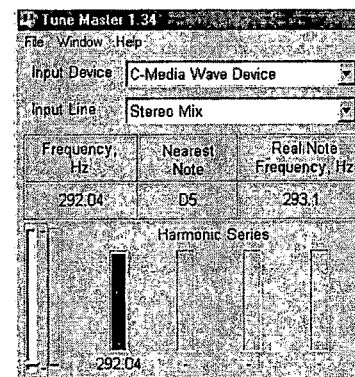
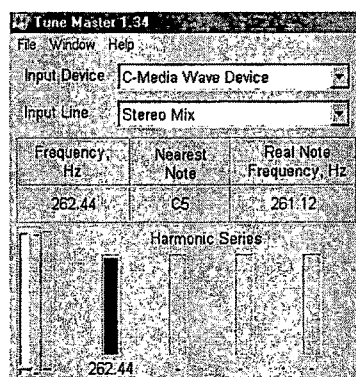
SWAR: SA

SWAR: RE KOMAL



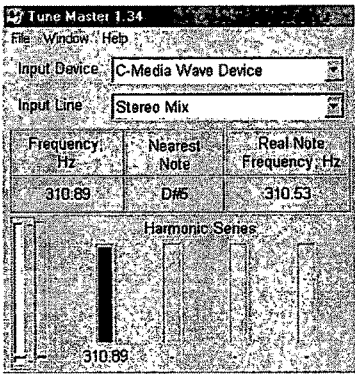
SWAR: GA

SWAR: MA TIVRA



SWAR DHA

SWAR BI



SWAR: SA TAR

NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA

RAGA: MARWA

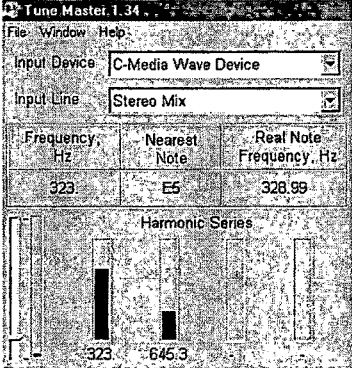
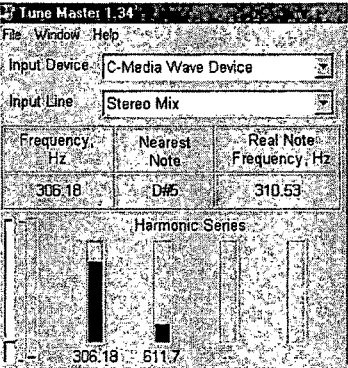
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	154.77	सा-रे	$\frac{162.84}{154.77}$	=1.052
रे	162.84	सा-ग	$\frac{197.16}{154.77}$	=1.273
ग	197.16	सा-म	$\frac{220.04}{154.77}$	=1.421
म	220.04	सा-ध	$\frac{262.44}{154.77}$	=1.695
ध	262.44	सा-नी	$\frac{292.04}{154.77}$	=1.886
नी	292.04	सा-सां	$\frac{310.89}{154.77}$	=2.008
सां	310.89			

CONSONANCE & DISSONANCE IN THIS RAGA

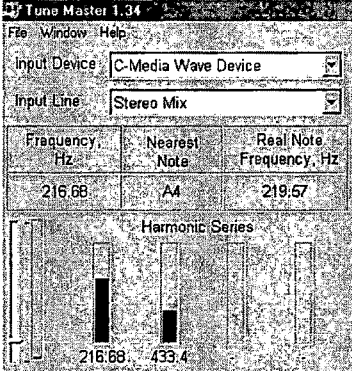
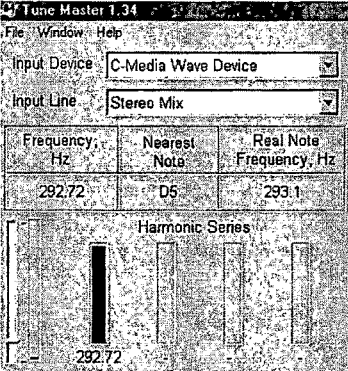
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे सा-म
ग-नी	म-नी		
	ग-ध		
	रे-म		

NAME OF THE ARTIST: PT ULAHAS KASHALKAR
RAGA: SOHNI



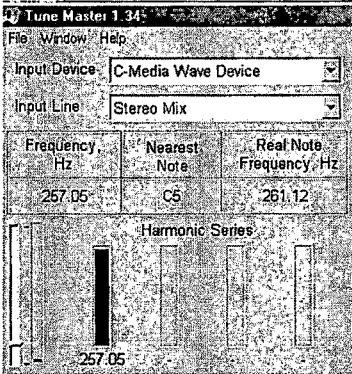
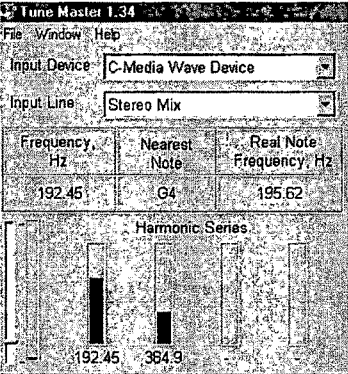
SWAR: SA TAR

SWAR: RE TAR



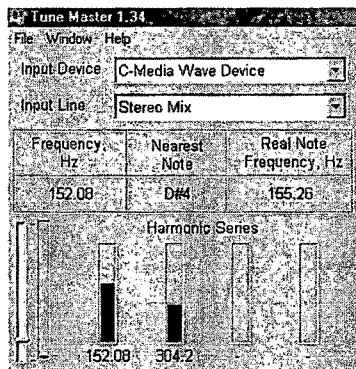
SWAR: NI

SWAR: MA TIVRA

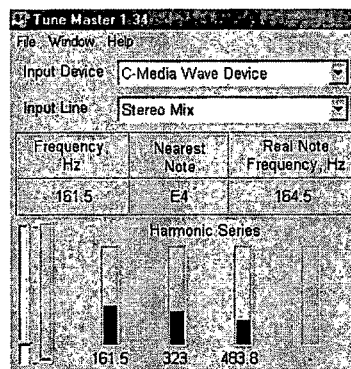


SWAR GA

SWAR DHA



SWAR: SA



SWAR: RE KOMAL

NAME OF THE ARTIST: PT ULHAS KASHALKAR

RAGA: SOHNI

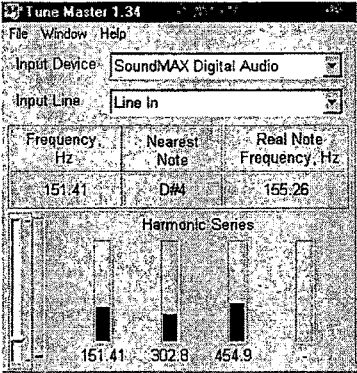
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	152.08	सा-रे	$\frac{161.5}{152.08}$	=1.061
रे	161.5	सा-ग	$\frac{192.45}{152.08}$	=1.265
ग	192.45	सा-म	$\frac{216.68}{152.08}$	=1.424
म	216.68	सा-ध	$\frac{257.05}{152.08}$	=1.690
ध	257.05	सा-नी	$\frac{292.72}{152.08}$	=1.924
नी	292.72	सा-सां	$\frac{306.18}{152.08}$	=2.013
सां	306.18			

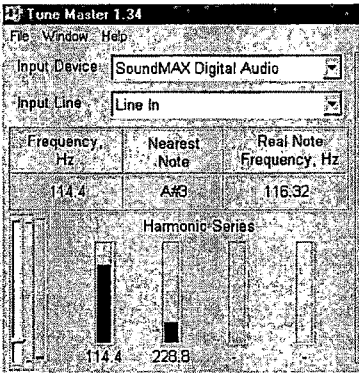
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे सा-म
ग-नी	म-नी		
	ग-ध		
	रे-म		

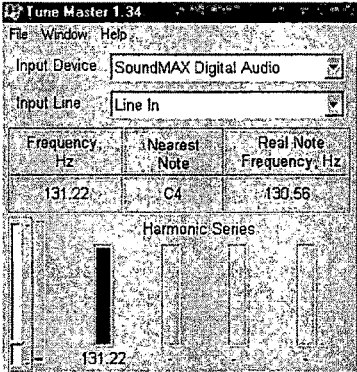
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: PURIYA



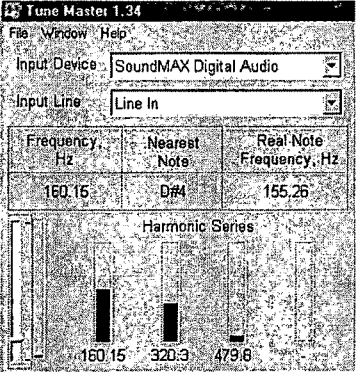
SWAR NI MANDRA



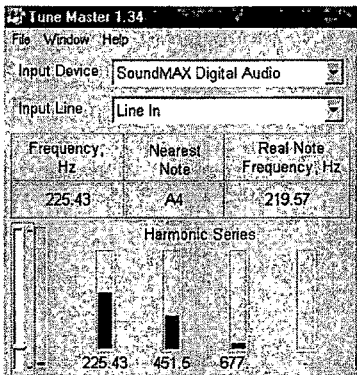
SWAR MA TIVRA MANDRA



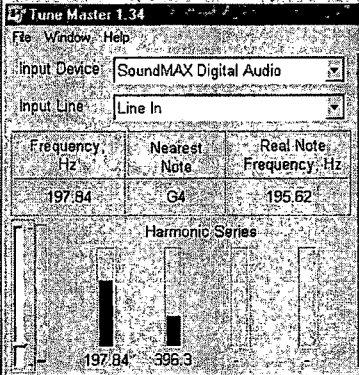
SWAR DHA MANDRA



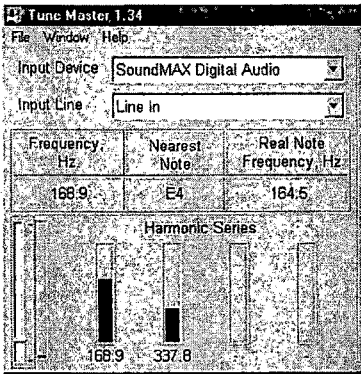
SWAR SA



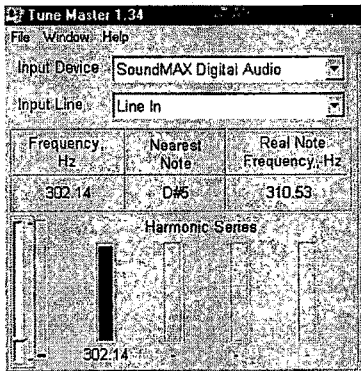
SWAR MA



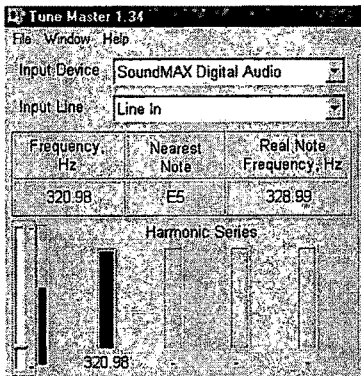
SWAR GA



SWAR RE KOMAL



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST: PT. RAJAN SAJAN MISRA
RAGA: PURIYA

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	160.15	सा- रे	$\frac{168.9}{160.15}$	=1.054
रे	168.9	सा- ग	$\frac{168.9}{160.15}$	=1.235
ग	197.84	सा- म	$\frac{168.9}{160.15}$	=1.407
म	225.43	सा- ध	$\frac{168.9}{160.15}$	=1.638
ध	262.44	सा- नी	$\frac{168.9}{160.15}$	=1.886
नी	302.14	सा- सां	$\frac{168.9}{160.15}$	=2.004
सां	320.98			

CONSONANCE & DISSONANCE IN THIS RAGA

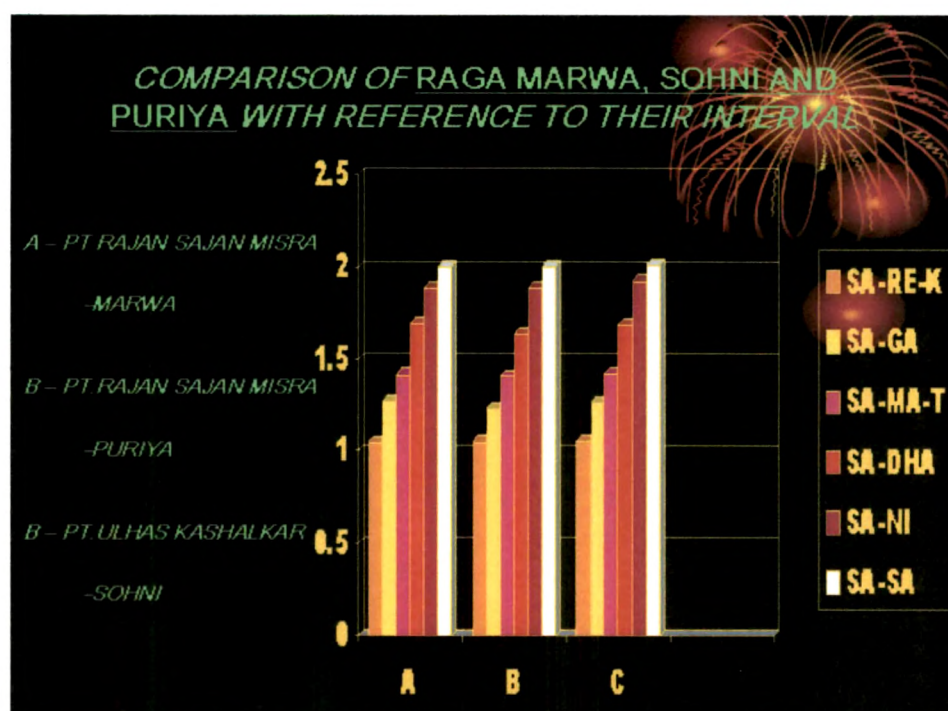
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे सा-म
ग-नी	म-नी		
	ग-ध		
	रे-म		

Comparison of different Raga sung by one artiste with reference to their Interval

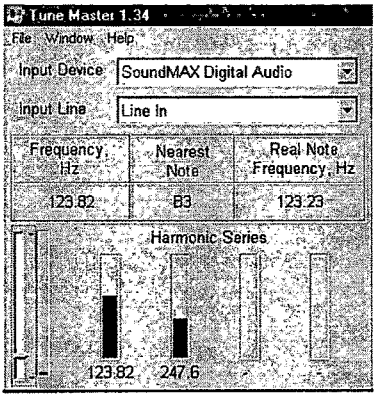
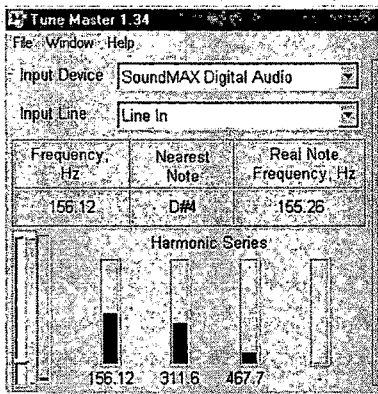
INTERVAL

INTERVAL	RAGA MARWA	RAGA SOHNI	RAGA PURIYA	STANDARD VALUE
सा-रे	=1.052	=1.061	=1.054	1.051
सा-ग	=1.273	=1.265	=1.235	1.255
सा-म	=1.421	=1.424	=1.407	1.408
सा-ध	=1.695	=1.690	=1.638	1.663
सा-नी	=1.886	=1.924	=1.886	1.882
सा-सां	=2.008	=2.013	=2.004	2

Graphical representation of different Raga sung by one artiste with reference to their Interval

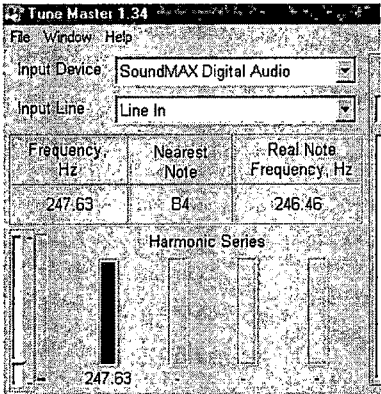
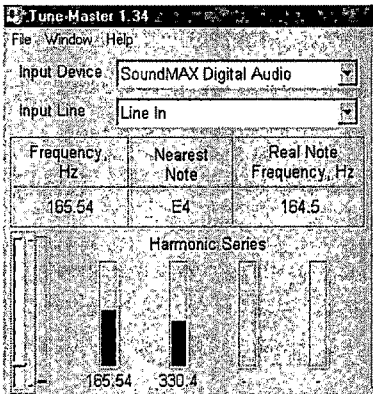


NAME OF THE ARTIST:PT.RAJAN SAJAN MISRA
RAGA: GURJARI TODI



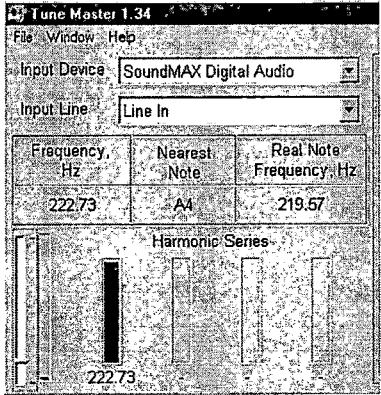
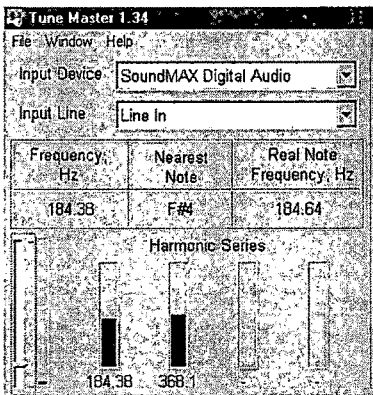
SWAR SA

SWAR DHA KOMAL MANDRA



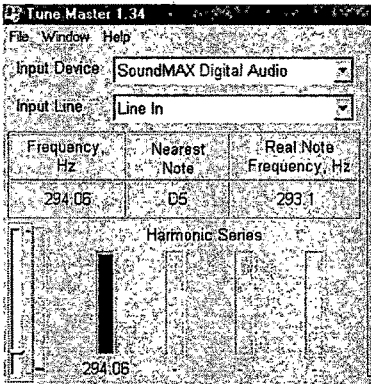
SWAR RE KOMAL

SWAR DHA KOMAL

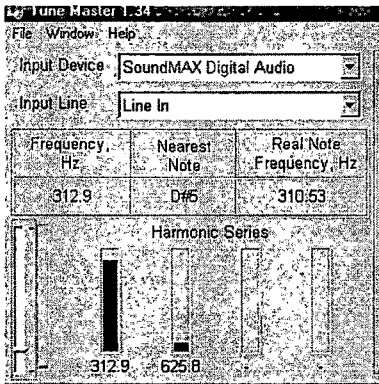


SWAR GA KOMAL

SWAR MA TIVRA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST:PT.RAJAN SAJAN MISRA
RAGA: GURJARI TODI

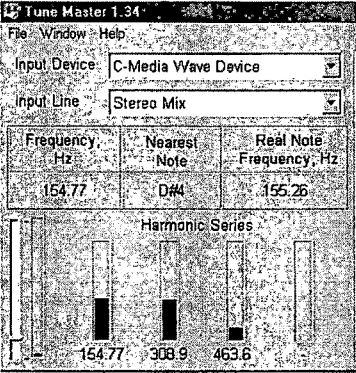
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	156.12	सा- रे	$\frac{165.54}{156.12}$	=1.060
रे	165.54	सा- ग्	$\frac{184.38}{156.12}$	=1.181
ग्	184.38	सा- मं	$\frac{222.73}{156.12}$	=1.426
मं	222.73	सा- ध्	$\frac{247.63}{156.12}$	=1.586
ध्	247.63	सा- नी	$\frac{294.04}{156.12}$	=1.883
नी	294.04	सा- सां	$\frac{312.9}{156.12}$	=2.004
सां	312.9			

