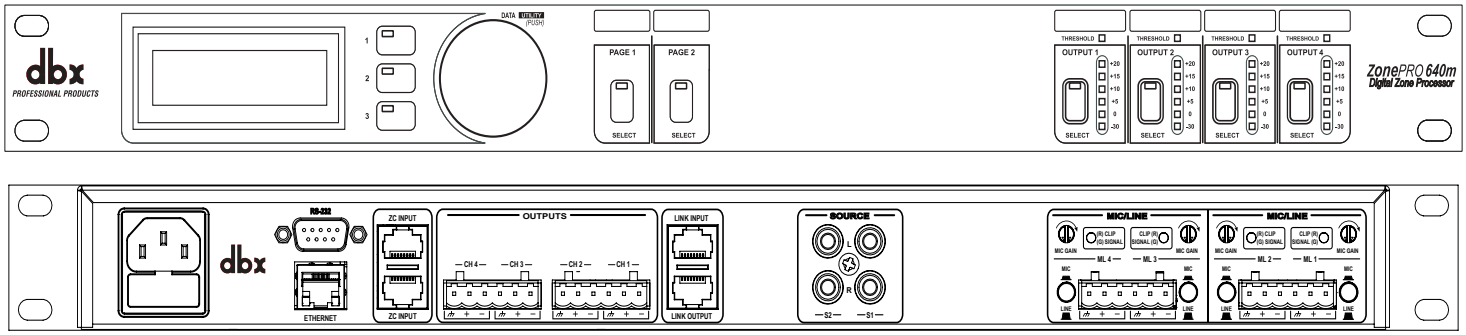
dbx ZonePRO™ 640m



OVERVIEW:

The ZonePRO 640m offers fixed I/O, pre-configured architecture, configurable insert processing and optional duplication of audio channels to another ZonePRO device via a link bus.

The 640m features a total of six inputs and four outputs. Inputs include four balanced mic/line switchable terminal block inputs and two mono-summed pairs of unbalanced RCA inputs. Hardware-controlled microphone gain allows adjustment of microphone gain per channel.

The 640m device has a pre-configured architecture with input processing, a central matrix and output processing. Two input insert positions and one output insert position allow channel-specific insert processing to be configured. AutoWarmth®, a psychoacoustic function that maintains full frequency bandwidth even when the signal level has dropped, is permanently available on each output zone.

A link bus allows duplication of the first six audio channels to another ZonePRO device in applications where additional output zones are required.

The front panel of the 640m features comprehensive signal metering, an informative LCD display and user-specified front panel control.

Additional system control is offered in the form of optional Zone Controllers. This collection of hardware wall-controllers represents a series of simple, elegant user interfaces for functions such as volume, source and preset control.

All ZonePRO devices can be controlled by third party control systems via RS-232 or Ethernet as applicable (see table for further information).

ZonePRO Designer—the configuration, control and monitoring software for the ZonePRO family of devices—offers control of the ZonePRO 640m via Ethernet or RS-232. The Configuration Wizard within ZonePRO Designer guides users through the step-by-step configuration process of the 640m.

KEY FEATURES:

- 6 Inputs / 4 Outputs
  - 4 Balanced Mic/Line Inputs
  - 2 Unbalanced, Mono-Summed RCA Input Pairs
- Microphone Gain on Channels 1-4
- Pre-Configured Architecture
- Two Configurable Input Insert Positions
- One Configurable Output Insert Position
- AutoWarmth® per Output Zone
- Link Bus
- Comprehensive Signal Metering
- Front Panel LCD
- User-Specified Front Panel Control
- Optional ZC Controllers
- Ethernet Control
- Serial Control
- Third Party Control
- Wizard-Driven Configuration

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dbx PROFESSIONAL PRODUCTS

ZonePRO™ 640m

TECHNICAL SPECIFICATIONS:

Front Panel LED Indicators:	
Per Output:	4 Independent Six-Segment Lightpipe Output Meters that range from -30 to +20 dBu, Threshold Meters
Other:	LCD Display provides information about Source Selection, Page Steering, Zone Volume and Mute
Analog Inputs:	6 Total (4) Switchable Mic or Line, (2) Unbalanced, Mono-Summed RCA Input Pairs
Type:	Euroblock (Mic/Line), RCA (Source)
Impedance (Euroblock):	>50kΩ Balanced, >25kΩ Unbalanced, RF Filtered
Impedance (RCA):	>25kΩ Unbalanced, RF Filtered
Max. Input Line Level:	+20dBu Mic/Line, +12dBu RCA
CMRR:	>40dB, typically >55dB @ 1kHz
Mic Pre Gain:	30 to 60dB
Mic Input Noise (E.I.N.):	<-118dBu, 22Hz-22kHz, 150Ω Source Impedance
Mic Phantom Power:	+15VDC
Analog Outputs:	4 Total
Type:	Electronically Balanced, RF Filtered Euroblock
Impedance:	120Ω Balanced, 60Ω Unbalanced
Max. Output Level:	+20dBu
A/D Performance:	
Type:	dbx Type IV™ Conversion System
Dynamic Range Line:	>113dB, A-weighted, >110dB unweighted
Type IV Dynamic Range:	>119dB, A-weighted, 22kHz BW: >117dB, unweighted, 22kHz BW
Sample Rate:	48kHz
D/A Performance:	
Dynamic Range:	112dB A-weighted, 109dB unweighted, 22kHz BW
System Performance:	
Dynamic Range:	>109dB A-weighted, >106dB unweighted, 22kHz BW
THD+N:	0.003% typical at +4dBu, 1kHz, 0dB gain
Frequency Response:	20Hz – 20kHz, +/- 0.5dB
Interchannel Crosstalk:	>80dB typical
Crosstalk input to output:	>80dB
Propagation Delay:	0.6 msec
Operating voltage:	100 VAC, 50/60Hz, 120 VAC, 60Hz, 230VAC 50/60Hz
Power Requirements:	29 Watts
BTU Rating:	<92.13 BTU
Physical Dimensions:	
Weight:	6.05 lbs / 2.74 kg Shipping Weight 8.2 lbs / 4 kg
Dimensions (H(U) x W x D):	1.75" (1U) x 19" x 7.75" (45mm x 483mm x 197mm)
Safety Agency Certifications:	UL 60065, IEC 60065, E 60065, EN 55013

