

# UNIVERSAL SEQUENCE/APPLICATION NAMES

## SPIN ECHO (SE)

180 RF pulse to refocus echo. Produces PD, T1, or T2 images.

## INVERSION RECOVERY (IR)

180 inverting pulse applied prior to conventional SE. Provides T1 contrast with additional contrast control by adjusting TI.

## SHORT TAU INVERSION RECOVERY (STIR)

IR sequence with the TI time set to suppress fat.

## FLUID ATTENUATED INVERSION RECOVERY (FLAIR)

IR sequence with the TI time set to suppress fluid.

## ECHO PLANAR IMAGING (EPI)

Train of gradient reversals to read out the signal single shot or multi-shot.

## TIME-OF-FLIGHT (TOF)

Time-of-flight MR angiography visualizes vessels through the flow of non-saturated blood into a slice to provide high signal.

## DIFFUSION WEIGHTED IMAGING (DWI)

Measures the motion of water molecules within a region of interest.

## DIFFUSION TENSOR IMAGING (DTI)

Multi direction DWI (greater than 6 directions) method for displaying the amount and direction of diffusion. FA & MD maps can be auto generated.

## TRACTOGRAPHY

Uses DTI acquisitions to create 3D neural fiber tract maps.

## SPECTROSCOPY

Measures concentrations of chemical components within tissues displaying the information as a spectrum with peaks representing metabolites detected.

## PHASE CONTRAST (PC)

Visualizes flowing blood by detecting flow velocity.

Manufactured and distributed by  
Hitachi Ltd.  
2-16-1, Higashi-Ueno,  
Taito-ku, Tokyo, 110-0015 Japan

Distributor for Europe  
Hitachi Medical Systems Europe Holding AG  
Sumpfstrasse 13,  
6312 Steinhausen, Switzerland  
[www.hitachi-medical-systems.eu](http://www.hitachi-medical-systems.eu)

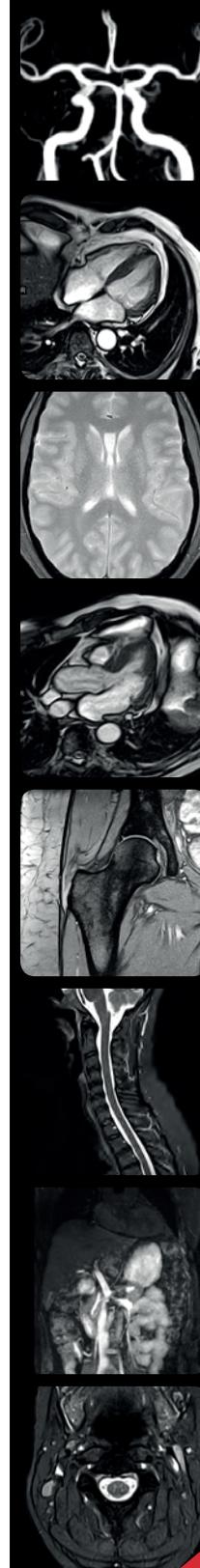
Distributor for America  
Hitachi Medical Systems America, Inc.  
1959 Summit Commerce Park  
Twinsburg, Ohio 44087, USA  
[www.hitachimed.com](http://www.hitachimed.com)

**HITACHI**  
Inspire the Next

HHA DM#56428 v6 / EU-Version, 06-2020

Hitachi reserves the right to change specifications described herein without prior notice. This document provides general technical descriptions of both optional and standard features.

MRI ACRONYM POCKET GUIDE



Find out more about  
our MRI solutions!