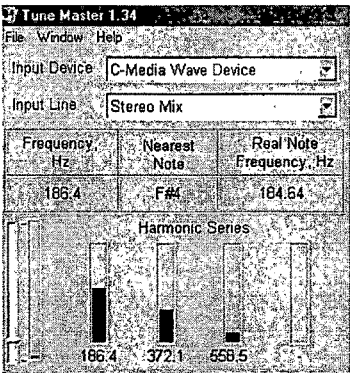
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा- ग् सा- ध्	सा- रे सा- मं
रे- ध्	रे- मं		
	मं- नी		
	ग्- ध्		

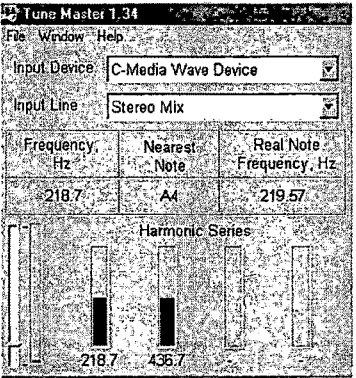
NAME OF THE ARTIST: PT.RAJAN SAJAN MISRA
RAGA: MULTANI



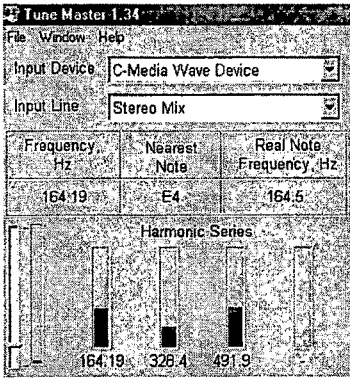
SWAR: SA



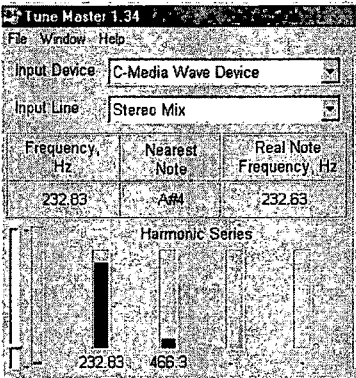
SWAR: GA KOMAL



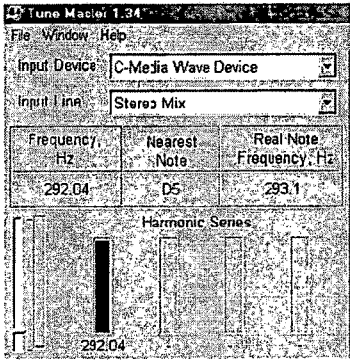
SWAR MA TIVRA



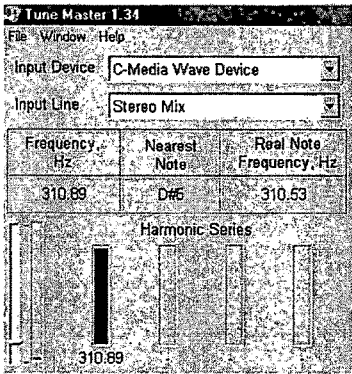
SWAR: RE KOMAL



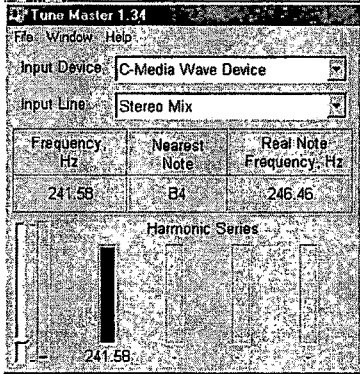
SWAR; PA



SWAR: NI



SWAR: SA TAR



SWAR: DHA KOMAL

NAME OF THE ARTIST: PT. RAJAN SAJAN MISRA

RAGA: MULTANI

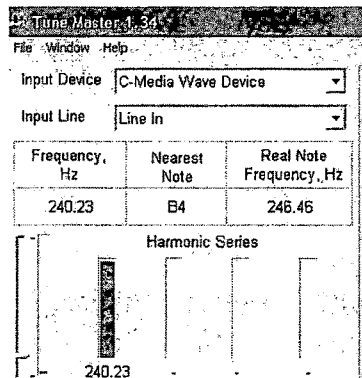
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	154.77	सा-रे	$\frac{164.19}{154.77}$	=1.060
रे	164.19	सा-ग्	$\frac{186.4}{154.77}$	=1.204
ग्	186.4	सा-म	$\frac{218.7}{154.77}$	=1.413
म	218.7	सा-प	$\frac{232.83}{154.77}$	=1.504
प	232.83	सा-ध	$\frac{241.58}{154.77}$	=1.560
ध	241.58	सा-नी	$\frac{292.04}{154.77}$	=1.886
नी	292.04	सा-सां	$\frac{310.89}{154.77}$	=2.008
सां	310.89			

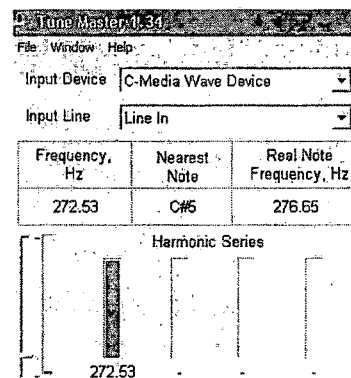
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग् सा-ध	सा-रे
सा-प	म-नी		सा-म ⁱ
रे-ध			

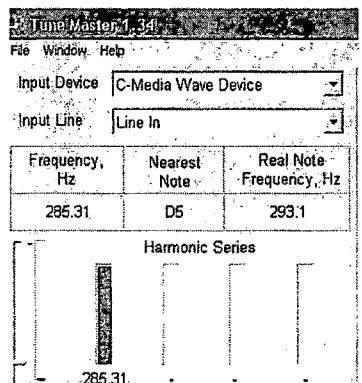
NAME OF THE ARTIST: SMT. ASHWINI BHIDE
RAGA: MADHUVANTI



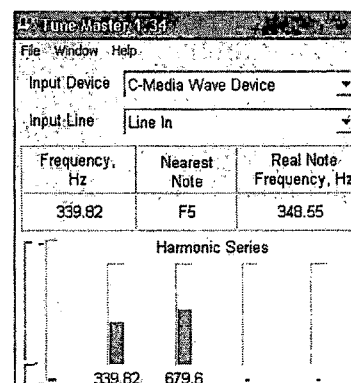
SWAR SA



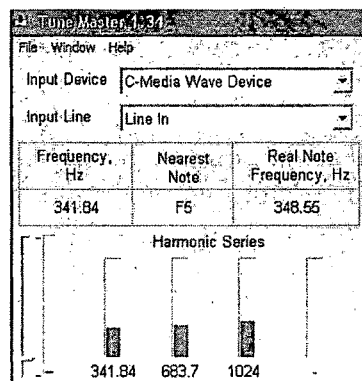
SWAR RE



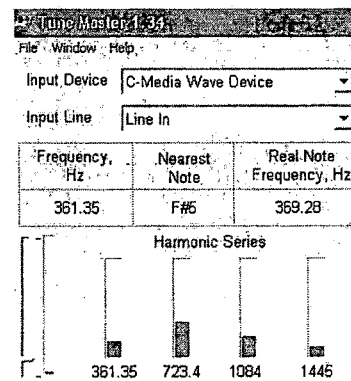
SWAR GA KOMAL



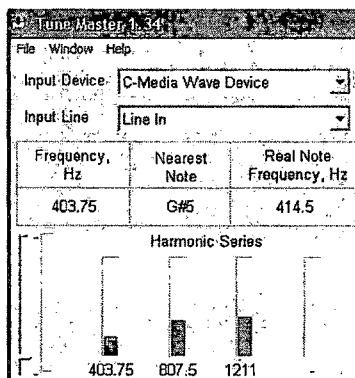
SWAR MA TIVRA



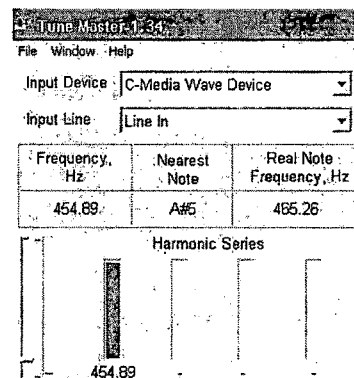
SWAR MA TIVRA



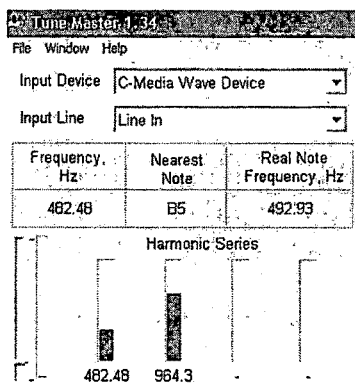
SWAR PA



SWAR DHA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST: SMT. ASHWINI BHIDE
RAGA: MADHUVANTI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	240.23	सा-रे	$\frac{272.53}{240.23}$	=1.134
रे	272.53	सा-ग्	$\frac{285.31}{240.23}$	=1.187
ग्	285.31	सा-म ^१	$\frac{339.82}{240.23}$	=1.414
म ^१	339.82	सा-प	$\frac{361.35}{240.23}$	=1.504
प	361.35	सा-ध	$\frac{403.75}{240.23}$	=1.680
ध	403.75	सा-नी	$\frac{454.89}{240.23}$	=1.893
नी	454.89	सा-सां	$\frac{482.48}{240.23}$	=2.008
सां	482.48			

CONSONANCE & DISSONANCE IN THIS RAGA

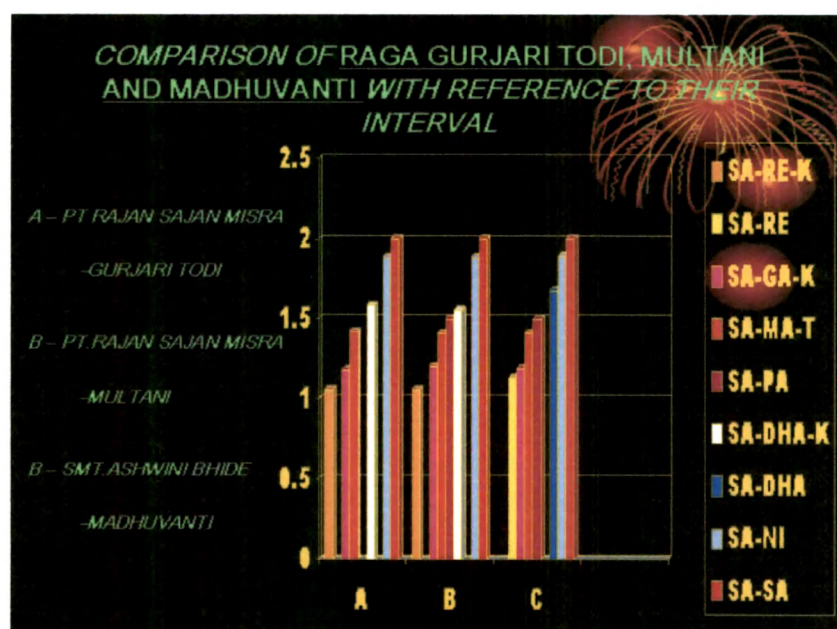
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	रे-प		सा-म ^१
रे-ध	म ^१ -नी		
	प-सां		

Comparison of different Raga sung by one artiste with reference to their Interval

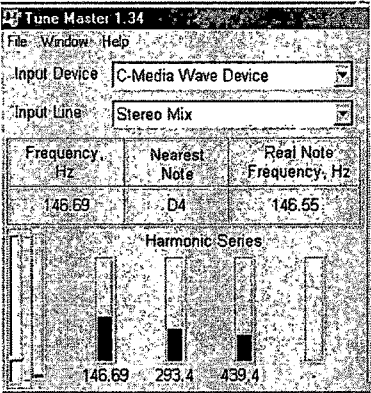
INTERVAL

INTERVAL	RAGA GURJARI TODI	RAGA MULTANI	RAGA MADHUVANTI	STANDARD VALUE
सापि रे	=1.060	=1.060		1.051
सा - रे			=1.134	1.127
सा - ग	=1.181	=1.204	=1.187	1.198
सा - म	=1.426	=1.413	=1.414	1.408
सा - प		=1.504	=1.504	1.505
सा - ध	=1.586	=1.560		1.581
सा-ध			=1.680	1.663
सापि नी	=1.883	=1.886	=1.893	1.882
सा - सां	=2.004	=2.008	=2.008	2

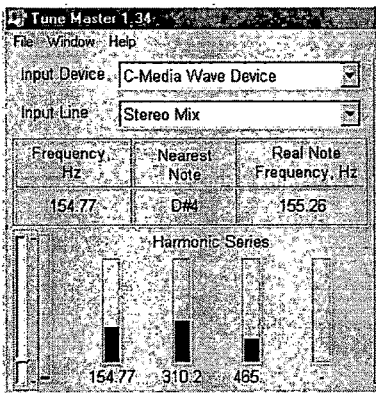
Graphical representation of different Raga sung by one artiste with reference to their Interval



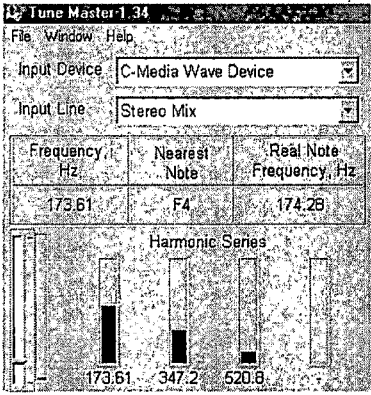
NAME OF THE ARTIST: PT.AJOY CHAKRABORTY
RAGA: BILASKHANI TODI



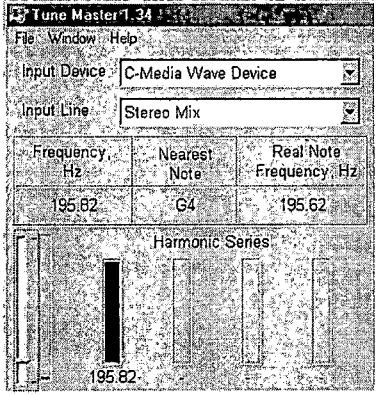
SWAR: SA



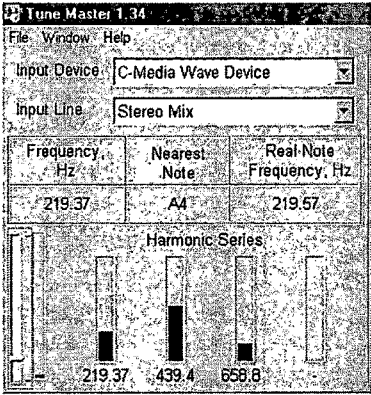
SWAR: RE KOMAL



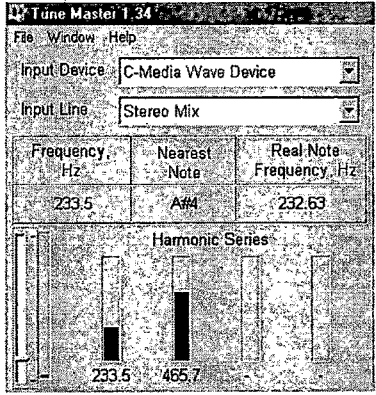
SWAR GA KOMAL



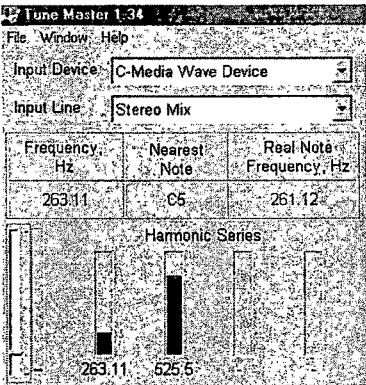
SWAR: MA



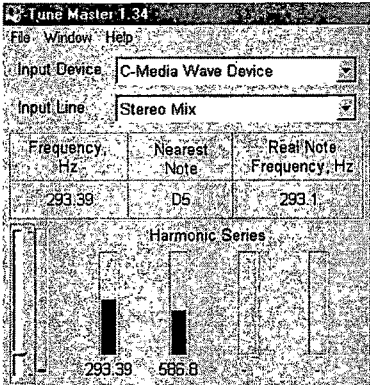
SWAR PA



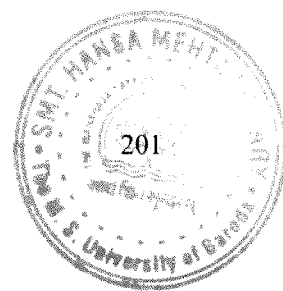
SWAR DHA KOMAL



SWAR: NI KOMAL



SWAR: SA TAR



NAME OF THE ARTIST: PT.AJOY CHAKRABORTY
RAGA: BILASKHANI TODI

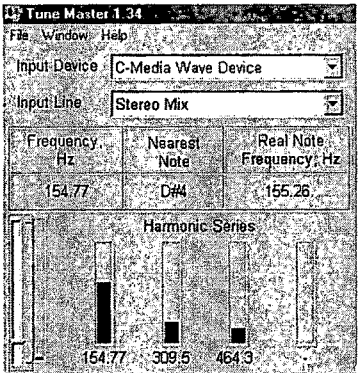
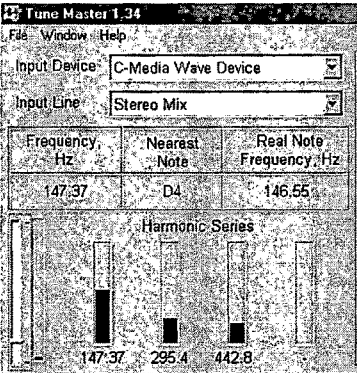
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	146.69	सा - रे	$\frac{154.77}{146.69}$	=1.055
रे	154.77	सा - ग्	$\frac{173.61}{146.69}$	=1.183
ग्	173.61	सा - म	$\frac{195.82}{146.69}$	=1.334
म	195.82	सा - य	$\frac{219.37}{146.69}$	=1.495
य	219.37	सा - ध्	$\frac{233.5}{146.69}$	=1.591
ध्	233.5	सा - न्नी	$\frac{263.11}{146.69}$	=1.793
न्नी	263.11	सा - सां	$\frac{293.39}{146.69}$	=2.000
सां	293.39			

CONSONANCE & DISSONANCE IN THIS RAGA

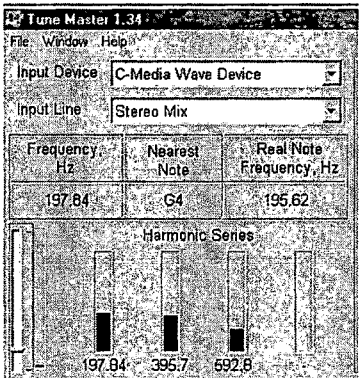
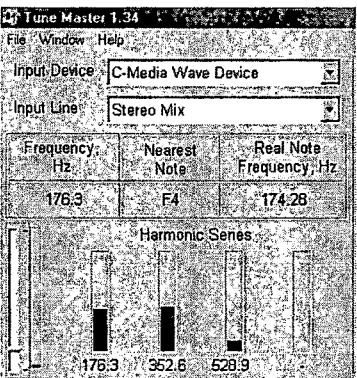
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा - ग्	सा - रे
सा-प	सा-म	सा - ध्	सा - न्नी
रे-ध्	ग्-ध्		
ग्-न्नी	म-न्नी		
म-सां	प-सां		