	Inputs	Outputs	Front Panel Control	Mic Preamps	S/PDIF	Ethernet	Mix Functionality	ANC*
1260m	12	6	✓	6	✓	✓	✓	✓
1260	12	6	✓	2	✓	✓	✓	
1261m	12	6		6	✓	✓	✓	✓
1261	12	6		2	✓	✓	✓	
640m	6	4	✓	4		✓	✓	✓
640	6	4	✓	2				
641m	6	4		4		✓	✓	✓
641	6	4		2				

*Ambient Noise Compensation

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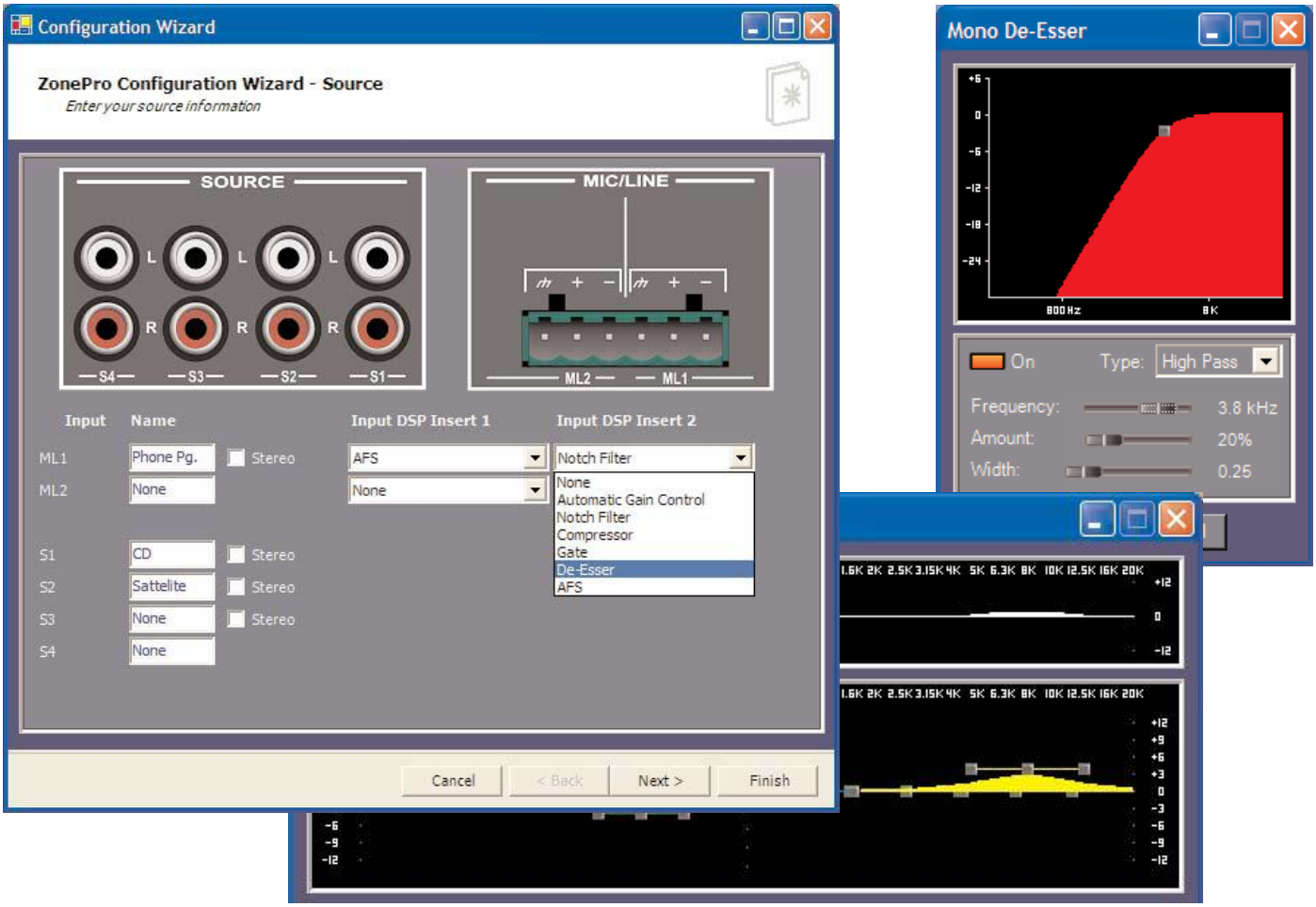
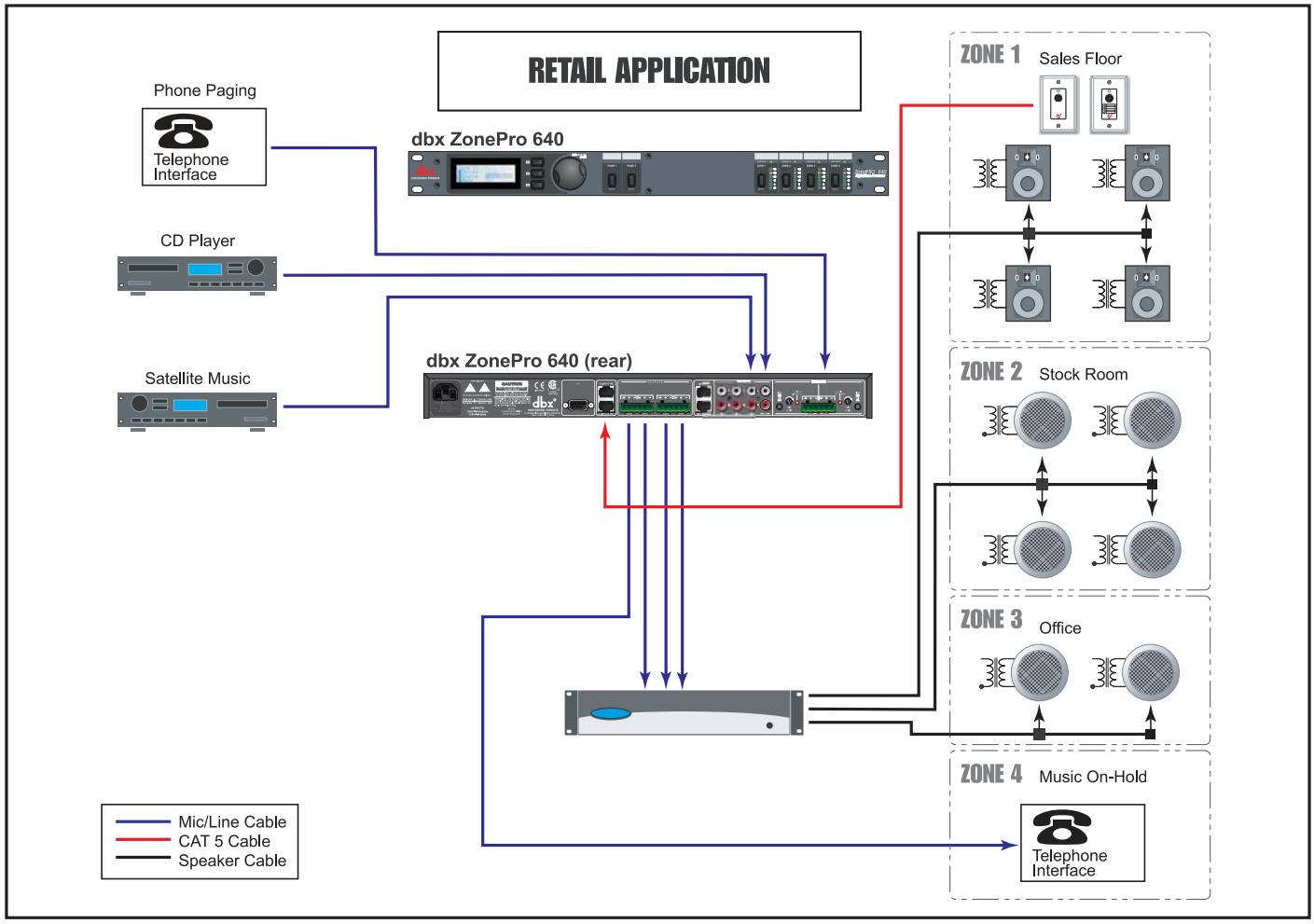
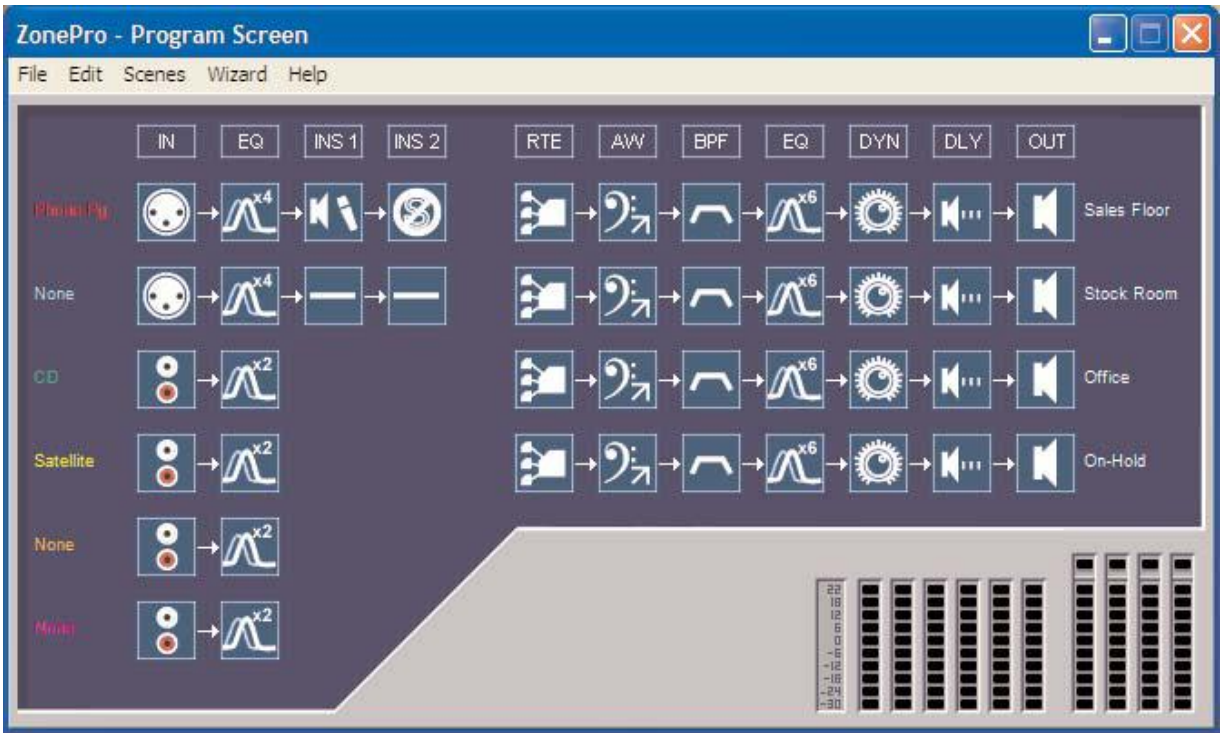
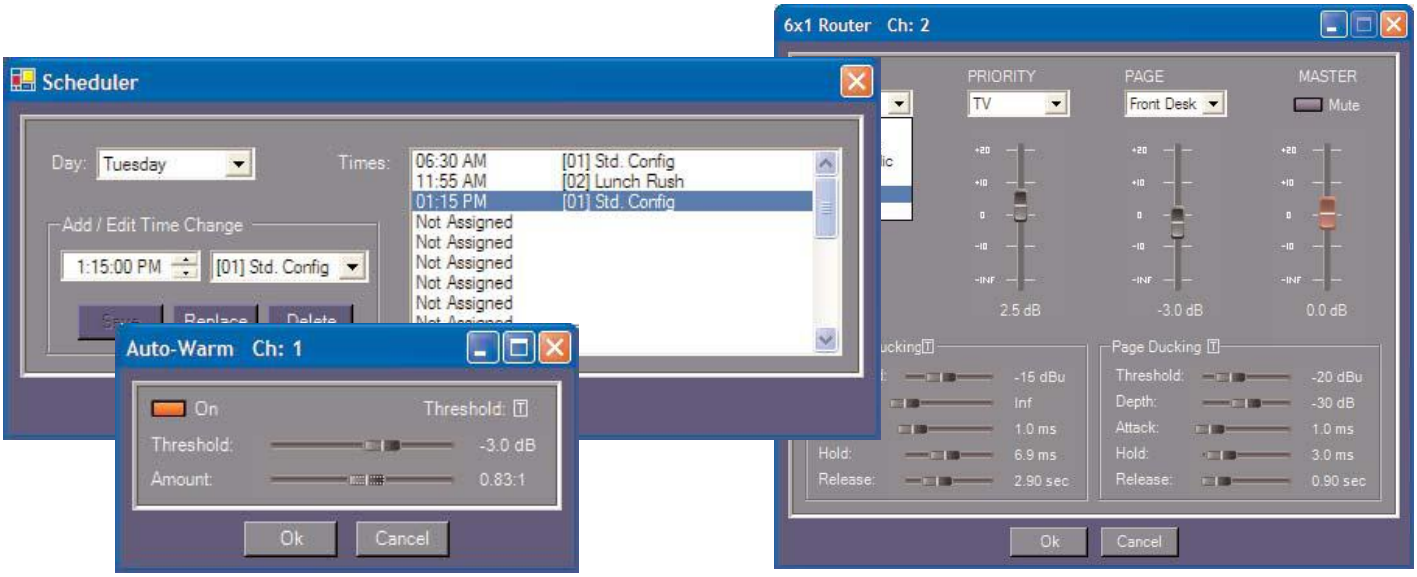