**HITACHI**  
Inspire the Next

		GE	Phillips	Siemens	Toshiba
<b>FAST SPIN ECHO</b>					
<b>Fast Spin Echo (FSE)</b>	Multiple 180 RF pulses to rapidly fill k-space.	FSE	TSE (Turbo)	TSE	FastSE, FASTASE
<b>DE-FSE &amp; DE-FIR</b>	RF pulse added to the end of the Echo Factor to restore longitudinal magnetization.	FR-FSE	DRIVE	RESTORE	T2 Plus
<b>opFSE</b>	Optimized FSE sequence for greater contrast, image clarity and improved SNR.				
<b>Single shot FSE</b>	FSE acquired in a single sequence used for fast T2-weighted images.	SSFSE	Single Shot TSE	HASTE	FASE
<b>isoFSE</b>	Isotropic sub-millimeter 3D volume images - reformations maintain acquired resolution.	Cube	VISTA	SPACE	mVox
<b>INVERSION RECOVERY</b>					
<b>Fast Inversion Recovery (FIR)</b>	IR pulse applied to FSE for fat suppressed (FIR-STIR) or CSF suppressed (FIR-FLAIR) images.	FIR	IR TSE	Turbo IR	FastIR
<b>3D-GEIR</b>	Gradient Echo Inversion Recovery - Isotropic 3D T1 imaging.	BRAVO	3D-T1 TFE	MPRAGE	3D Fast FE
<b>Real-IR</b>	Phase sensitive IR reconstruction for increased contrast between tissues.		Real IR	TrueIR	Real IR
<b>PARALLEL IMAGING &amp; MOTION COMPENSATION</b>					
<b>RAPID &amp; k-RAPID</b>	Parallel Imaging techniques RAPID (image based) and k-RAPID (k-space based).	ASSET, ARC	SENSE	iPAT, mSENSE, GRAPPA	SPEEDER
<b>RADAR - (SE, FSE, FIR, FLAIR, BASG, Gradient Echo &amp; TOF)</b>	Radial k-Space filling technique with patient motion compensation capabilities.	PROPELLER (FSE & FIR)	Multi-Vane (FSE & FIR)	BLADE (FSE, FIR & DWI)	JET (FSE & FIR)
<b>RAPID-RADAR</b>	Radially motion compensation combined with parallel imaging (little or no scan time increase).	PROPELLER W/ ASSET		BLADE w/ iPAT	
<b>GRADIENT ECHO &amp; STEADY STATE</b>					
<b>Gradient Echo (GE)</b>	Produces images that are T1 and T2* weighted images depending on TR/TE/FA.	GRE	FFE	GRE	FE
<b>SARGE (SG)</b>	Steady state gradient echo sequence with T2* contrast for bright fluid signal.	GRASS	FFE	FISP	FE/PFI
<b>RF-Spoiled SG (RSSG)</b>	Excitation pulse to eliminate magnetization build-up, resulting in T1 weighted images.	SSFP	T1-FFE	FLASH	T1-FE
<b>Time Reversed SG (TRSG)</b>	SARGE w/ simultaneous SE & stimulated echo sampling for T2 weighting.	SSFP	T2-FFE	PSIF	SSFP
<b>Balanced SARGE (BASG)</b>	Balanced steady state gradient echo. High CNR & bright fluid with mixed contrast (T2/T1).	FIESTA	b-FFE	True FISP	True SSFP
<b>Phase Balanced SARGE (PBSG)</b>	BASG with multiple RF phase angles and increased NSA to average out banding artifact.	FIESTA-C		CISS	
<b>ADAGE</b>	Multiple echo GE provides high SNR/CNR and/or cartilage/fluid differentiation.	MERGE & COSMIC	m-FFE	MEDIC	
<b>NEUROLOGICAL</b>					
<b>Advanced NeuroSuite</b>	Dynamic contrast enhanced T2* perfusion uses maps to analyze blood flow volumes.	BrainSTAT	PRESTO	Perfusion	Perfusion
<b>ASL Perfusion</b>	Non contrast arterial spin labeling brain perfusion capability generating a CBF map.	Pulse continuous method (pCASL)	Pulse continuous method (pCASL)	Pulsed Method (pASL)	ASTAR
<b>Diffusion Kurtosis Imaging (DKI)</b>	Multi b-value DTI sequence visualizes crossing neuro fibers in the brain.				
<b>VASCULAR</b>					
<b>FLUTE</b>	2D monitoring pulse used to observe bolus, switches 3D when contrast arrives at ROI.	SmartPrep	BolusTrak	Care Bolus	VisualPrep
<b>TRAQ</b>	Time resolved MRA for fast 3D dynamic scan used in the observation of blood kinetics.	TRICKS	4D TRAK	TWIST	DRKS
<b>VASC</b>	Contrast free MR angiography general application.	InHance	TRANCE	NATIVE	CIA
<b>VASC-FSE</b>	Utilizes a 3D primeFSE with IR pulse sequence for non-contrast peripheral MRA.	3D Deltaflow	TRANCE	NATIVE SPACE	FBI
<b>VASC-ASL</b>	Non-contrast body & neuro MRA using arterial spin labeling method.	InFlow IR	b-TRANCE	NATIVE TrueFISP	TimeSlip, TSA
<b>BSI</b>	Blood Sensitive Imaging - T2* susceptibility weighted images depict microbleeds.	SWAN	Venous BOLD	SWI	FSBB
<b>SIR Map</b>	Signal Intensity Ratio provides quantification of carotid plaque characteristics.				
<b>BeamSat (TOF and VASC-ASL)</b>	Selective saturation provides a pencil beam saturation pulse for controlled area evaluation.				
<b>ABDOMINAL</b>					
<b>TIGRE</b>	3D T1 Gradient Echo with RF Fat Sat (for Dynamic breast and abdomen).	LAVA (abd) VIBRANT (breast)	THRIVE (abd) BLISS (breast)	VIBE (abd) VIEWS (breast)	Quick 3D (abd) RADIANT (breast)
<b>T2* RelaxMap</b>	Calculates T2* and displays color overlay for quantitative assessment of iron concentration.	Star Map		MapIT	
<b>Navigator Echo</b>	Corrects respiratory and motion artifacts in real time by reducing the offset between the slices.	only cardiac	MotionTRAK	1D PACE (cardiac) 2D PACE (liver)	
<b>Body DWI</b>	Enhanced lesion conspicuity with multiple b-values in body regions.	Available	DWIBS	REVEAL	Body Vision
<b>MUSCULOSKELETAL</b>					
<b>T2 RelaxMap</b>	Quantitative T2 value imaging for superficial and intermediate layer cartilage assessment.	Cartigram	Multi Echo T2	MapIT	
<b>microTE</b>	TE <1ms provides visualization of deep / calcified layer of cartilage.				
<b>primeFSE &amp; primeFIR (metal artifact reduction)</b>	Direct TE & receiver BW adjustment. Excellent for imaging in presence of prostheses.	MAVRIC SL	O-MAR	Advanced WARP with SEMAC	
<b>FAT SUPPRESSION TECHNIQUES</b>					
<b>FatSat</b>	Frequency selected RF fat saturation pulse used throughout the body.	ChemSAT	SPIR	Fat Sat	FatSAT
<b>Water Excitation</b>	Binomial pulse alternative to fat saturation. Used with BASG and RSSG for cartilage imaging.	Water Excitation	ProSet	Water Excitation	WET, PASTA
<b>FatSep (Dixon Method)</b>	Detects phase differences of fat/water to produce in/out of phase images plus water and fat images.	IDEAL	mDixon	Dixon Fat-water separation	WFOP