NAME OF THE ARTIST: PT.AJOY CHAKRABORTY
RAGA: BHAIRAVI



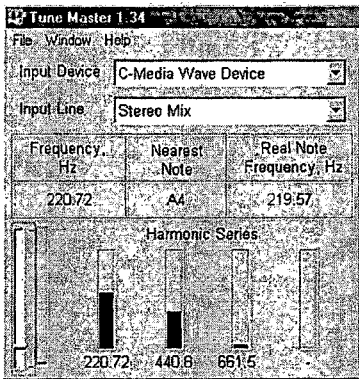
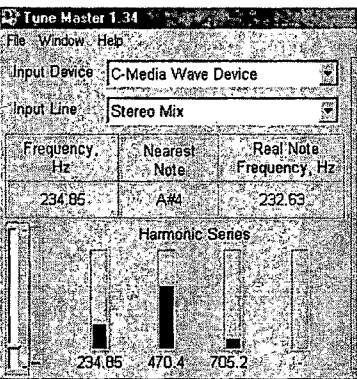
SWAR; SA

SWAR: RE KOMAL



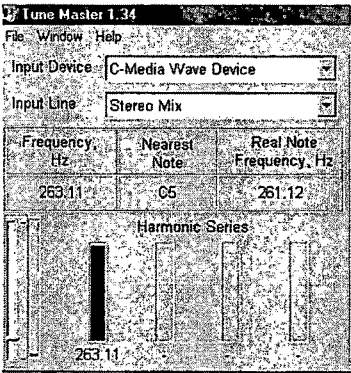
SWAR: GA KOMAL

SWAR: MA

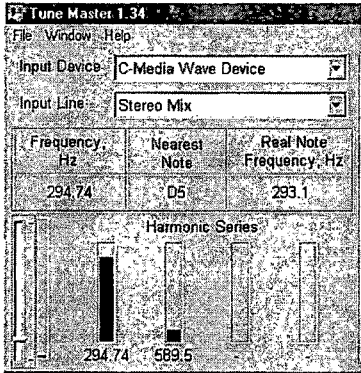


SWAR DHA KOMAL

SWAR PA



SWAR: NI KOMAL



SWAR: SA TAR

NAME OF THE ARTIST: PT.AJOY CHAKRABORTY

RAGA: BHAIRAVI

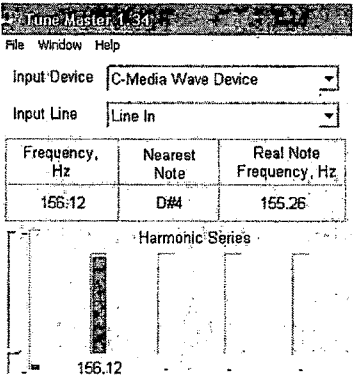
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	147.37	सा-रे	$\frac{154.77}{147.37}$	=1.050
रे	154.77	सा-ग्	$\frac{176.3}{147.37}$	=1.196
ग्	176.3	सा-म	$\frac{197.84}{147.37}$	=1.342
म	197.84	सा-प	$\frac{220.72}{147.37}$	=1.497
प	220.72	सा-ध्	$\frac{234.85}{147.37}$	=1.593
ध्	234.85	सा-नी	$\frac{263.11}{147.37}$	=1.785
नी	263.11	सा-सां	$\frac{294.74}{147.37}$	=2
सां	294.74			

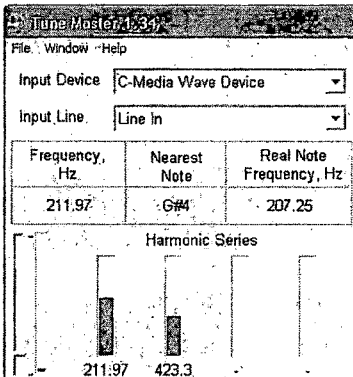
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	सा-म		
रे-ध्	ग्-ध्	सा-ध्	सा-नी
ग्-नी	म-नी		
म-सां	प-सां		

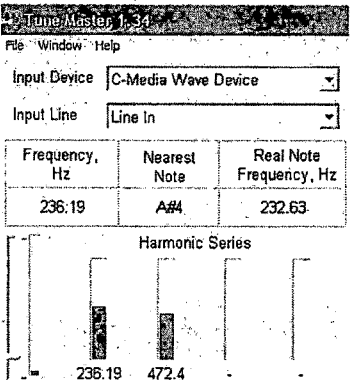
NAME OF THE ARTIST:PT.RAJAN SAJAN MISRA
RAGA:KOMAL RISHABH ASHAVARI



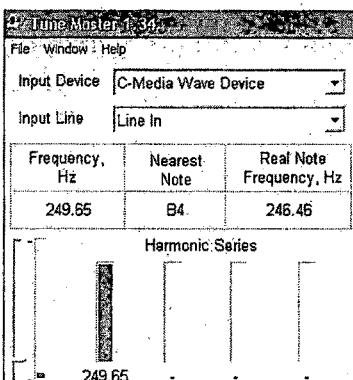
SWAR SA



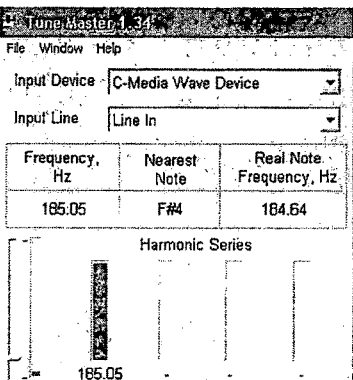
SWAR MA



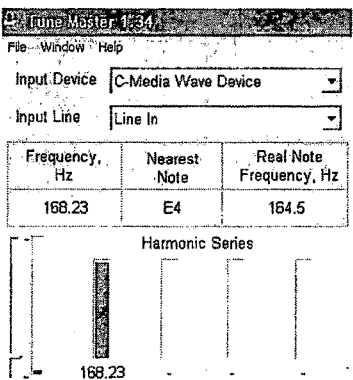
SWAR PA



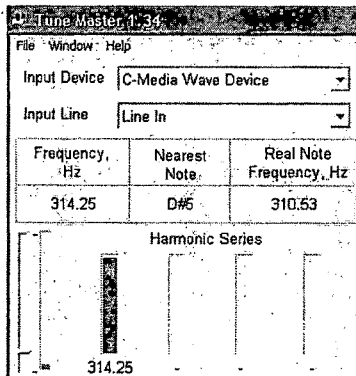
SWAR DHA KOMAL



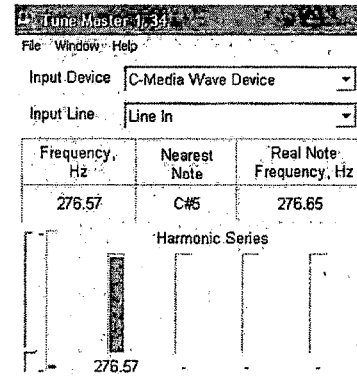
SWAR GA KOMAL



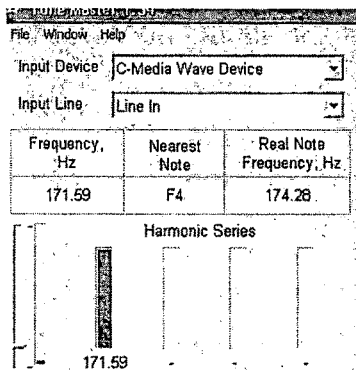
SWAR RE KOMAL



SWAR SA TAR



SWAR NI KOMAL



SWAR RE (MIND FROM MA TO KOMAL RE)

NAME OF THE ARTIST:PT.RAJAN SAJAN MISRA
RAGA:KOMAL RISHABH ASHAVARI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	156.12	सा - रे	$\frac{168.23}{156.12}$	=1.077
रे	168.23	सा - ग्	$\frac{185.05}{156.12}$	=1.185
ग्	185.05	सा - म	$\frac{211.97}{156.12}$	=1.357
म	211.97	सा - प	$\frac{236.19}{156.12}$	=1.512
प	236.19	सा - ध्	$\frac{249.65}{156.12}$	=1.599
ध्	249.65	सा - नी	$\frac{276.57}{156.12}$	=1.771
नी	276.57	सा - सां	$\frac{314.25}{156.12}$	=2.012
सां	314.25			

CONSONANCE & DISSONANCE IN THIS RAGA

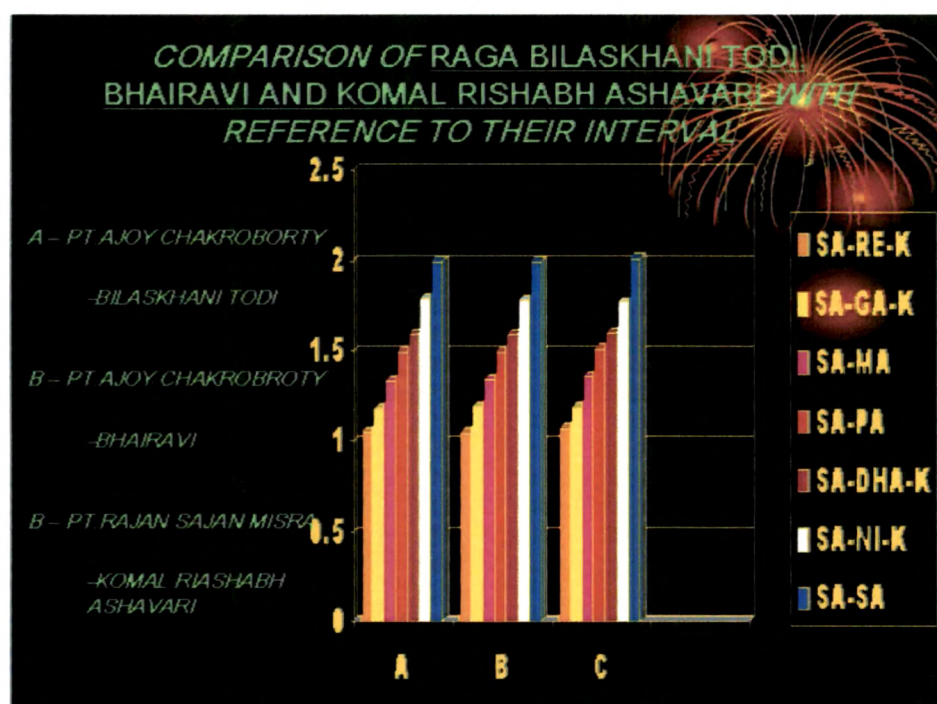
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा - ग्	सा - रे
सा-प	सा-म		
रे-ध्	ग्-ध्	सा - ध्	सा - नी
ग्-नी	म-नी		
म-सां	प-सां		

Comparison of different Raga sung by one artiste with reference to Interval

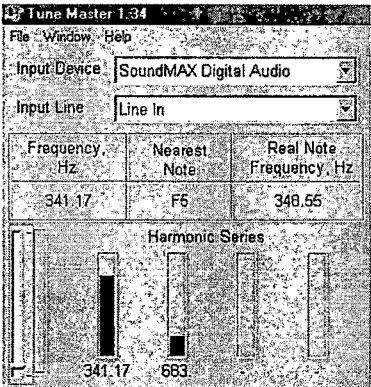
INTERVAL:

INTERVAL	RAGA BILASKHANI TODI	RAGA BHAIRAVI	RAGA KOMAL RISHABH ASHAVARI	STANDARD VALUE
सा- रे	=1.055	=1.050	=1.077	1.051
सा-ग्	=1.183	=1.196	=1.185	1.198
सा- म	=1.334	=1.342	=1.357	1.336
सा- प	=1.495	=1.497	=1.512	1.505
सा- ध्	=1.591	=1.593	=1.599	1.581
सा- नी	=1.793	=1.785	=1.771	1.775
सा- सां	=2.000	=2	=2.012	2

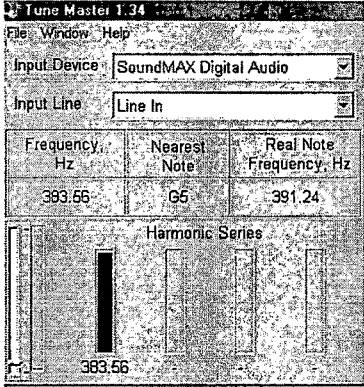
Graphical representation of different Raga sung by one artiste with reference to Interval



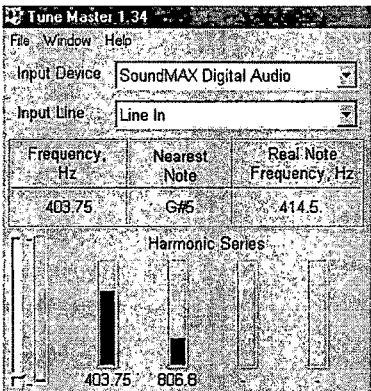
NAME OF THE ARTIST: PT.HARIPRASAD CHAURASIA
RAGA: DARBARI KANADA



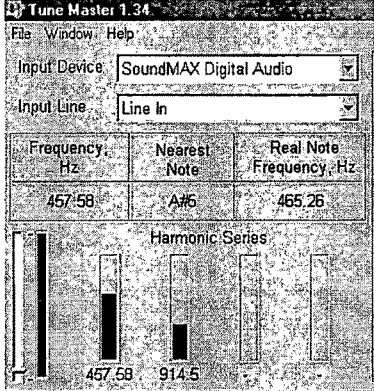
SWAR SA



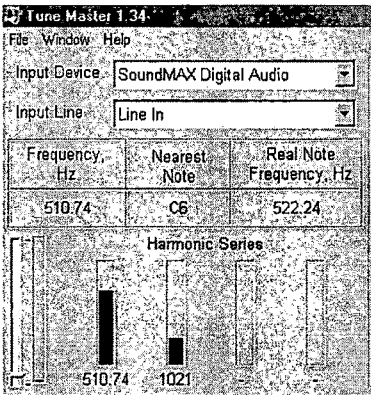
SWAR RE



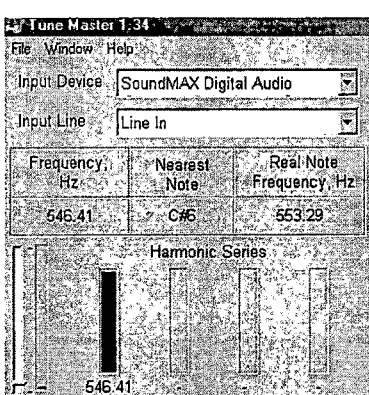
SWAR GA KOMAL



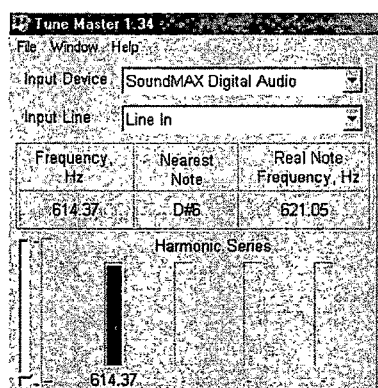
SWAR MA



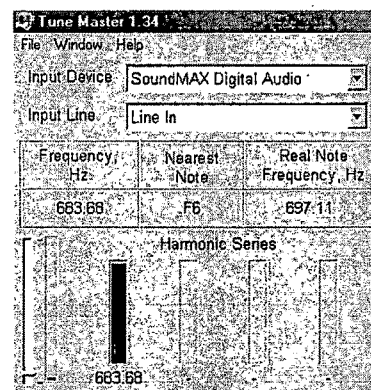
SWAR PA



SWAR DHA KOMAL



SWAR NI KOMAL



SWAR SA

NAME OF THE ARTIST:PT.HARIPRASAD CHAURASIA
RAGA: DARBARI KANADA

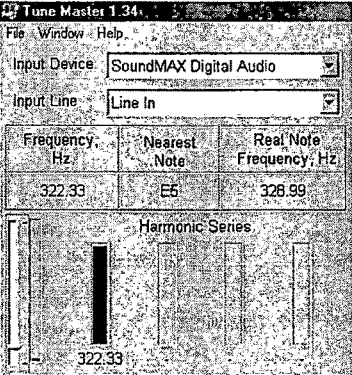
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	341.17	सा-रे	$\frac{383.56}{341.17}$	=1.124
रे	383.56	सा-ग्	$\frac{403.75}{341.17}$	=1.183
ग्	403.75	सा-म	$\frac{457.58}{341.17}$	=1.341
म	457.58	सा-प	$\frac{510.74}{341.17}$	=1.497
प	510.74	सा-ध्	$\frac{546.41}{341.17}$	=1.601
ध्	546.41	सा-न्	$\frac{314.37}{341.17}$	=1.800
न्	314.37	सा-सां	$\frac{683.68}{341.17}$	=2.003
सां	683.68			

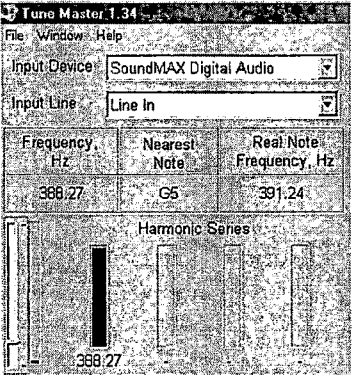
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा - रे
सा-प	सा-म	सा - ध्	सा - न्
ग्-न्	रे-प		
म-सां	ग्-ध्		
	म-न्		
	प-सां		