Notes - Retail Application

1. The configuration is setup from the Wizard function and is used to select the main inputs to each zone except the sales floor where the ZCs are selected as the source and level.
2. All paging is done from the phone page interface and can be steered to the sales floor, the stock room, and the office, but not the music on-hold. Page steering is done from the front panel of the ZonePro 640.
3. The Zone Controllers are wired with CAT5 cable in series with the ZC-3 (Source Selection) as ID #1, and ZC-1 (Volume) as ID #2, and are placed next to the cash register.
4. EQ, Feedback Suppression and De-Essing are used on the phone page input to help improve intelligibility and reduce unwanted feedback in the system.
5. The Bandpass Filters are used to reduce the out of band information being sent to the speakers so their efficiency can be maximized.
6. EQ is used in all zones to make the system sound as good as possible.
7. Auto Gain Control is being used on all output zones to maintain the signal level.

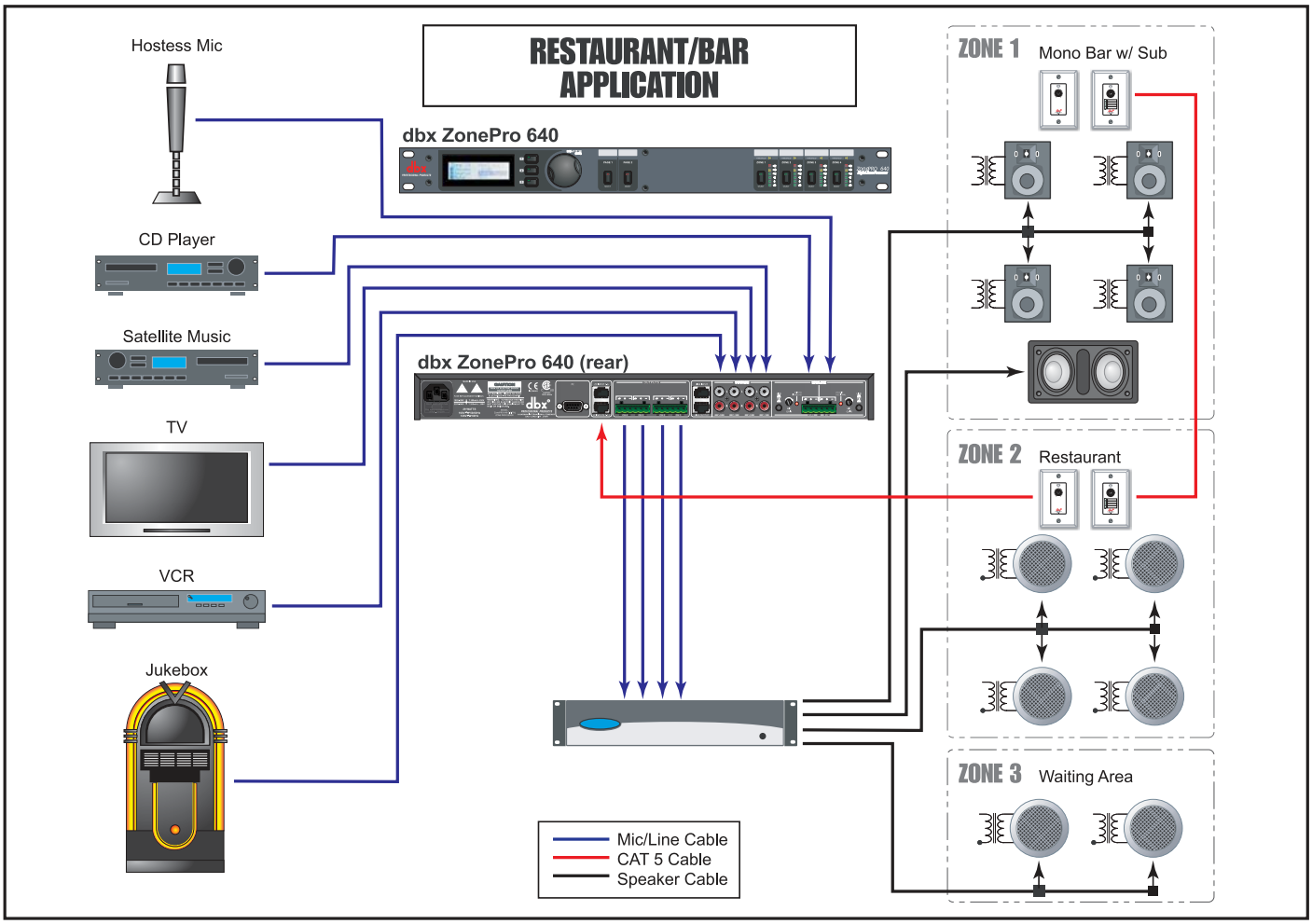

RETAIL APPLICATION
Phone Paging
Telephone Interface
dbx ZonePro 640
CD Player
Satellite Music
dbx ZonePro 640 (rear)
ZONE 1 Sales Floor
ZONE 2 Stock Room
ZONE 3 Office
ZONE 4 Music On-Hold
Telephone Interface
Mic/Line Cable
CAT 5 Cable
Speaker Cable

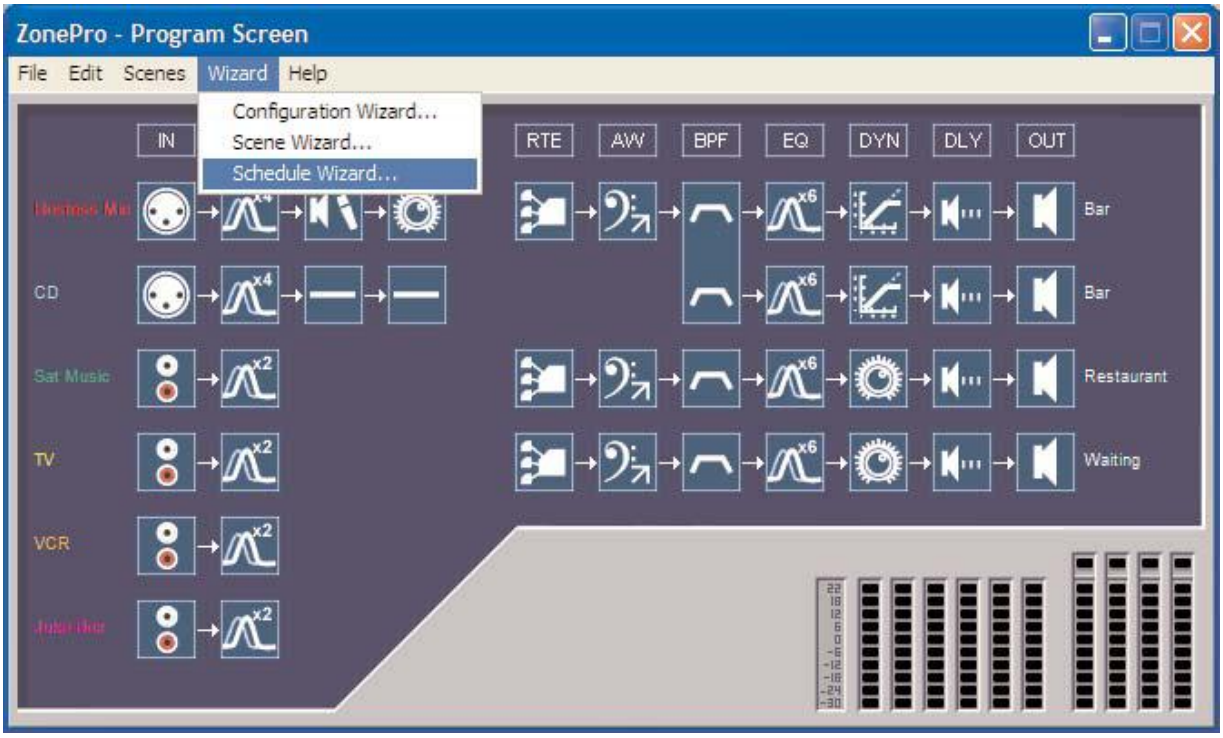

ZonePro - Program Screen
File Edit Scenes Wizard Help
IN EQ INS 1 INS 2 RTE AW BPF EQ DYN DLY OUT
Sales Floor
None
Stock Room
CD
Office
Satellite
On-Hold
None

