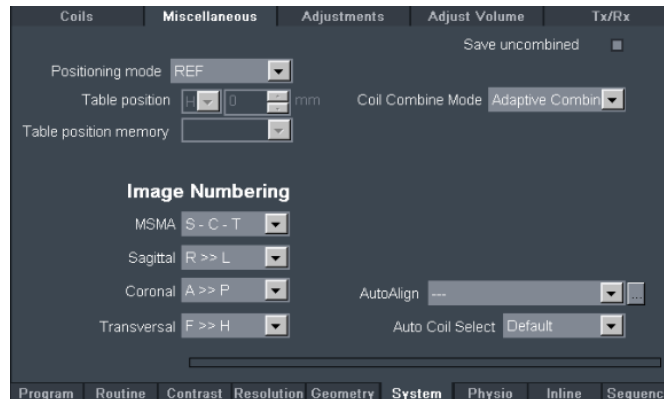


What is the order of acquisition of slices?

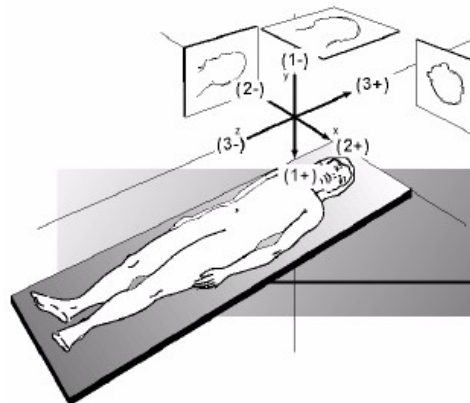
There are two important settings that determine the slice order:

1. **Image numbering** -setting determines the **spatial** order.
2. **Series** -setting determines the **temporal** order.

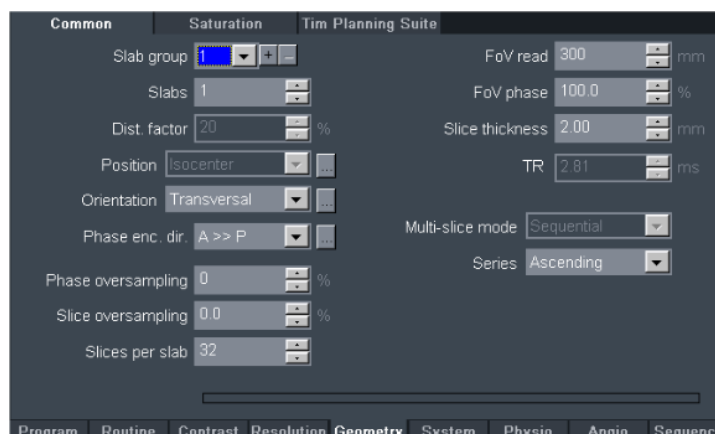
Image numbering setting determines the order of the slices with respect to the patient coordinates. **Image numbering** settings can be accessed from *System -> Miscellaneous -> Image Numbering*



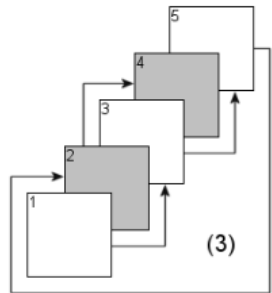
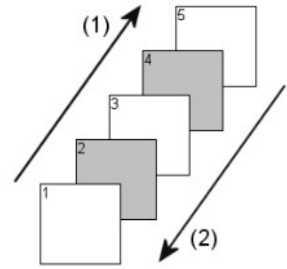
- The default settings are the following (from negative to positive direction):
 - **Coronal images:**
Anterior (1-) >> Posterior (1+), A>>P
 - **Sagittal images:**
Right (2-) >> Left (2+), R>>L
 - **Transverse images:**
Feet (3-) >> Head (3+), F>>H



Series -setting determines the **temporal** order in which the slices are acquired. The three options are *ascending*, *descending* and *interleaved* and they can be accessed from the **Series** setting under *Geometry->Common* tab of the measurement sequence.



- **Series: ascending (1)**
 - In the patient coordinate system, the slices are acquired from the negative direction to the positive direction (e.g. for the transverse images: from feet to head).
- **Series: descending (2)**
 - In the patient coordinate system, the slices are acquired from the positive direction to the negative direction (e.g. for the transverse images: from head to feet).
- **Series: interleaved (3)**
 - Interleaved slices are always acquired from negative direction to the positive direction (e.g. for the transverse images: from feet to head).
 - If the number of slices is an odd number (e.g. 5), odd numbered slices are acquired first: 1, 3, 5, 2, 4.
 - If the number of slices is an even number (e.g. 6), even numbered slices are acquired first: 2, 4, 6, 1, 3, 5



Examples

Let us illustrate the slice order with an example. The figure below shows the slices of one volume in Siemens Mosaic representation. The individual slices are indexed in the same way that they appear on the console screen or in the mosaic file format. For simplicity, we will restrict to transverse images.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

The worksheet on the next page shows how different settings of the *Series* and *Image numbering* influence the presentation of the slices and the order of acquisition. The “*feet to head direction*” column tells the order of slices as they appear on the screen starting from the feet and going towards the head. The “*order of acquisition*” column tells in what order the scanner has acquired the slices.

Example	Number of slices	Series -setting	Image numbering -setting	Feet to head direction	Order of acquisition
1	20	ascending	F>>H	1,2,3,...,20	1,2,3,...,20
2	20	ascending	H>>F	20,19,18,...,1	20,19,18,...,1
3	20	descending	F>>H	1,2,3,...,20	20,19,18,...,1
4	20	descending	H>>F	20,19,18,...,1	1,2,3,...,20
5	20	interleaved	F>>H	1,2,3,...,20	2,4,6,...,20,1,3,5,...,19
6	20	interleaved	H>>F	20,19,18,...,1	19,17,15,...,1,20,18,16,...,2
7	19	interleaved	F>>H	1,2,3,...,19	1,3,5,...,19,2,4,6,...,18
8	19	interleaved	H>>F	19,18,17,...,1	19,17,15,...,1,18,16,14,...,2

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Sources: *syngo* MR D11, Supplement – Parameters and image text.