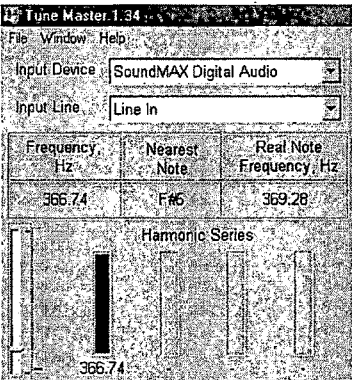
NAME OF THE ARTIST:PT.HARIPRASAD CHAURASIA
RAGA: KAUNSI KANADA



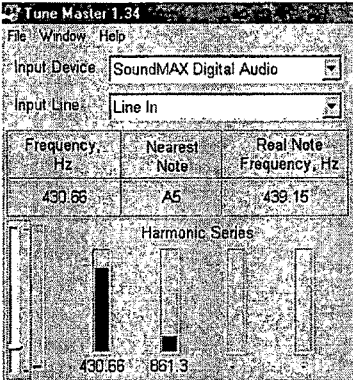
SWAR SA



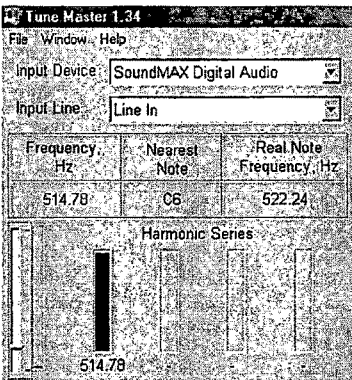
SWAR GA



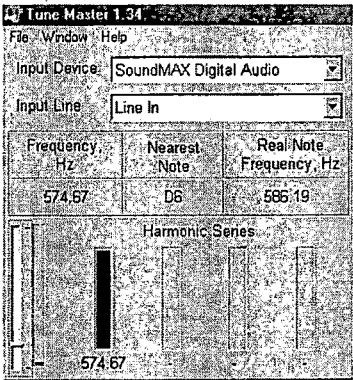
SWAR RE



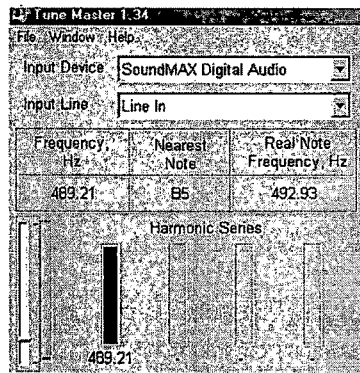
SWAR MA



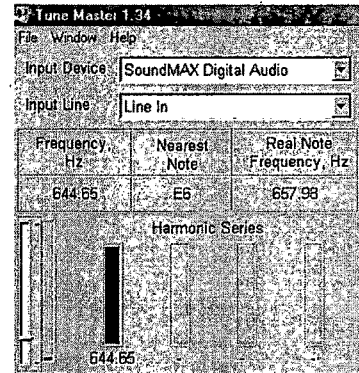
SWAR DHA KOMAL



SWAR NI KOMAL



SWAR PA



SWAR SA TAR

NAME OF THE ARTIST:PT.HARIPRASAD CHAURASIA

RAGA: KAUNSI KANADA

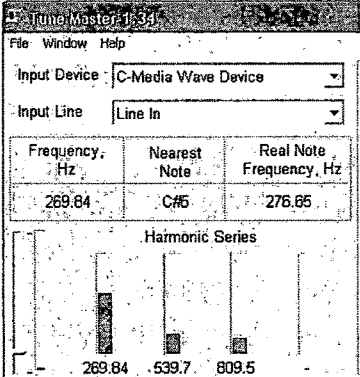
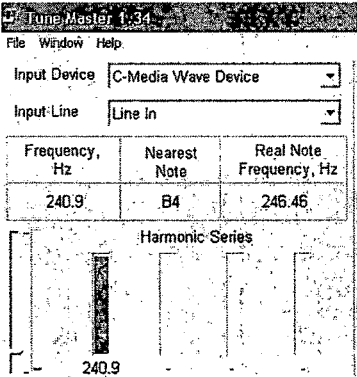
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	322.33	सा-रे	$\frac{366.74}{322.33}$	=1.137
रे	366.74	सा-ग्	$\frac{388.27}{322.33}$	=1.204
ग्	388.27	सा-म	$\frac{430.66}{322.33}$	=1.336
म	430.66	सा-प	$\frac{489.21}{322.33}$	=1.517
प	489.21	सा-ध्	$\frac{514.78}{322.33}$	=1.597
ध्	514.78	सा-न्	$\frac{574.67}{322.33}$	=1.782
न्	574.67	सा-सां	$\frac{644.65}{322.33}$	=1.999
सां	644.65			

CONSONANCE & DISSONANCE IN THIS RAGA

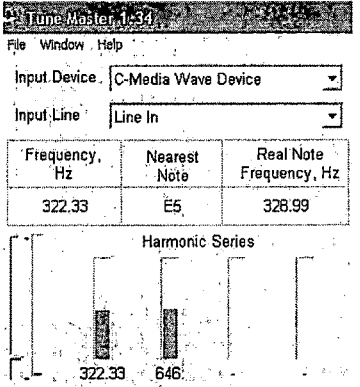
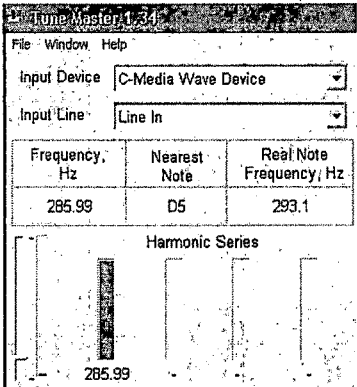
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा - रे
सा-प	सा-म		
ग्-न्	रे-प	सा - ध्	सा - न्
म-सां	ग्-ध्		
	म-न्		
	प-सां		

NAME OF THE ARTIST:SMT.ASHWINI BHIDE
RAGA:NAYAKI KANADA



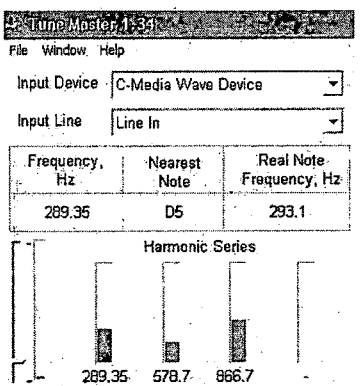
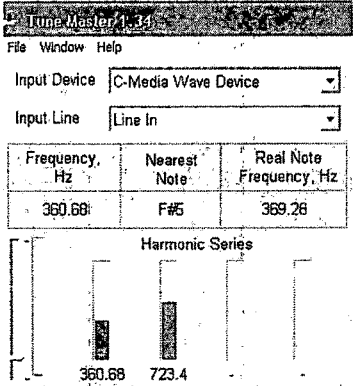
SWAR SA

SWAR RE



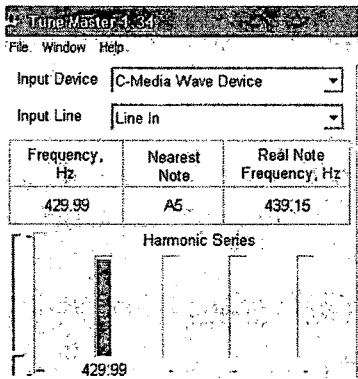
SWAR GA KOMAL

SWAR MA

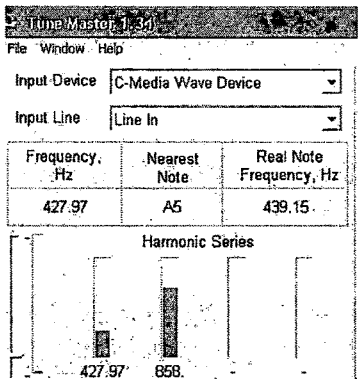


SWAR PA

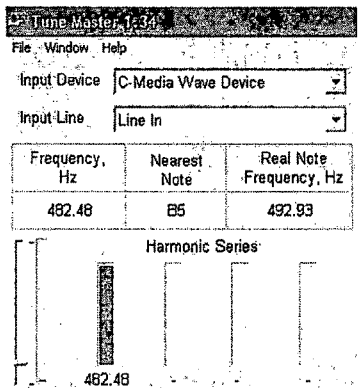
SWAR GA KOMAL



SWAR NI KOMAL



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTIST:SMT.ASHWINI BHIDE
RAGA:NAYAKI KANADA

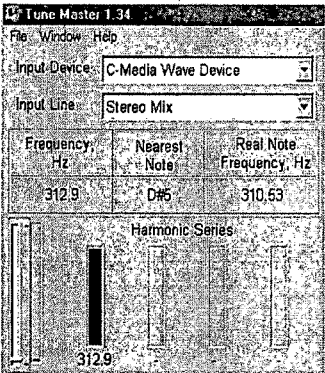
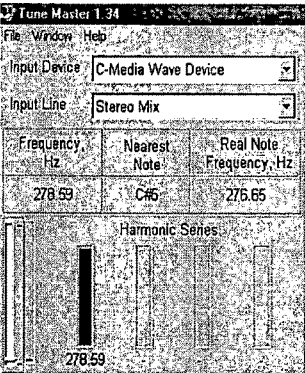
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS
OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	240.9	सा-रे	$\frac{269.84}{240.9}$	=1.120
रे	269.84	सा-ग्	$\frac{285.99}{240.9}$	=1.187
ग्	285.99	सा-म	$\frac{322.33}{240.9}$	=1.338
म	322.33	सा-प	$\frac{360.68}{240.9}$	=1.497
प	360.68	सा-नी	$\frac{429.99}{240.9}$	=1.784
नी	429.99	सा-सां	$\frac{482.48}{240.9}$	=2.002
सां	482.48			

CONSONANCE & DISSONANCE IN THIS RAGA

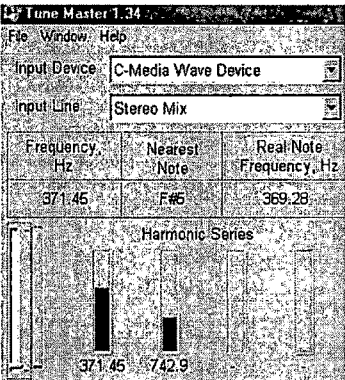
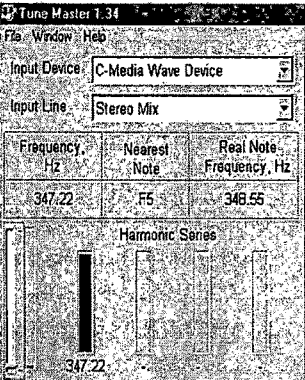
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा - रे
सा-प	सा-म		सा - नी
ग्-नी	रे-प		
म-सां	म-नी		
	प-सां		

NAME OF THE ARTIST:USTAD SUJAT KHAN
RAGA: CHARUKESHI



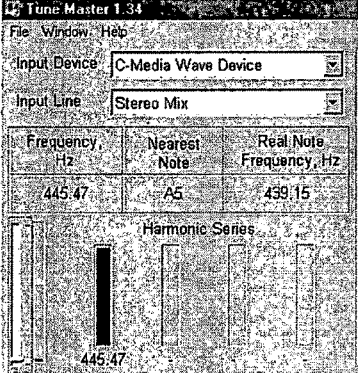
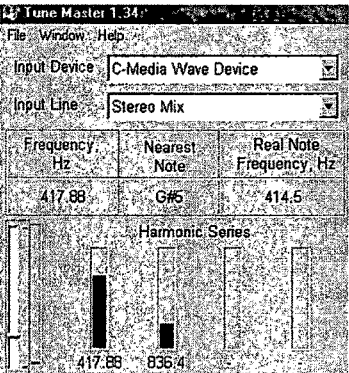
SWAR SA

SWAR RE



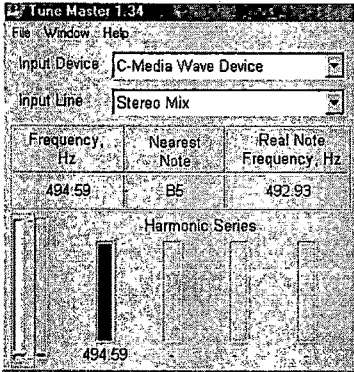
SWAR GA

SWAR MA

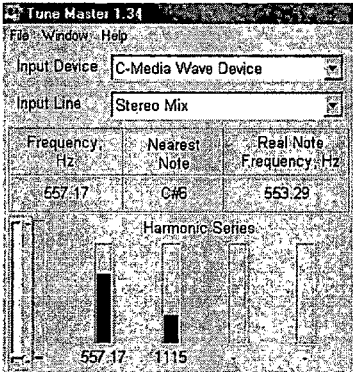


SWAR PA

SWAR DHA KOMAL



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTIST:USTAD SUJAT KHAN

RAGA: CHARUKESHI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	278.59	सा-रे	$\frac{312.9}{278.59}$	=1.123
रे	312.9	सा-ग	$\frac{347.22}{278.59}$	=1.245
ग	347.22	सा-म	$\frac{371.45}{278.59}$	=1.331
म	371.45	सा-प	$\frac{417.88}{278.59}$	=1.498
प	417.88	सा-ध्	$\frac{445.47}{278.59}$	=1.597
ध्	445.47	सा-न्ही	$\frac{494.59}{278.59}$	=1.774
न्ही	494.59	सा-सां	$\frac{557.17}{278.59}$	=1.997
सां	557.17			

CONSONANCE & DISSONANCE IN THIS RAGA

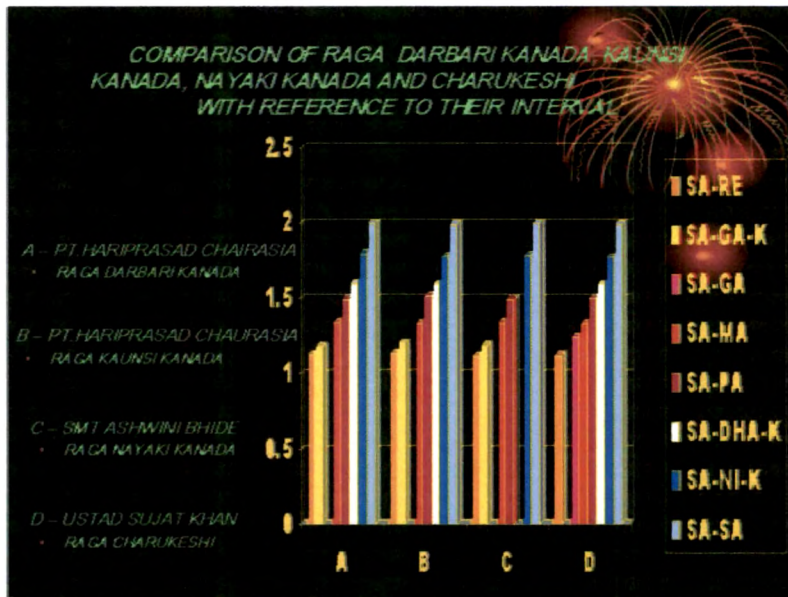
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म	सा-ध्	सा-न्ही
म-सां	रे-प		
	म-न्ही		
	प-सां		

Comparison of different Raga sung/played by one artiste with reference to Interval

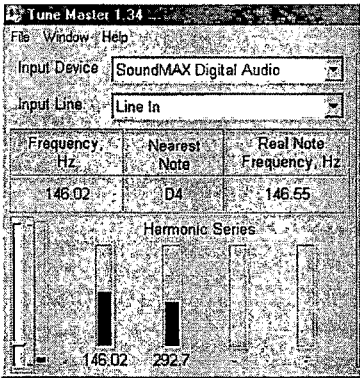
INTERVAL

INTERVAL	RAGA DARBARI KANADA	RAGA KAUNSI KANADA	RAGA NAYAKI KANADA	RAGA CHARUKESHI	STANDARD VALUE
सा- रे	=1.124	=1.137	=1.120	=1.123	1.127
सा-ग्	=1.183	=1.204	=1.187		1.198
सा-ग				=1.245	1.255
सा- म	=1.341	=1.336	=1.338	=1.331	1.336
सा- प	=1.497	=1.517	=1.497	=1.498	1.505
सा- ध्	=1.601	=1.597		=1.597	1.581
सा- नी	=1.800	=1.782	=1.784	=1.774	1.775
सा- सां	=2.003	=1.999	=2.002	=1.997	2

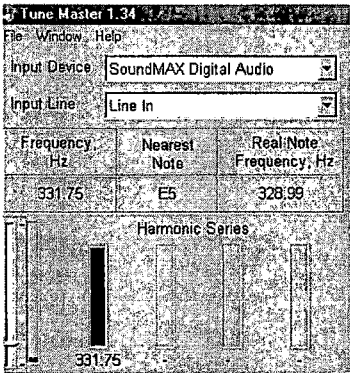
Comparison of different Raga sung/played by one artiste with reference to Interval



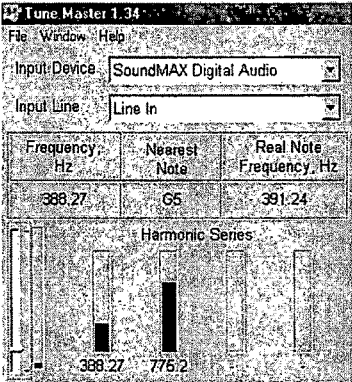
NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT
RAGA: DES



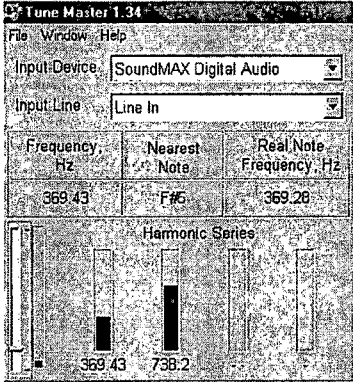
SWAR SA



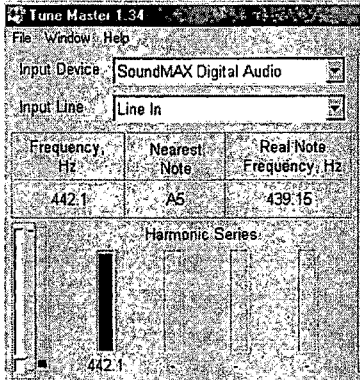
SWAR RE



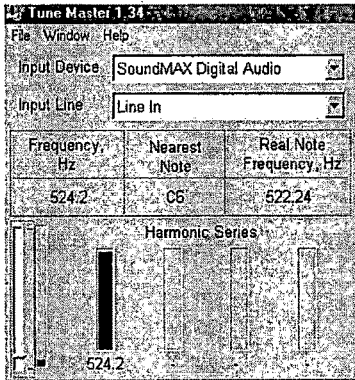
SWAR MA



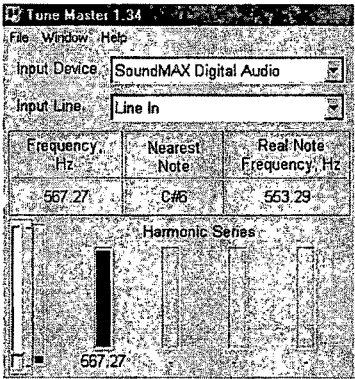
SWAR GA



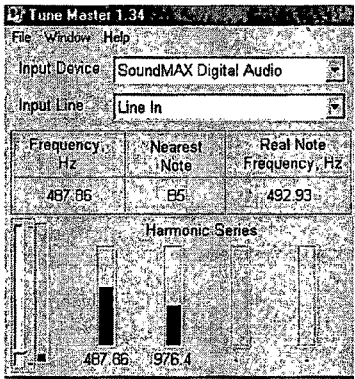
SWAR PA



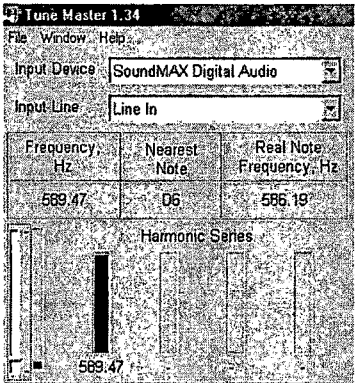
SWAR NI KOMAL



SWAR NI SHUDDHA



SWAR DHA



SWAR SA TAR

NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT

RAGA: DES

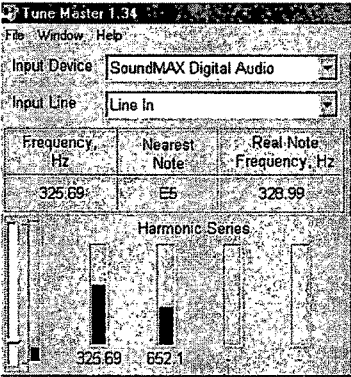
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	292.04	सा-रे	$\frac{331.75}{292.04}$	=1.139
रे	331.75	सा-ग	$\frac{369.43}{292.04}$	=1.264
ग	369.43	सा-म	$\frac{388.27}{292.04}$	=1.329
म	388.27	सा-प	$\frac{442.1}{292.04}$	=1.513
प	442.1	सा-ध	$\frac{487.86}{292.04}$	=1.670
ध	487.86	सा-नी	$\frac{524.2}{292.04}$	=1.794
नी	524.2	सा-नी	$\frac{567.27}{292.04}$	=1.942
नी	567.27	सा-सां	$\frac{589.47}{292.04}$	=2.018
सां	589.47			