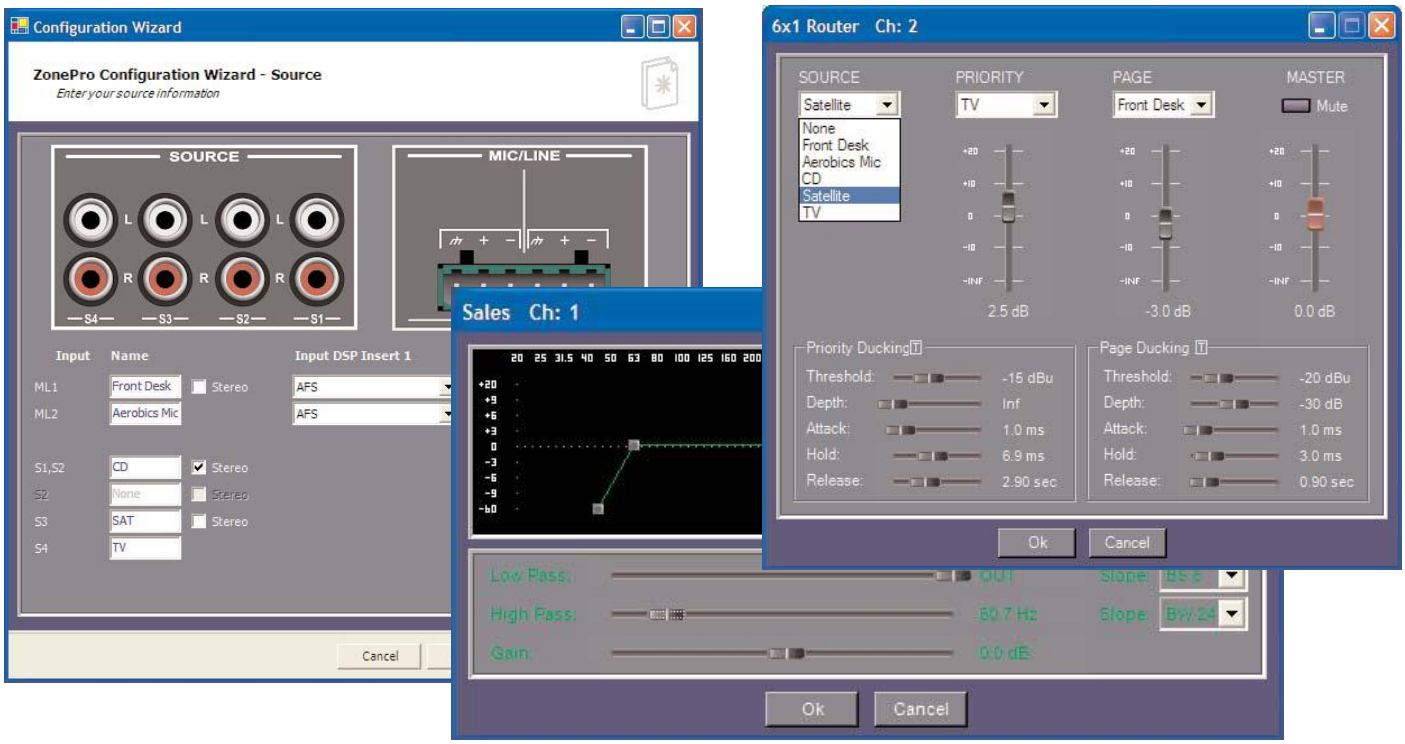


Notes - Restaurant/Bar Application

1. The ZonePro 640 is located in the manager's office and provides source selection for the waiting area.
2. Both the restaurant and the bar area have ZC controllers. The bar is using them for source selection and volume control, the ZC-1 in the restaurant is used for volume control, and the ZC-3 is used for scene changes.
3. Paging is done from the hostess station and is pre-assigned to thebar, and the waiting area.
4. The Zone Controllers for the bar and restaurant are wired with CAT5 cable in series with the bar ZC-3 and ZC-1 as ID #2, and #3, and the restaurant ZC-3 and ZC-1 as ID #1 and #4.
5. Scenes have been created that accommodate changes in the venue such as a volume boost in the bar for happy hour as well as the regular volume boost in the restaurant for the lunch time rush and the dinner crowd.
6. The ZC-3 in the restaurant is used to change between scenes as needed.
7. The Schedule function has been used to load the Rest. Boost scene automatically at the beginning of the lunch and dinner periods.
8. EQ, Feedback Suppression and Compression are used on the hostess mic to help improve intelligibility and reduce unwanted feedback in the system.
9. Limiting is used in the bar area to provide system protection.
10. AutoWarmth® is engaged in the bar to maintain the bandwidth even when the level drops, while Auto Gain Control is being used in the restaurant and waiting areas to maintain the signal level.
11. EQ is used in all zones to make the system sound as good as possible.

