TECHNOLOGY GUIDE



AUDIO AND VISUAL PRODUCTS





Base Sounder Beacon connects devices in the Hochiki ESP Range.

ADDRESSING THE YBO-BS, YBO-BSB2, CHQ-WS2 AND CHQ-WSB2

The default address of these units is 254. If the YBO-BS or YBO-BSB2 is to be used as a base sounder (sensor, beacon or remote indicator on top) then the address will not need to be changed, as the control panel will automatically address the sounder as described below. However, if the sounder is to be used purely as a wall sounder then the unit will need to be manually addressed between 1 and 127 as described below.

AUTOMATIC ADDRESSING (BY CONTROL PANEL)

The control panel automatically assigns the address to the base sounder during initialisation. The address is calculated by taking the address of the sensor that is fitted to the base sounder and adding 127, this is then stored within the base sounder. For example, if a sensor is set at address 10 then the base sounder would be automatically set at address 137 (Addresses above 127 may not be visible to the user depending upon the implementation by the Control Panel).

MANUAL ADDRESSING (BY HAND HELD PROGRAMMER)

The address can also be set using the Hand Held Programmer (TCH-B100) between 1 and 254. See the TCHB100 instructions for further details on the address setting process. If the YBO-BS or YBO-BSB2 is to be used as a wall sounder then the address should be programmed between 1 and 127 before being installed. When installed vertically as a wall sounder these devices should also be fitted with an additional cover, the SI/CAP.

LOSS OF DECIBELS - SURFACES

The type of surfaces that predominate in the location of the Sounder will affect the maximum Sounder volume level:

HARD FINISHES	Solid stone or brick walls Solid ceilings Stone or tiled flooring	LOSE 0 dB(A)
MEDIUM FINISHES	Acoustic ceiling tiles Plastered walls 5% Soft coverings Composite flooring (eg. Laminate)	LOSE 8 dB(A)
SOFT FINISHES	Aucoustic ceiling tiles Plastered walls 5% Soft covering Carpeted flooring	LOSE 9 dB(A)

For example, a Sounder producing 95dB(A) @ 1 metre mounted within an area predominately furnished with soft finishes will actually only produce 86dB(A) @ 1 metre.

LOSS OF DECIBELS - SOUNDER FREQUENCY RANGE



Adjustments to a Sounder's maximum volume level should be made depending on the frequency range of the Sounder:

SOUNDER FREQUENCY RANGE	ADJUSTMENT
UP TO 500Hz	LOSE 0 dB(A)
500Hz TO 1000Hz	LOSE 3 dB(A)
1000Hz TO 2000Hz	LOSE 5 dB(A)

LOSS OF DECIBELS – OTHER CONSIDERATIONS

- Subtract 3dB(A) from Sounder's maximum volume level for safety margin – allowing for manufacturers tolerances.
- There is an inherent loss of volume through doors, lose 17dB(A) through normal doors, lose 27dB(A) through fire doors.

LOSS OF DECIBELS – OVER DISTANCE

This table shows the decrease in Sounder volume over distance.

TIP

Use the maximum Sounder volume level taking into account the Sounder's frequency range and the loss of volume through surfaces and doors as described above before calculating loss over distance:

М	dB(A)																								
1	65	70	80	85	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130
2	59	64	74	79	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124
3	55	60	70	75	80	82	84	86	88	90	92	94	94	98	100	102	104	106	108	110	112	114	116	118	120
5	51	56	66	71	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116
10	45	50	60	65	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
20	39	44	54	59	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104
30	35	40	50	55	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100
50	~	36	46	51	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96
100		~	40	45	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90
200			~	39	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84
300				~	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
500					~	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76
1000						~	~	~	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70
2000									~	~	~	38	40	42	44	46	48	50	52	54	56	58	60	62	64
3000												~	~	38	40	42	44	46	48	50	52	54	56	58	60
5000														~	~	38	40	42	44	46	48	50	52	54	56

This loss can be calculated with the following formula:

XDB(A) @ Y METRES = (X-6)DB(A) @ 2Y METRES

For example:

100dB(A) @ 1 metre = (100-6)dB(A) @ 2 metres ∴100dB(A) @ 1 metre = 94dB(A) @ 2 metres