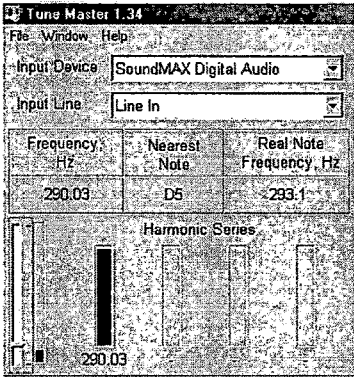
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		सा-नी
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	म-नी		
	प-सां		

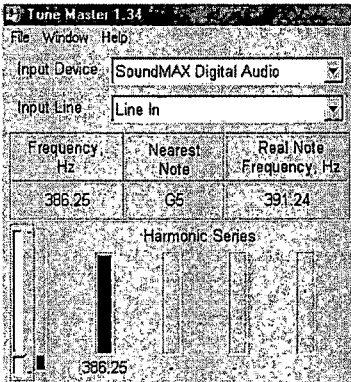
NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT
RAGA: TILAKKAMOD



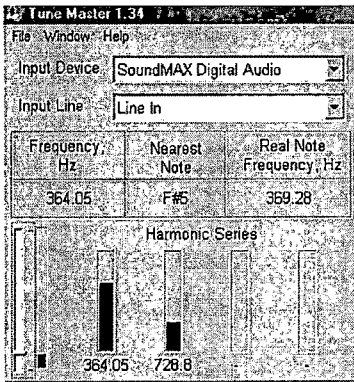
SWAR RE



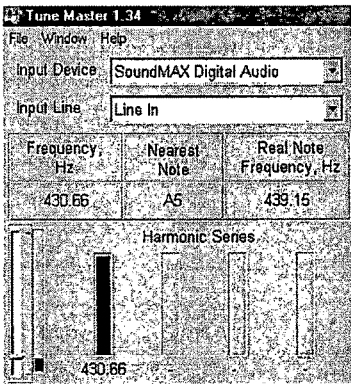
SWAR SA



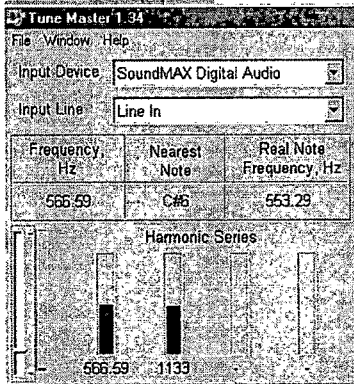
SWAR MA



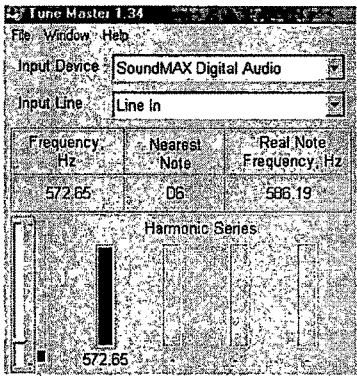
SWAR GA



SWAR PA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST:PT.VISHWAMOHAN BHATT

RAGA: TILAKKAMOD

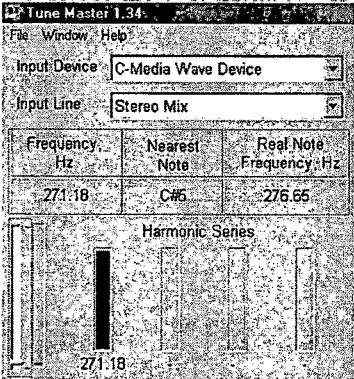
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	290.03	सा-रे	$\frac{325.69}{290.03}$	=1.122
रे	325.69	सा-ग	$\frac{364.05}{290.03}$	=1.255
ग	364.05	सा-म	$\frac{386.25}{290.03}$	=1.331
म	386.25	सा-प	$\frac{430.66}{290.03}$	=1.484
प	430.66	सा-नी	$\frac{566.59}{290.03}$	=1.953
नी	566.59	सा-सां	$\frac{572.65}{290.03}$	=1.974
सां	572.65			

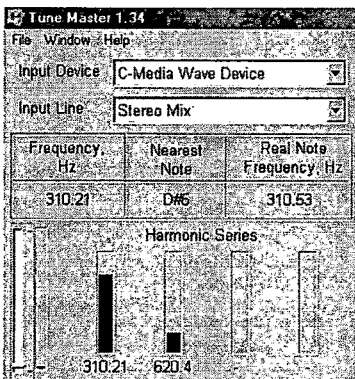
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		
रे-ध	रे-प		
ग-नी	ग-ध		
म-सां	प-सां		

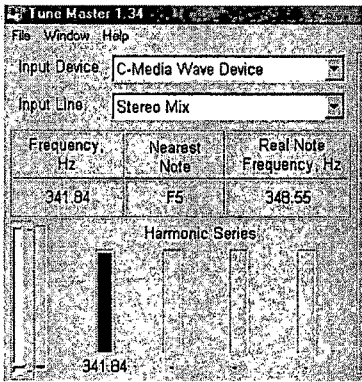
NAME OF THE ARTIST:USTSAD SHAHID PARVEZ
RAGA: ZINZOTI



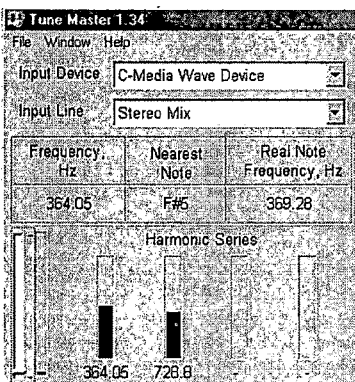
SWAR SA



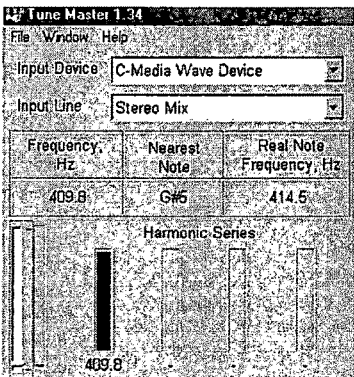
SWAR RE



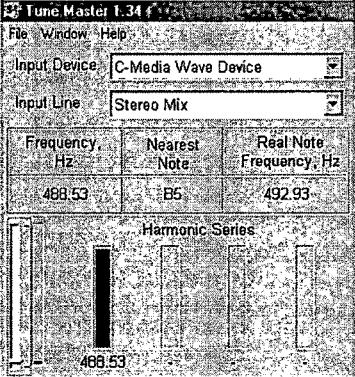
SWAR GA



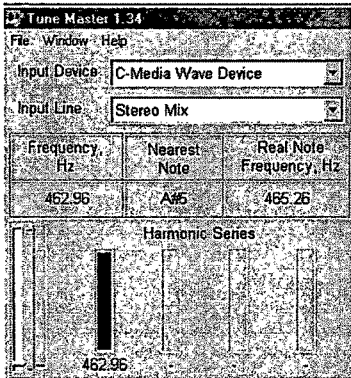
SWAR MA



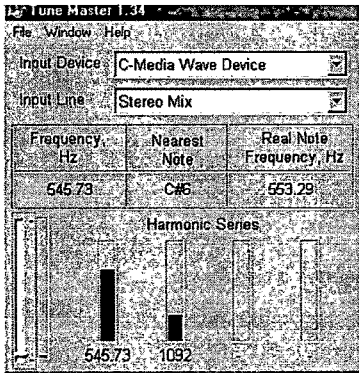
SWAR PA



SWAR NI KOMAL



SWAR DHA



SWAR SA TAR

NAME OF THE ARTIST:USTSAD SHAHID PARVEZ
RAGA: ZINZOTI

**FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS
OF THIS RAGA**

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	271.18	सा-रे	$\frac{310.21}{271.18}$	=1.143
रे	310.21	सा-ज	$\frac{341.84}{271.18}$	=1.260
ज	341.84	सा-म	$\frac{364.05}{271.18}$	=1.342
म	364.05	सा-प	$\frac{409.8}{271.18}$	=1.511
प	409.8	सा-ध	$\frac{462.96}{271.18}$	=1.707
ध	462.96	सा-नी	$\frac{488.53}{271.18}$	=1.801
नी	488.53	सा-सां	$\frac{545.73}{271.18}$	=2.012
सां	545.73			

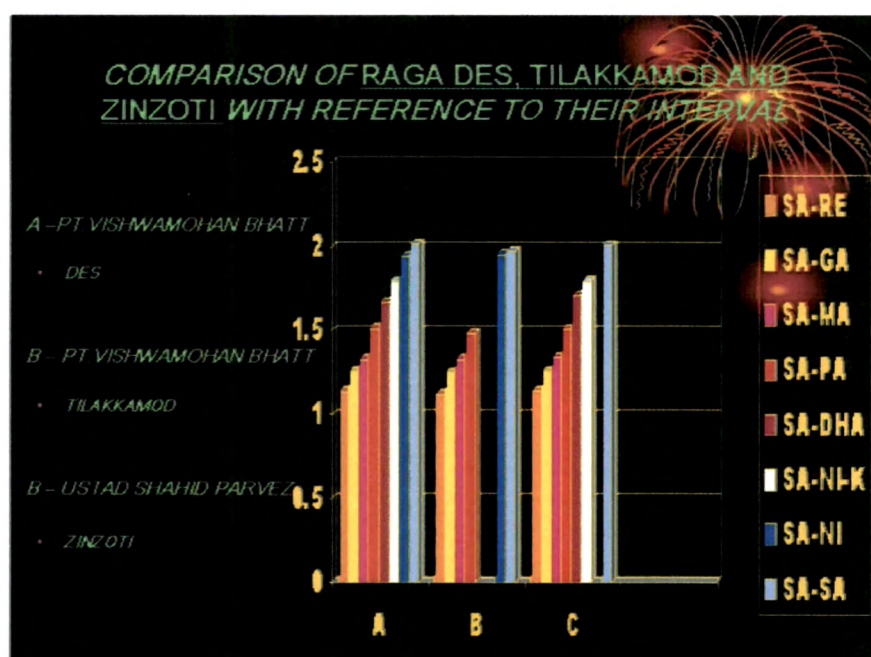
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ज	सा-रे
सा-प	सा-म		सा-नी
रे-ध	रे-प		
म-सां	ज-ध		
	म-नी		
	प-सां		

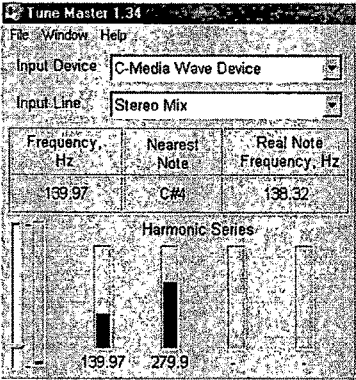
Comparison of different Raga played by one artiste with reference to Interval

INTERVAL	RAGA DES	RAGA TILAKKAMOD	RAGA ZINZOTI	STANDARD VALUE
सा-रे	=1.139	=1.122	=1.143	1.127
सा-ग	=1.264	=1.255	=1.260	1.255
सा- म	=1.329	=1.331	=1.342	1.336
सा- प	=1.513	=1.484	=1.511	1.505
सा- ध	=1.670		=1.707	1.663
सा- नी	=1.794		=1.801	1.775
सा- नी	=1.942	=1.953		1.882
सा- सां	=2.018	=1.974	=2.012	2

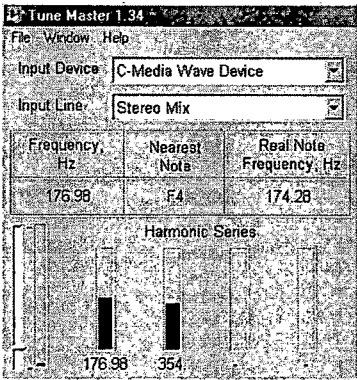
Graphical representation of different Raga played by one artiste with reference to Interval



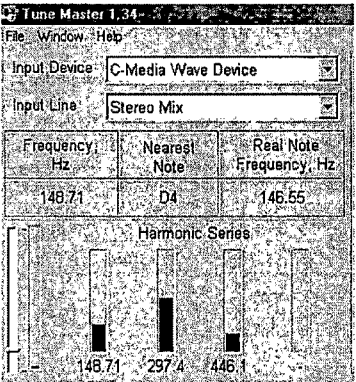
NAME OF THE ARTIST:PT.BHIMSEN JOSHI
RAGA: RAMKALI



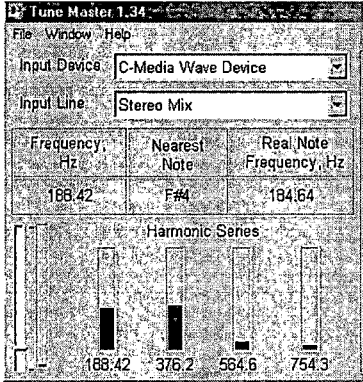
SWAR SA



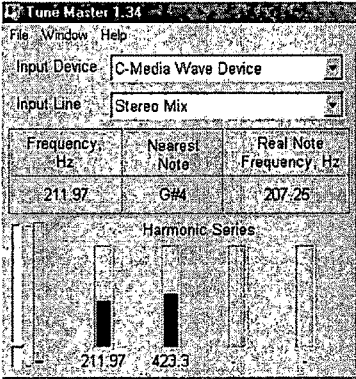
SWAR GA



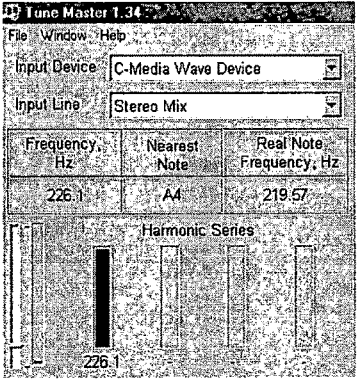
SWAR KOMAL RE



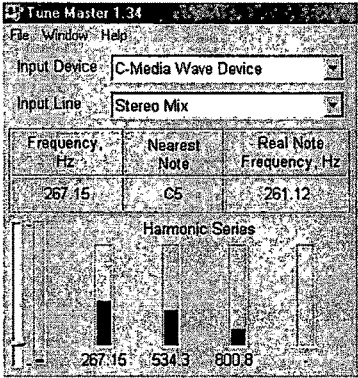
'SWAR MA SHUDDHA



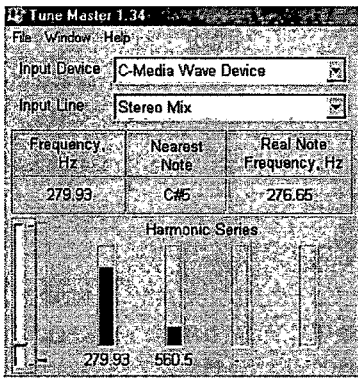
SWAR PA



SWAR KOMAL DHA



SWAR NI



SWAR TAR SA

NAME OF THE ARTIST:PT.BHIMSEN JOSHI

RAGA: RAMKALI

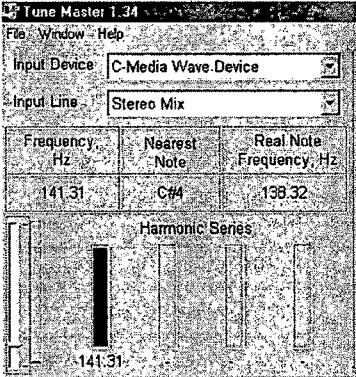
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	139.97	सा - रे	$\frac{148.71}{139.97}$	=1.062
रे	148.71	सा - ग	$\frac{176.98}{139.97}$	=1.264
ग	176.98	सा - म	$\frac{188.42}{139.97}$	=1.346
म	188.42	सा - प	$\frac{211.97}{139.97}$	=1.514
प	211.97	सा - ध्	$\frac{226.1}{139.97}$	=1.615
ध्	226.1	सा - नी	$\frac{267.15}{139.97}$	=1.908
नी	267.15	सा - सां	$\frac{279.93}{139.97}$	=1.999
सां	279.93			

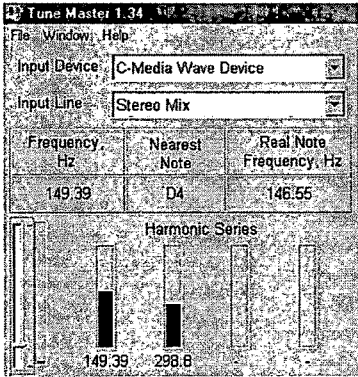
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा - ग	सा - रे
सा - प	सा - म		
रे - ध्	प - सां	सा - ध्	सा - म
ग - नी			
म - सां			

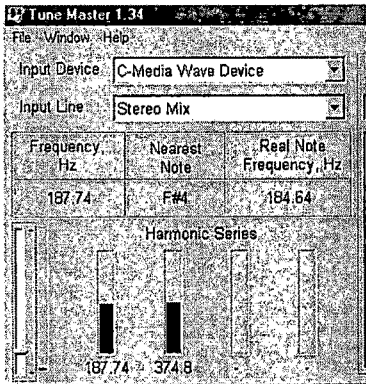
NAME OF THE ARTIST:PT.BHIMSEN JOSHI
RAGA: BHAIRAV



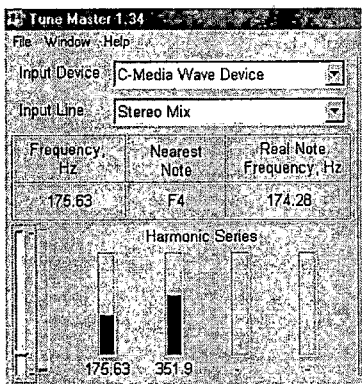
SWAR SA



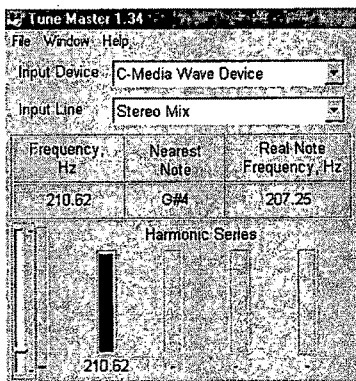
SWAR RE KOMAL



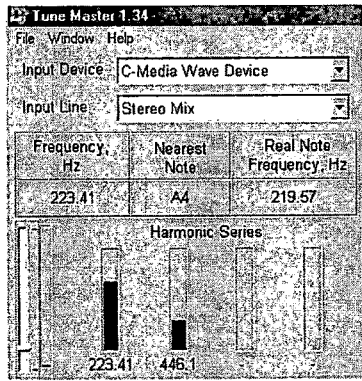
SWAR MA



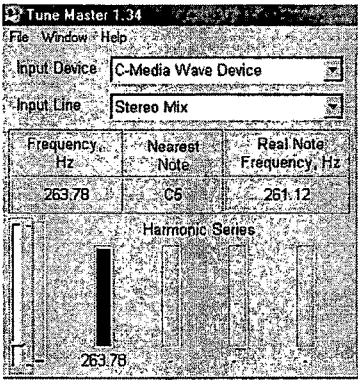
SWAR GA



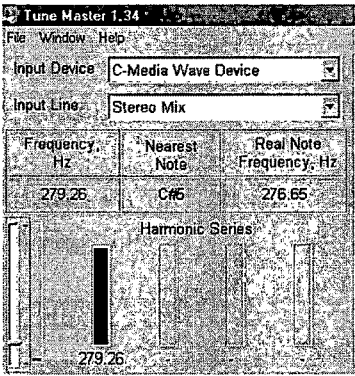
SWAR PA



SWAR DHA KOMAL



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST:PT.BHIMSEN JOSHI

RAGA: BHAIRAV

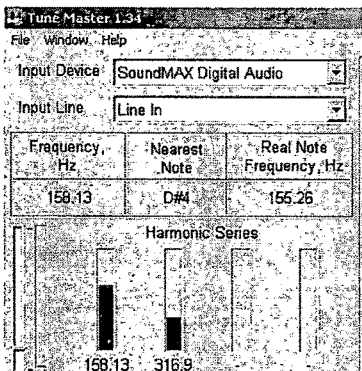
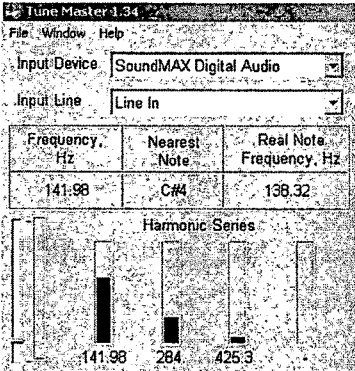
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	141.31	सा - रे	$\frac{149.39}{141.31}$	=1.057
रे	149.39	सा - ग	$\frac{175.63}{141.31}$	=1.242
ग	175.63	सा - म	$\frac{187.74}{141.31}$	=1.328
म	187.74	सा - प	$\frac{210.62}{141.31}$	=1.490
प	210.62	सा - ध्	$\frac{223.41}{141.31}$	=1.580
ध्	223.41	सा - नी	$\frac{263.78}{141.31}$	=1.866
नी	263.78	सा - सां	$\frac{279.26}{141.31}$	=1.976
सां	279.26			