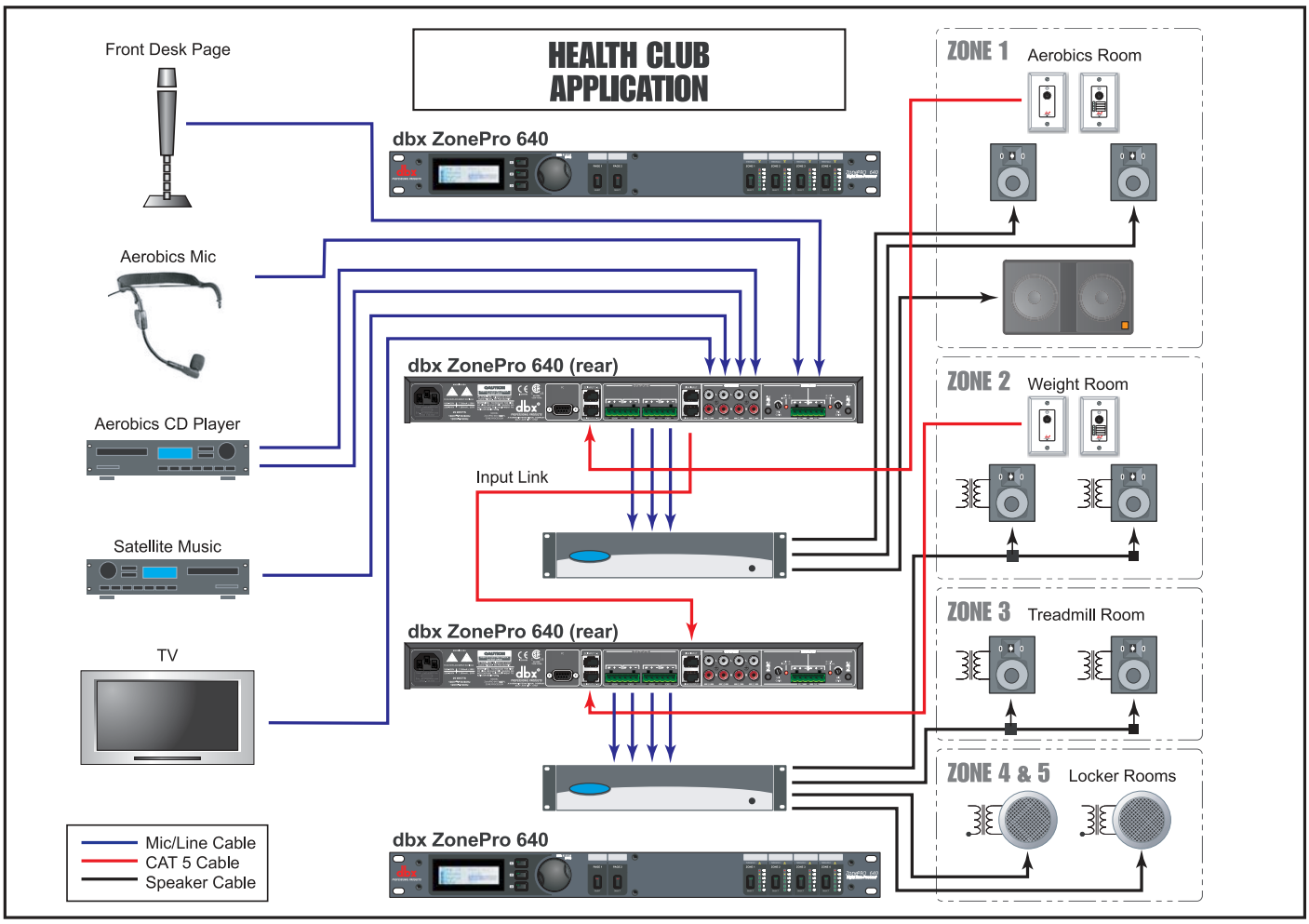

RESTAURANT/BAR APPLICATION
Hostess Mic
dbx ZonePro 640
CD Player
Satellite Music
dbx ZonePro 640 (rear)
TV
VCR
Jukebox
ZONE 1 Mono Bar w/ Sub
ZONE 2 Restaurant
ZONE 3 Waiting Area
Mic/Line Cable
CAT 5 Cable
Speaker Cable

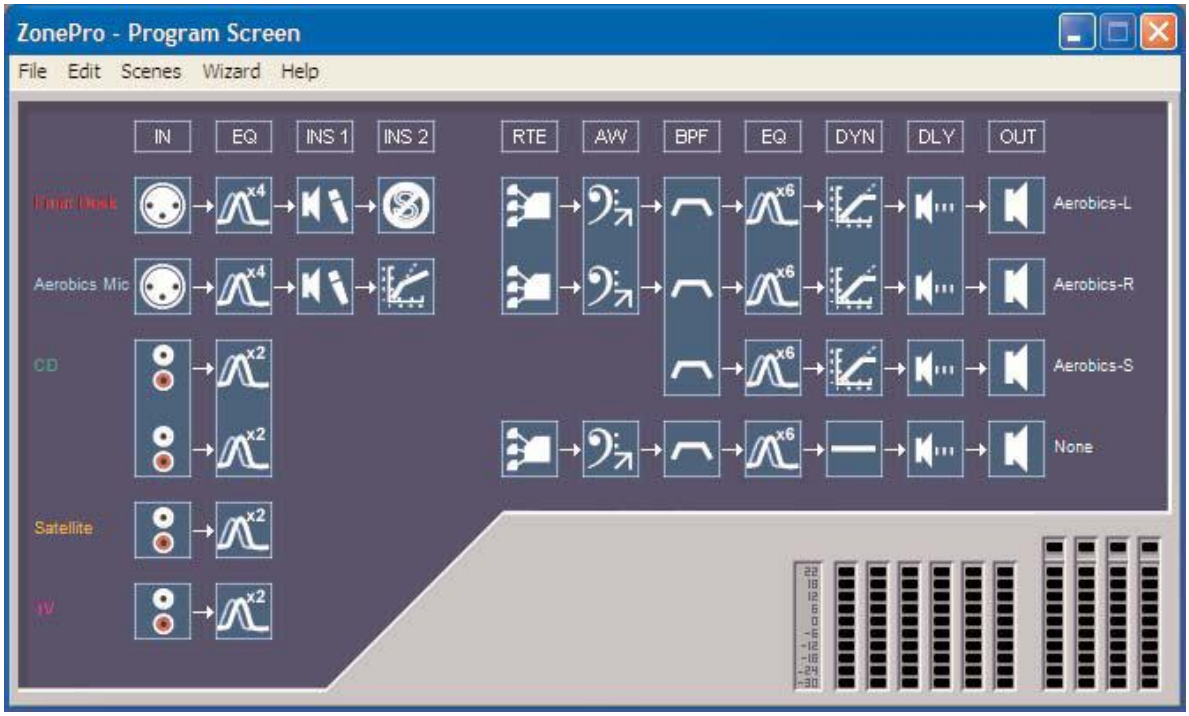

ZonePro - Program Screen
File Edit Scenes Wizard Help
Configuration Wizard...
Scene Wizard...
Schedule Wizard...
IN
RTE
AW
BPF
EQ
DYN
DLY
OUT
CD
Sat Music
TV
VCR
Bar
Bar
Restaurant
Waiting