CONSONANCE & DISSONANCE IN THIS RAGA

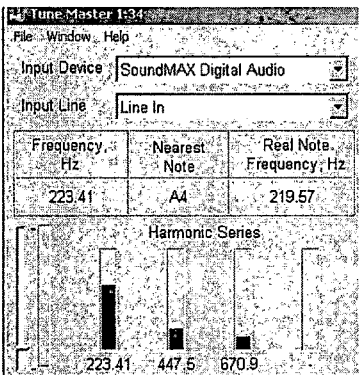
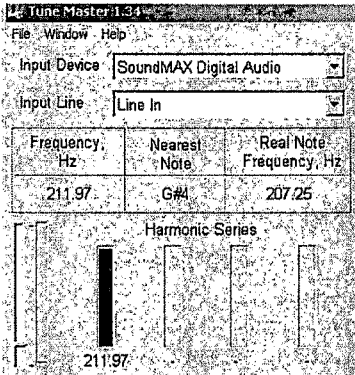
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा - ग	सा - रे
सा - प	सा - म		
रे - ध्	प - सां	सा - ध्	
ग - नी			
म - सां			

NAME OF THE ARTIST:SHRI SANJEEV ABHYANKAR
RAGA: NATBHAIRAV



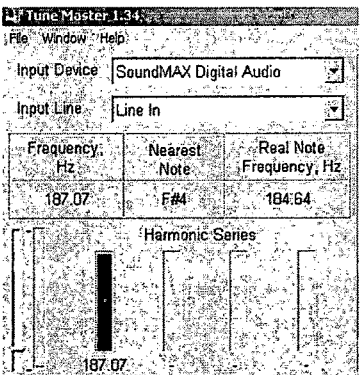
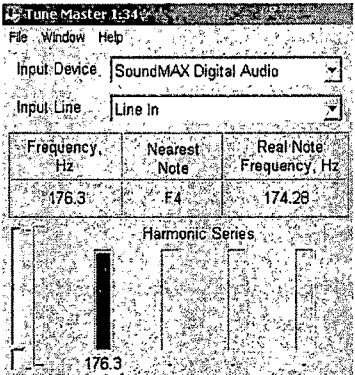
SWAR SA

SWAR RE



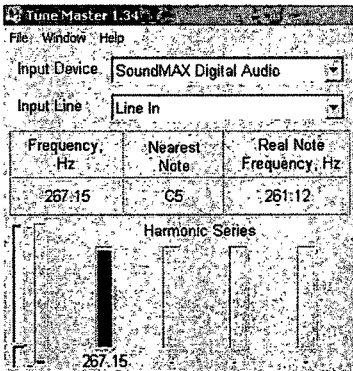
SWAR PA

SWAR DHA KOMAL

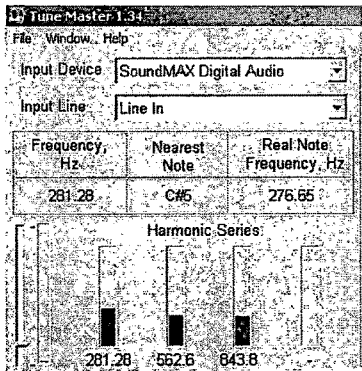


SWAR GA

SWAR MA



SWAR NI



SWAR SA TAR

NAME OF THE ARTIST: SHRI SANJEEV ABHYANKAR

RAGA: NATBHAIKAV

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	141.98	सा-रे	$\frac{158.13}{141.98}$	=1.113
रे	158.13	सा-ग	$\frac{176.3}{141.98}$	=1.241
ग	176.3	सा-म	$\frac{187.07}{141.98}$	=1.317
म	187.07	सा-प	$\frac{211.97}{141.98}$	=1.492
प	211.97	सा-ध	$\frac{223.41}{141.98}$	=1.573
ध	223.41	सा-नी	$\frac{267.15}{141.98}$	=1.881
नी	267.15	सा-सां	$\frac{281.28}{141.98}$	=1.981
सां	281.28			

CONSONANCE & DISSONANCE IN THIS RAGA

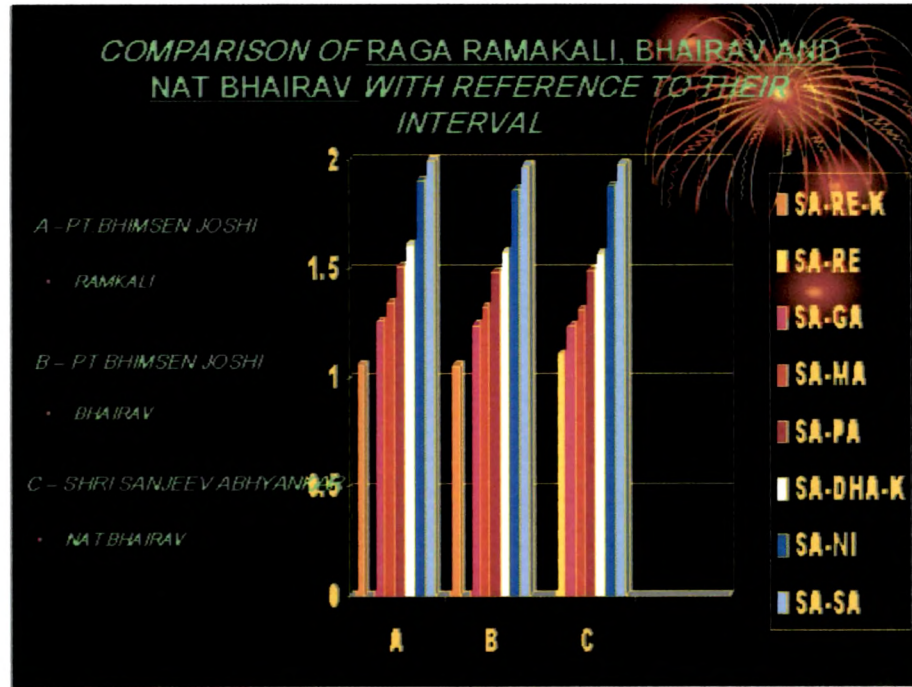
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग	सा-रे
सा-प	सा-म		
ग-नी	रे-प	सा-ध	
म-सां	प-सां		

Comparison of different Raga sung by one artiste with reference to Interval

INTERVAL:

INTERVAL	RAGA RAMKALI	RAGA BHAIRAV	RAGA NAT BHAIRAV	STANDARD VALUE
सा-रे	=1.062	=1.057		1.051
सा-रे			=1.113	1.127
सा-ग	=1.264	=1.242	=1.241	1.255
सा-म	=1.346	=1.328	=1.317	1.336
सा-प	=1.514	=1.490	=1.492	1.505
सा-ध	=1.615	=1.580	=1.573	1.581
सा-नी	=1.908	=1.866	=1.881	1.882
सा-सां	=1.999	=1.976	=1.981	2

Graphical representation of different Raga sung by one artiste with reference to Interval



Observation

In my analysis of ragas I have taken different raga of almost same notes sung or played by one artiste & also some other ragas of different artiste which I felt to compare with these ragas.

In the raga Marwa, Puriya and Sohani there is a difference in all intervals of three artistes but major difference seems in the interval of sa-ni.

In the raga Gurjari Todi, Multani and Madhuvanti there is a major difference in sa- ga komal interval of Gurjari Todi and Multani. Gurjari Todi's komal gandhar is lower than Multani's Komal gandhar.

In the raga Bilaskhani Todi, Bhairavi and Komal Rishabh Asavari there is a difference in all intervals but major difference seems in the sa-re komal interval of Komal Rishabh Asavari compare to other two ragas.

In the raga Darbari Kanada, Kaunsi Kanada, Nayaki Kanada and Charukeshi there is major difference in interval of sa-ga komal of Darbari Kanada and Kaunsi Kanada and sa-pa interval of Kaunsi Kanada compare to other ragas.

In the raga Des, Tilakkamod and Zinzoti there is a major difference in the sa-re interval of all the three ragas, sa-pa interval of Tilakkamod compare with other two ragas and sa-dha interval of raga Des & Zinzoti.

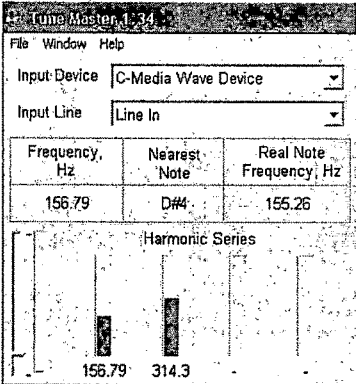
In the raga Ramkali, Bhairavi and Nat Bhairav there is a major difference in the sa-pa interval of Ramkali and Bhairav. Sa-dha komal and sa-ni interval of all the three ragas.

From the above observations I can say that there is a difference in the frequency of raga of almost same notes sung/played by one artiste & also some other raga of different artiste.

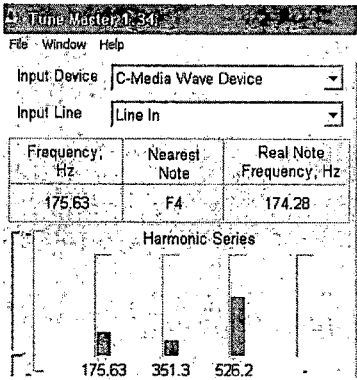
ANALYSIS: ONE RAGA SUNG/PLAYED BY ONE ARTIST AT DIFFERENT TIME

NO	Name of the Raga	Name of the Artiste
1	JAIJAIWANTI	1. PT.RAJAN SAJAN MISRA
2	MALKAUNS	2. PT.AJOY CHAKRABORTY
3	BHAIRAVI	3. SMT.N.RAJAM (VIOLIN)

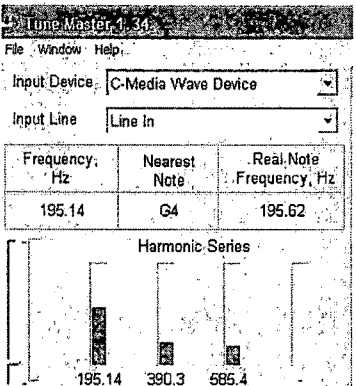
NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA (PRE RECORDED BY TIMES MUSIC, 2000)
NAME OF RAGA: JAIJAIWANTI



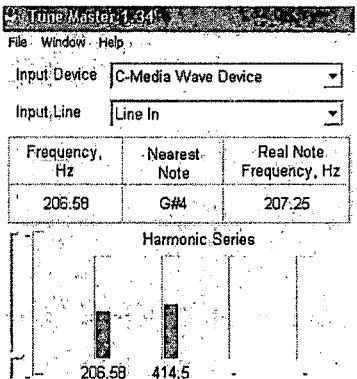
SWAR SA



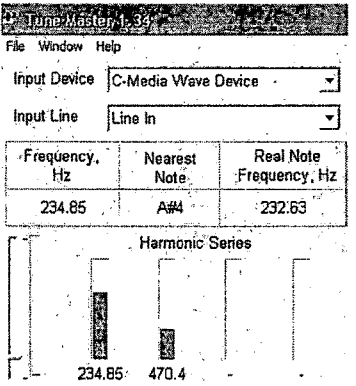
SWAR RE



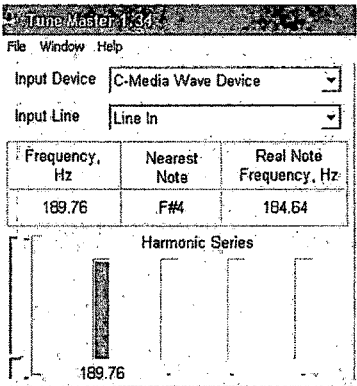
SWAR GA



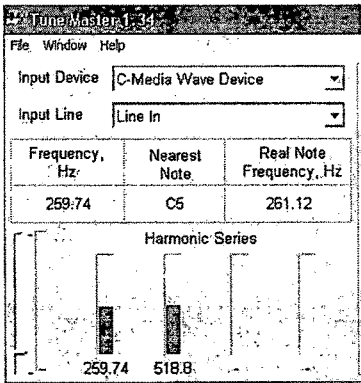
SWAR MA



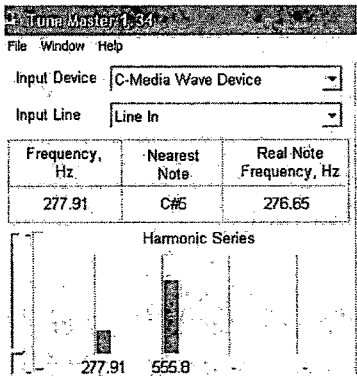
SWAR PA



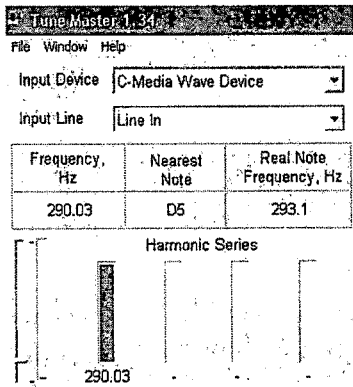
SWAR GA KOMAL



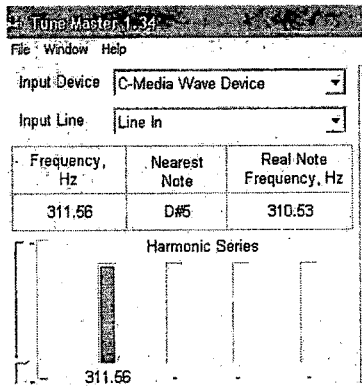
SWAR DHA



SWAR NI KOMAL



SWAR NI



SWAR SA TAR

NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA (PRE RECORDED BY TIMES MUSIC, 2000)
 NAME OF RAGA: JAIJAIWANTI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

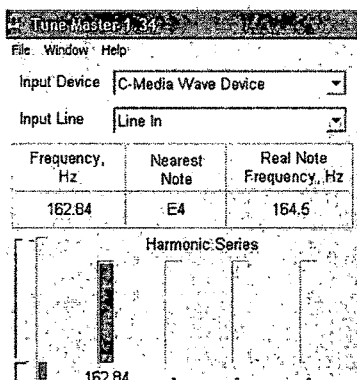
NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	156.79	सा-रे	$\frac{175.63}{156.79}$	=1.120
रे	175.63	सा-ऋ	$\frac{189.76}{156.79}$	=1.210
ऋ	189.76	सा-ग	$\frac{195.14}{156.79}$	=1.244
ग	195.14	सा-म	$\frac{206.58}{156.79}$	=1.317
म	206.58	सा-प	$\frac{234.85}{156.79}$	=1.497
प	234.85	सा-ध	$\frac{259.74}{156.79}$	=1.656
ध	259.74	सा-नी	$\frac{277.91}{156.79}$	=1.772
नी	277.91	सा-नी	$\frac{290.03}{156.79}$	=1.849
नी	290.03	सा-सां	$\frac{311.56}{156.79}$	=1.987
सां	311.56			

CONSONANCE & DISSONANCE IN THIS RAGA

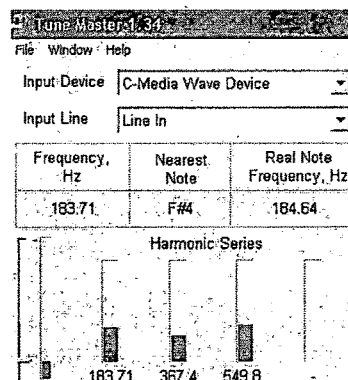
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ऋ	सा-रे
सा-प	सा-म		सा-नी
रे-ध	र-प		
ग-नी	ग-ध		
म-सां	म-नी		
	प-सां		

NAME OF THE ARTISTE : PT.RAJAN SAJAN MISRA (LIVE PERFORMANCE AT BARODA 1993)

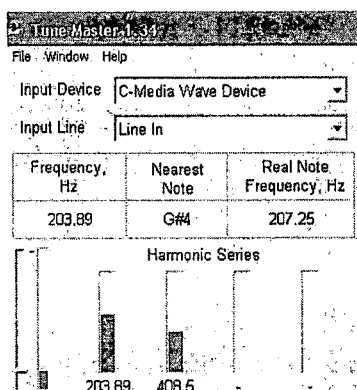
NAME OF RAGA ; JAIJAIWANTI



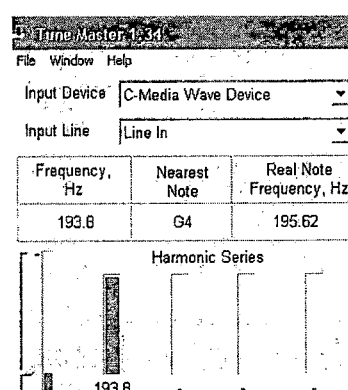
SWAR SA



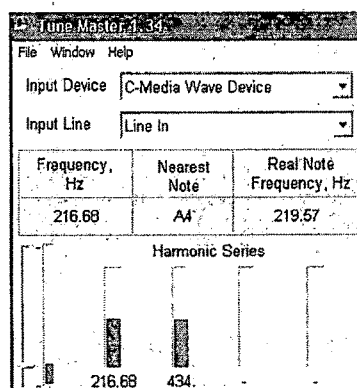
SWAR RE



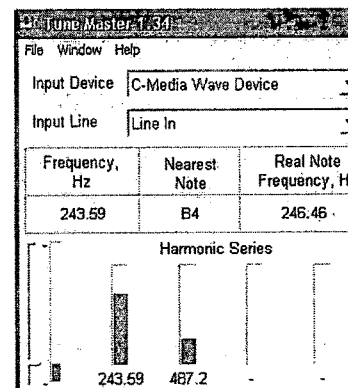
SWAR GA



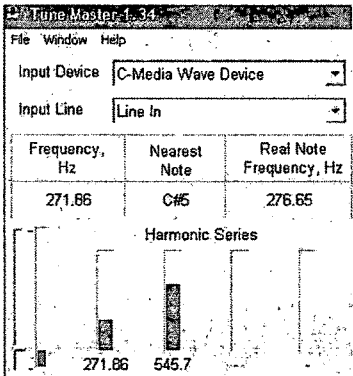
SWAR GA KOMAL



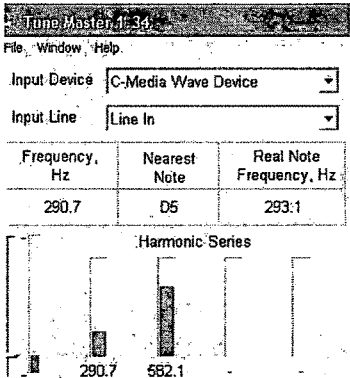
SWAR MA



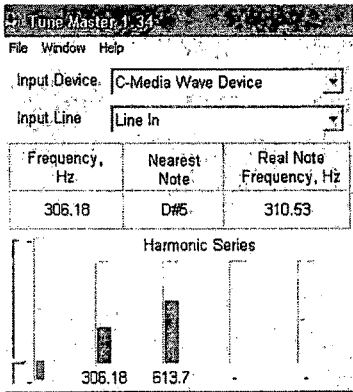
SWAR PA



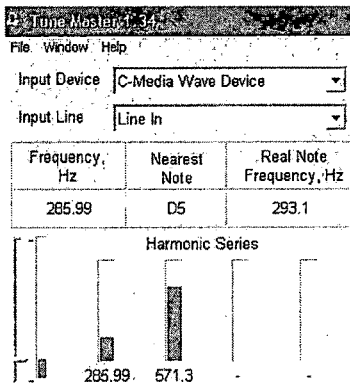
SWAR DHA



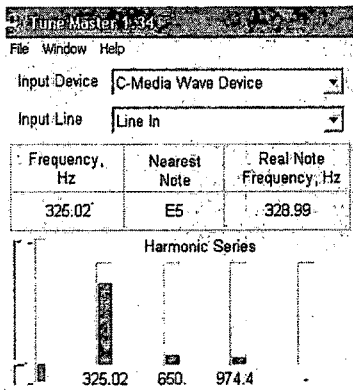
SWAR NI KOMAL



SWAR NI



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA (LIVE PERFORMANCE AT BARODA 1993)

NAME OF RAGA: JAIJAIWANTI

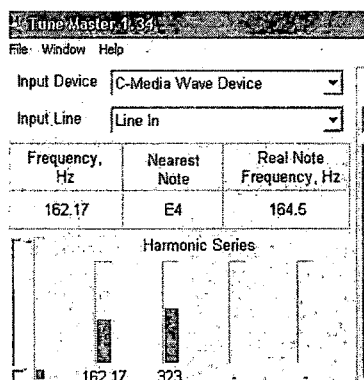
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	162.84	सा-रे	$\frac{183.71}{162.84}$	=1.128
रे	183.71	सा-ग्	$\frac{193.8}{162.84}$	=1.190
ग्	193.8	सा-ग	$\frac{203.89}{162.84}$	=1.252
ग	203.89	सा-म	$\frac{216.68}{162.84}$	=1.330
म	216.68	सा-प	$\frac{243.59}{162.84}$	=1.495
प	243.59	सा-ध	$\frac{271.86}{162.84}$	=1.669
ध	271.86	सा-नी	$\frac{290.7}{162.84}$	=1.785
नी	290.7	सा-नी	$\frac{306.18}{162.84}$	=1.880
नी	306.18	सा-सां	$\frac{325.02}{162.84}$	=1.995
सां	325.02			

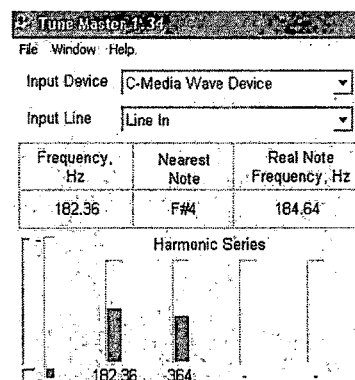
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	सा-म		सा-नी
रे-ध	र-प		
ग-नी	ग-ध		
म-सां	म-नी		
	प-सां		

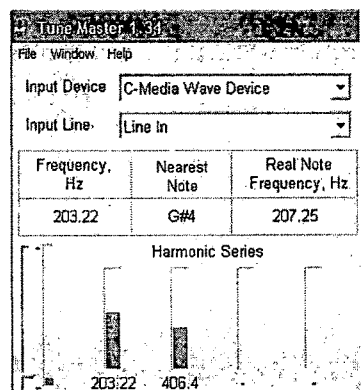
NAME OF THE ARTISTE : PT.RAJAN SAJAN MISRA (LIVE PERFORMANCE AT BARODA 1996)
NAME OF RAGA: JAIJAIWANTI



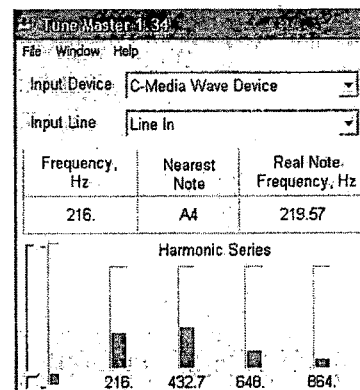
SWAR SA



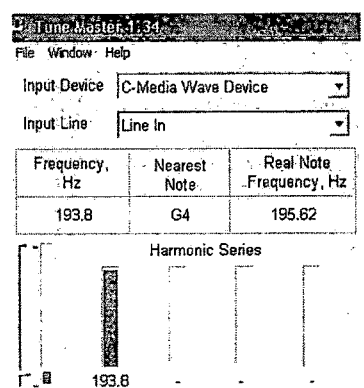
SWAR RE



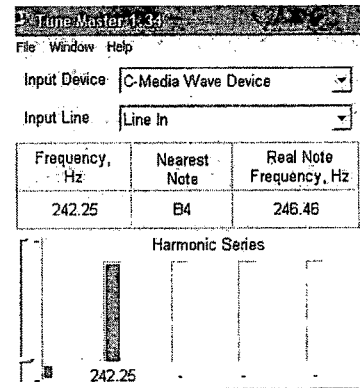
SWAR GA



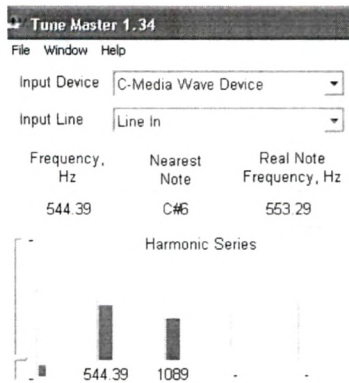
SWAR MA



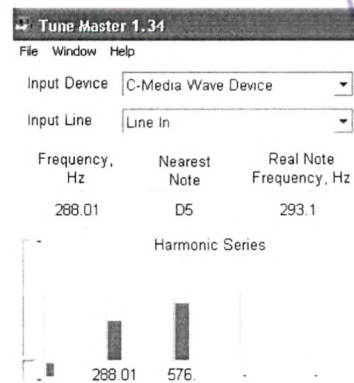
SWAR GA KOMAL



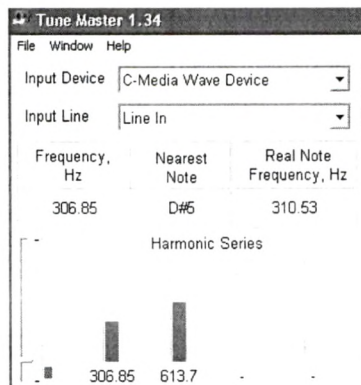
SWAR PA



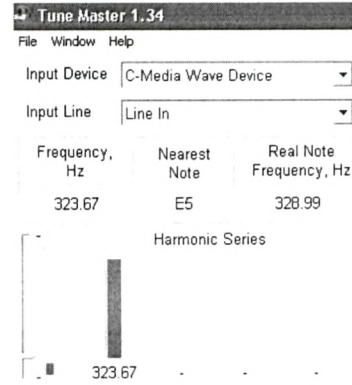
SWAR DHA



SWAR NI KOMAL



SWAR NI



SWAR SA TAR

NAME OF THE ARTISTE: PT.RAJAN SAJAN MISRA (LIVE PERFORMANCE AT BARODA 1996)

NAME OF RAGA: JAIJAIWANTI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	162.17	सा-रे	$\frac{182.36}{162.17}$	=1.124
रे	182.36	सा-ग्	$\frac{193.8}{162.17}$	=1.195
ग्	193.8	सा-ग	$\frac{203.22}{162.17}$	=1.253
ग	203.22	सा-म	$\frac{216}{162.17}$	=1.331
म	216	सा-प	$\frac{242.25}{162.17}$	=1.493
प	242.25	सा-ध	$\frac{272.19}{162.17}$	=1.678
ध	272.19	सा-नी	$\frac{288.01}{162.17}$	=1.775
नी	288.01	सा-नी	$\frac{306.85}{162.17}$	=1.892
नी	306.85	सा-सां	$\frac{323.67}{162.17}$	=1.995
सां	323.67			

CONSONANCE & DISSONANCE IN THIS RAGA

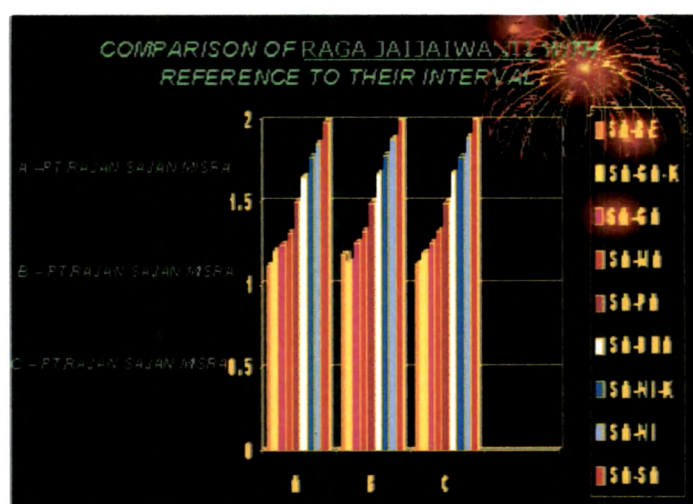
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	सा-म		सा-नी
रे-ध	र-प		
ग-नी	ग-ध		
म-सां	म-नी		
	प-सां		

Comparison of one Raga sung by one artiste at different time with reference to Interval

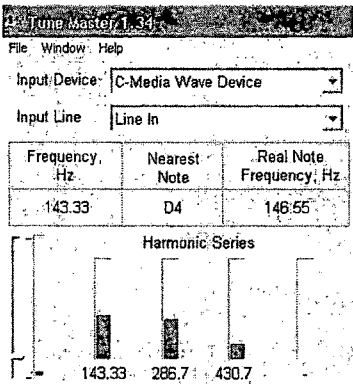
RAGA JAJAIWANTI

INTERVAL	PRE RECORDED BY TIMES MUSIC, 2000	LIVE PERFORMANCE AT BARODA 1993	LIVE PERFORMANCE AT BARODA 1996	STANDARD VALUE
सा-रे	=1.120	=1.128	=1.124	1.127
सा-ग्	=1.210	=1.190	=1.195	1.198
सा-ग	=1.244	=1.252	=1.253	1.255
सा-म	=1.317	=1.330	=1.331	1.336
सा-प	=1.497	=1.495	=1.493	1.505
सा-ध	=1.656	=1.669	=1.678	1.663
सा-नी	=1.772	=1.785	=1.775	1.775
सा-नी	=1.849	=1.880	=1.892	1.882
सा-सां	=1.987	=1.995	=1.995	2

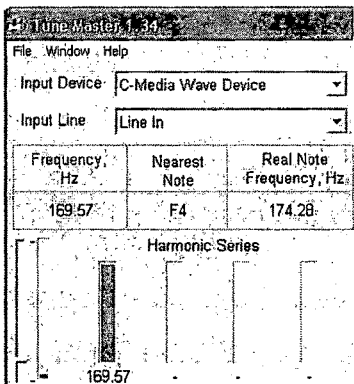
Graphical representation of one Raga sung by one artiste with reference to Interval



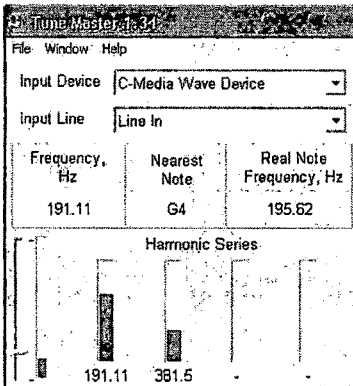
NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY('TANSEN' PRE
RECORDED,MUSIC TODAY,2003)
NAME OF RAGA: MALKAUNS



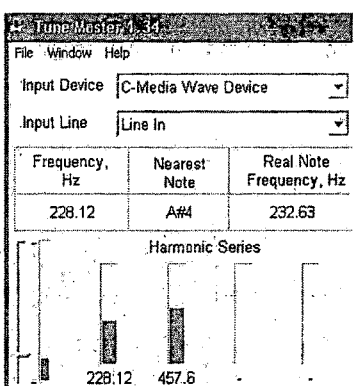
SWAR SA



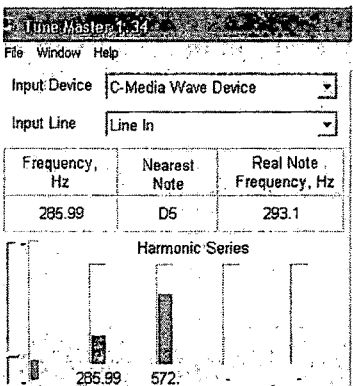
SWAR GA KOMAL



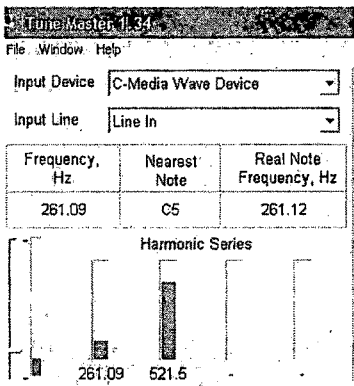
SWAR MA



SWAR DHA KOMAL



SWAR SA TAR



SWAR NI KOMAL

NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY('TANSEN' PRE RECORDED,
MUSIC TODAY,2003)
NAME OF RAGA: MALKAUNS

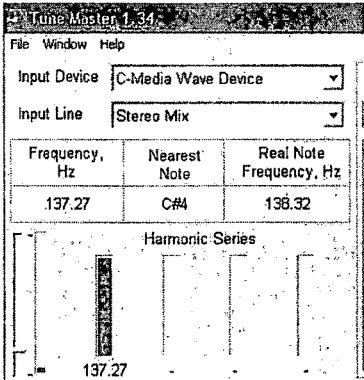
**FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS
OF THIS RAGA**

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	143.33	सा-ग्	$\frac{169.57}{143.33}$	=1.183
ग्	169.57	सा-म	$\frac{191.11}{143.33}$	=1.333
म	191.11	सा-ध्	$\frac{228.12}{143.33}$	=1.591
ध्	228.12	सा-न्	$\frac{261.09}{143.33}$	=1.821
न्	261.09	सा-सां	$\frac{285.99}{143.33}$	=1.995
सां	285.99			

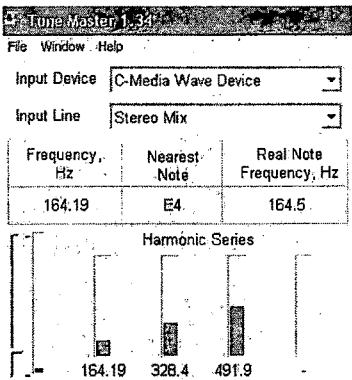
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-न्
ग्-न्	सा-म		
म-सां	ग्-ध्	सा-ध्	
	म-न्		

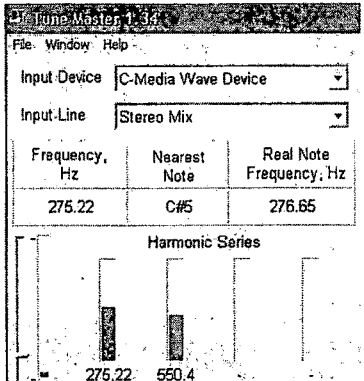
NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY(LIVE AT LONDON, PRE RECORDED, SONY NAD,1998)
NAME OF RAGA: MALKAUINS



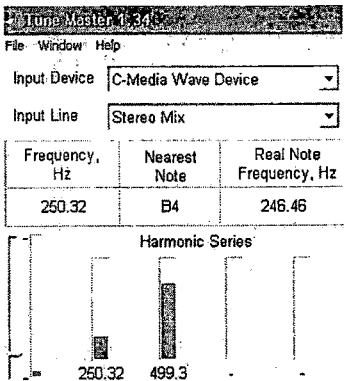
SWAR SA



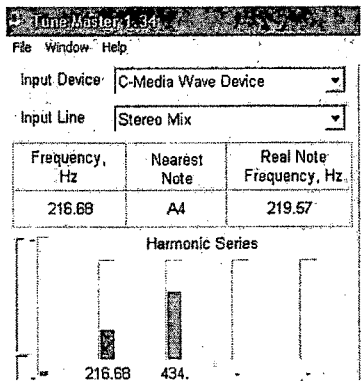
SWAR GA KOMAL



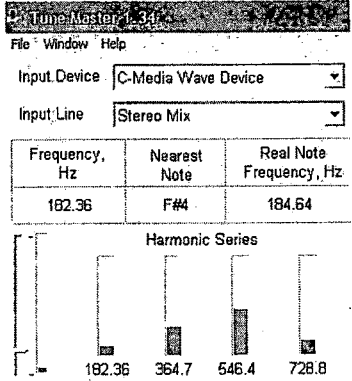
SWAR SA TAR



SWAR NI KOMAL



SWAR DHA KOMAL



SWAR MA

NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY(LIVE AT LONDON, PRE
RECORDED, SONY NAD,1998)
NAME OF RAGA: MALKAUNS

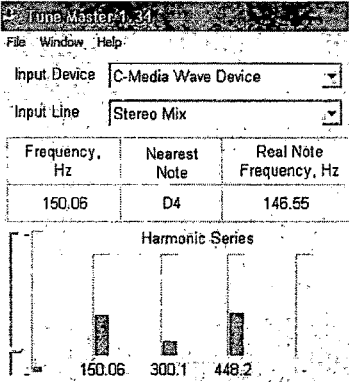
**FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS
OF THIS RAGA**

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	137.27	सा-ग्	$\frac{164.19}{137.27}$	=1.196
ग्	164.19	सा-म	$\frac{182.36}{137.27}$	=1.328
म	182.36	सा-ध्	$\frac{216.68}{137.27}$	=1.578
ध्	216.68	सा-न्	$\frac{250.32}{137.27}$	=1.823
न्	250.32	सा-सां	$\frac{275.22}{137.27}$	=2.004
सां	275.22			