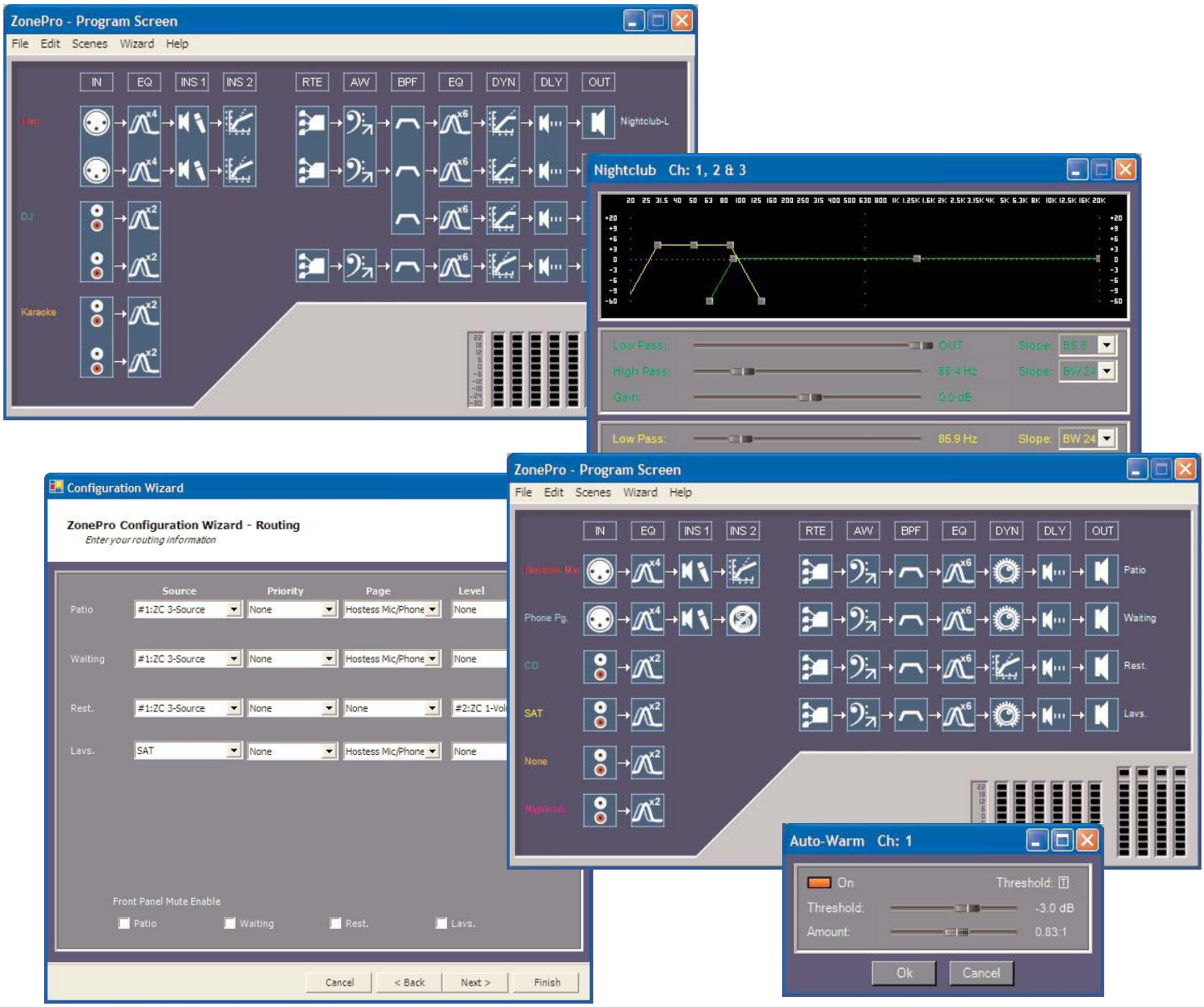


Notes - Health Club Application

1. The ZonePro 640 units are located near the front desk area.
2. ZCs in the weight room ands the aerobics room allow source selection and volume control.
3. The aerobics instructor's microphone is routed only to the aerobics area as the Priority source and is simply mixed in as the priority source rather than Ducking the primary source.
4. The Input Link Buss is used to send the inputs down to the second ZonePro device.
5. The TV feed comes from the treadmill room and it is the priority source for that area overriding the primary source. Whenever the TV is on its audio is routed to the treadmill room and it can also be selected in the weight room.
6. The locker rooms always have as their primary source the Satellite Music and receive paging from the front desk.
7. Since we do not need the Aerobics Mic to be routed to any of the zones other than the aerobics room and we are using the Input Link Buss to duplicate the inputs from the first ZonePro device to the second, we could include another CD player and route it to the second mic/line input on the second ZonePro device. The ZonePro devices offer a "Local Page" facility on each of the mic/line inputs allowing selection between the sources coming in on the Buss and the local source. This would allow all the zones that are being fed by the second ZonePro device to have an additional CD source to select from.


HEALTH CLUB APPLICATION
Front Desk Page
Aerobics Mic
Aerobics CD Player
Satellite Music
TV
dbx ZonePro 640
dbx ZonePro 640 (rear)
Input Link
dbx ZonePro 640 (rear)
dbx ZonePro 640
ZONE 1 Aerobics Room
ZONE 2 Weight Room
ZONE 3 Treadmill Room
ZONE 4 & 5 Locker Rooms
Mic/Line Cable
CAT 5 Cable
Speaker Cable


ZonePro - Program Screen
File Edit Scenes Wizard Help
IN EQ INS 1 INS 2 RTE AW BPF EQ DYN DLY OUT
Front Desk
Aerobics Mic
CD
Satellite
TV
Aerobics-L
Aerobics-R
Aerobics-S
None



Notes - Nightclub Application

1. The ZonePro 640 units are located in the manager's office.
2. The ZCs in the nightclub are situated near the bar and allow source selection and volume control.
3. The feed from the nightclub allows the restaurant to receive the signal from the nightclub allowing it to be sent to the entire restaurant.
4. Output Delay is used to delay the signal from the nightclub area so it arrives at the same time as the acoustic signal from the nightclub.
5. The zone controllers in the restaurant allow source selection and volume control of the restaurant area.

NIGHTCLUB/RESTAURANT APPLICATION