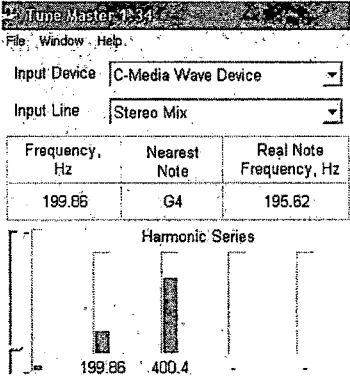
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-न्
ग्-न्	सा-म		
म-सां	ग्-ध्	सा-ध्	
	म-न्		

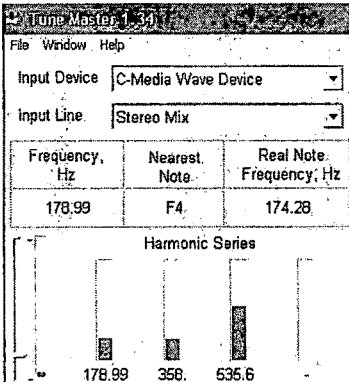
NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY (LIVE AT BARODA)
NAME OF RAGA: MALKAUNS



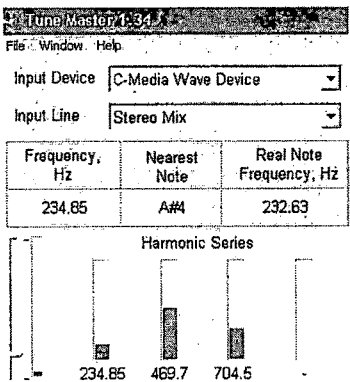
SWAR SA



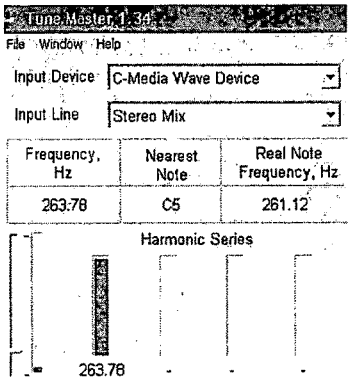
SWAR MA



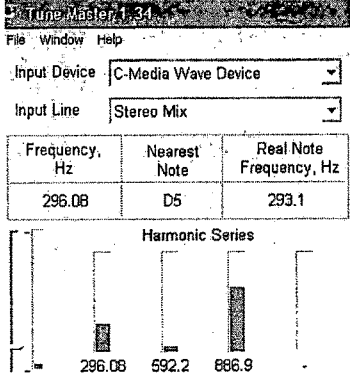
SWAR GA KOMAL



SWAR DHA KOMAL



SWAR NI KOMAL



SWAR SA TAR

NAME OF THE ARTISTE: PT.AJOY CHAKRABORTY (LIVE AT BARODA)
NAME OF RAGA: MALKAUNS

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY(Hz)	INTERVAL		
सा	150.06	सा-ग्	$\frac{178.99}{150.06}$	=1.192
ग्	178.99	सा-म	$\frac{199.86}{150.06}$	=1.331
म	199.86	सा-ध्	$\frac{234.85}{150.06}$	=1.565
ध्	234.85	सा-न्	$\frac{263.78}{150.06}$	=1.757
न्	263.78	सा-सां	$\frac{296.08}{150.06}$	=1.973
सां	296.08			

CONSONANCE & DISSONANCE IN THIS RAGA

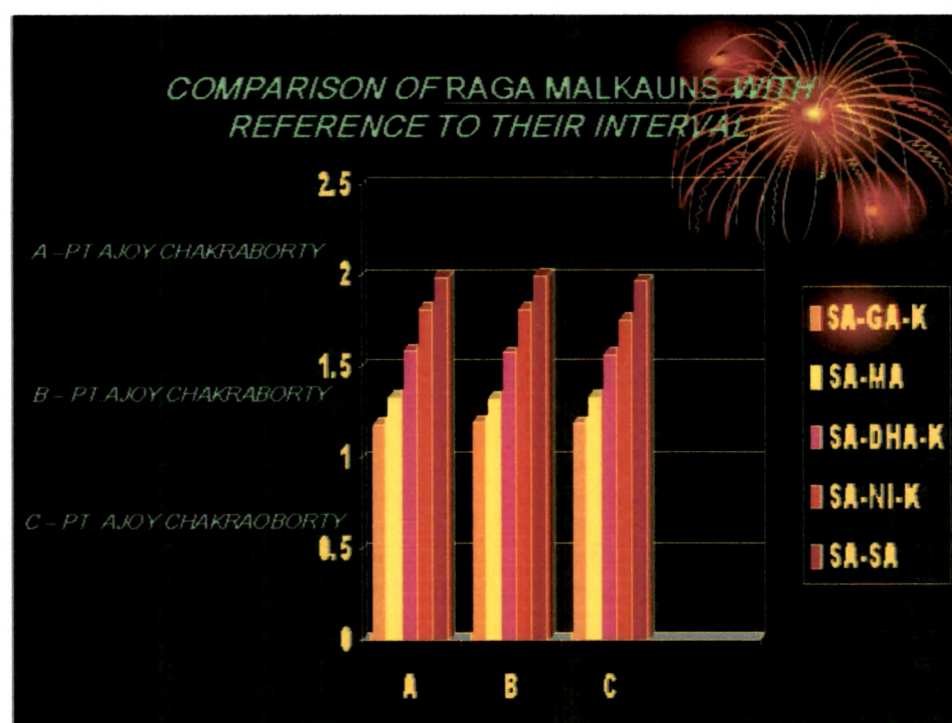
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-न्
ग्-न्	सा-म		
म-सां	ग्-ध्	सा-ध्	
	म-न्		

Comparison of one Raga sung by one artist at different time with reference to Interval

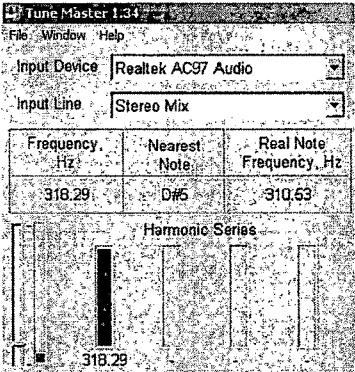
RAGA MALKAUNS

INTERVAL	'TANSEN' PRERECORDED, MUSIC TODAY, 2003	LIVE AT LONDON, PRE RECORDED, SONY NAD, 1998	LIVE AT BARODA	STANDARD VALUE
सा-ग्	=1.183	=1.196	=1.192	1.198
सा-म	=1.333	=1.328	=1.331	1.336
सा-ध्	=1.591	=1.578	=1.565	1.581
सा-नी	=1.821	=1.823	=1.757	1.775
सा-सां	=1.995	=2.004	=1.973	2

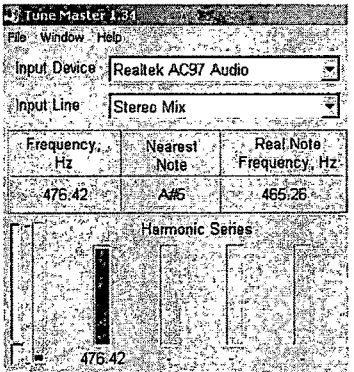
Graphical representation of one Raga sung by one artiste with reference to Interval



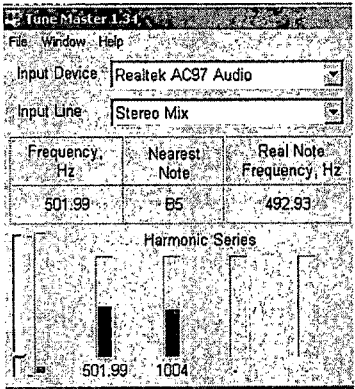
NAME OF THE ARTISTE: SMT.N.RAJAM (PRE RECORDED BY MUSIC TODAY, 2000)
NAME OF RAGA: BHAIRAVI



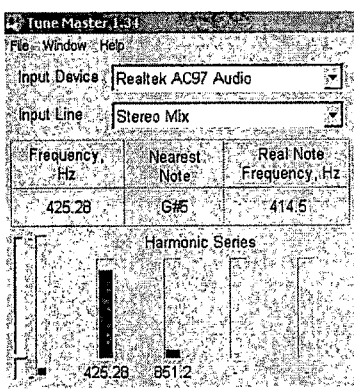
SWAR SA



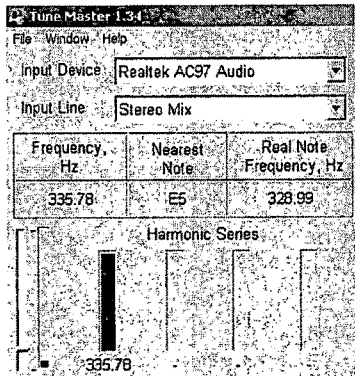
SWAR PA



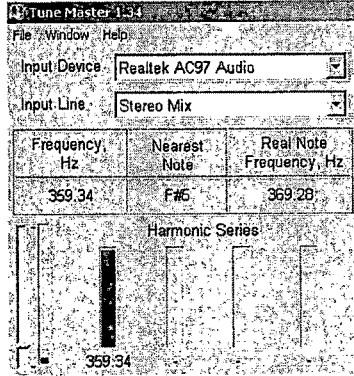
SWAR DHA KOMAL



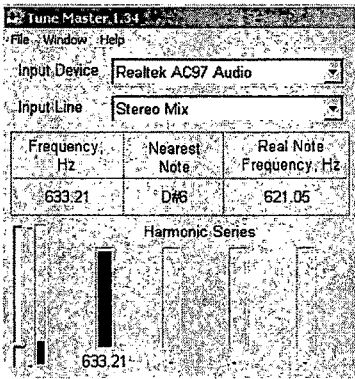
SWAR MA



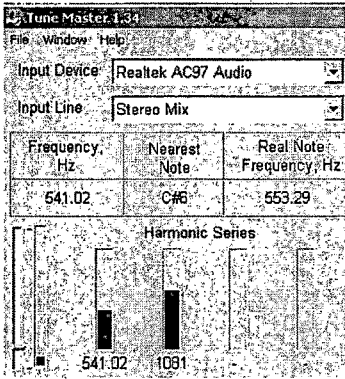
SWAR RE KOMAL



SWAR GA KOMAL



SWAR SA TAR



SWAR NI KOMAL

NAME OF THE ARTISTE: SMT.N.RAJAM (PRE RECORDED BY MUSIC TODAY, 2000)
NAME OF RAGA: BHAIRAVI

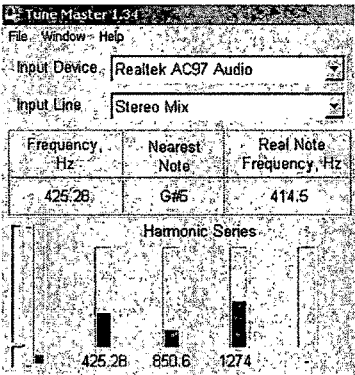
FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	318.29	सा-रे	$\frac{335.78}{318.29}$	=1.054
रे	335.78	सा-ग्	$\frac{359.34}{318.29}$	=1.128
ग्	359.34	सा-म	$\frac{425.28}{318.29}$	=1.336
म	425.28	सा-प	$\frac{476.42}{318.29}$	=1.496
प	476.42	सा-ध्	$\frac{501.99}{318.29}$	=1.586
ध्	501.99	सा-नी	$\frac{541.02}{318.29}$	=1.699
नी	541.02	सा-सां	$\frac{633.21}{318.29}$	=1.989
सां	633.21			

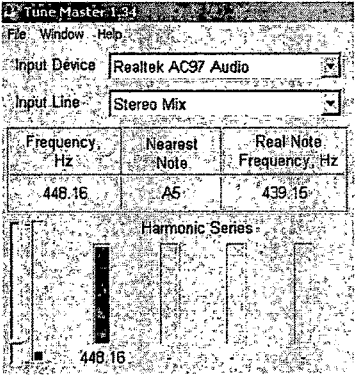
CONSONANCE & DISSONANCE IN THIS RAGA

PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	सा-म		
रे-ध्	ग्-ध्	सा-ध्	सा-नी
ग्-नी	म-नी		
म-सां	प-सां		

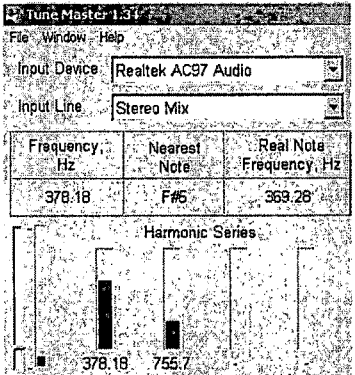
NAME OF THE ARTISTE: SMT.N.RAJAM (LIVE AT BARODA ORGANIZED BY KOMAL NISHAD)
NAME OF RAGA: BHAIRAVI



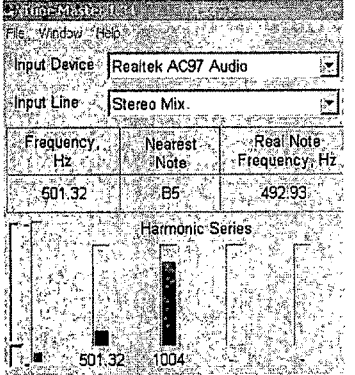
SWAR PA



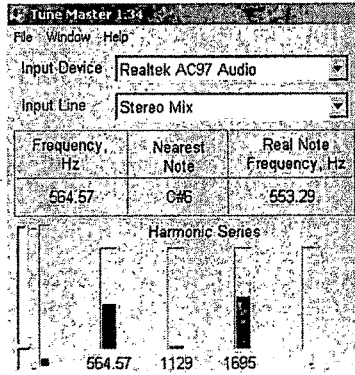
SWAR DHA KOMAL



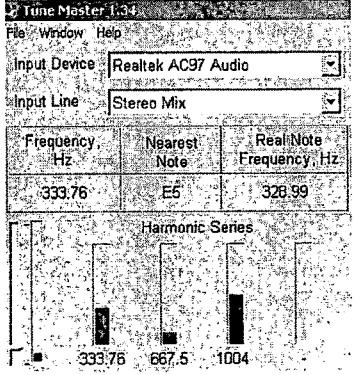
SWAR MA



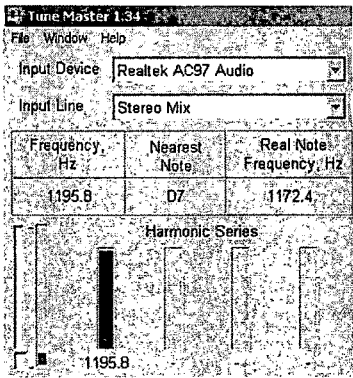
SWAR NI KOMAL



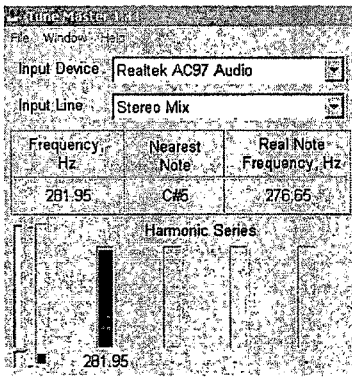
SWAR SA TAR



SWAR GA KOMAL



SWAR RE KOMAL



SWAR SA

NAME OF THE ARTISTE: SMT.N.RAJAM (LIVE AT BARODA ORGANIZED BY KOMAL NISHAD)

NAME OF RAGA: BHAIRAVI

FREQUENCY AND INTERVAL TABLE TAKEN FROM SOFTWARE PHOTOGRAPHS OF THIS RAGA

NOTE	MEASURED FREQUENCY (Hz)	INTERVAL		
सा	281.95	सा-रे	$\frac{298.75}{281.95}$	=1.059
रे	298.75	सा-ग्	$\frac{333.76}{281.95}$	=1.183
ग्	333.76	सा-म	$\frac{378.18}{281.95}$	=1.341
म	378.18	सा-प	$\frac{425.28}{281.95}$	=1.508
प	425.28	सा-ध्	$\frac{448.16}{281.95}$	=1.589
ध्	448.16	सा-न्नी	$\frac{501.32}{281.95}$	=1.778
न्नी	501.32	सा-सां	$\frac{564.57}{281.95}$	=2.002
सां	564.57			

CONSONANCE & DISSONANCE IN THIS RAGA

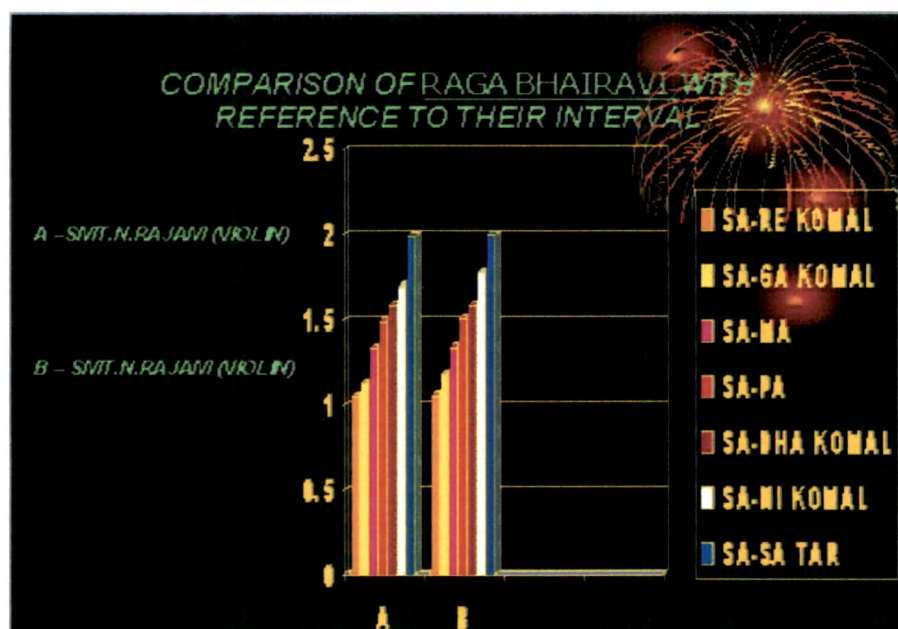
PERFECT CONSONANCE		IMPERFECT CONSONANCE	DISSONANCE
FIFTH	FOURTH	सा-ग्	सा-रे
सा-प	सा-म		
रे-ध्	ग्-ध्	सा-ध्	सा-न्नी
ग्-न्नी	म-न्नी		
म-सां	प-सां		

Comparison of one Raga played by one artiste at different time with reference to Interval

RAGA BHAIRAVI

INTERVAL	PRE RECORDED BY MUSIC TODAY, 2000	LIVE AT BARODA ORGANIZED BY KOMAL NISHAD	STANDARD VALUE
सा- रे	=1.054	=1.059	1.051
सा-ग्	=1.128	=1.183	1.198
सा- म	=1.336	=1.341	1.336
सा- प	=1.496	=1.508	1.505
सा- ध्	=1.586	=1.589	1.581
सा- नी	=1.699	=1.778	1.775
सा- सां	=1.989	=2.002	2

Graphical representation of one Raga sung by one artiste with reference to Interval



Observation

In my analysis of ragas I have taken one raga sung /played by one artiste at different time (place).

In the raga Jaijjaivanti sung by Pt.Rajan sajan Misra there is a difference in all interval but have one major difference seems in the interval of sa-ga komal.

In the raga Malkauns sung by Pt.Ajoy Chakraborty there is a difference in all interval but have one major difference seems in the interval of sa-ga komal.

In the raga Bhairavi played by Smt.N.Rajam there is a difference in all interval but have one major difference seems in the interval of sa-ga komal and sani komal.

From the above observation I can say that there is a difference in the frequency of swar of one raga sung/played by one artiste at different time (Place).