Motorola Trunking Infrastructure
March, 2007

MOTOROLA Trunking Infrastructure	Raider ®	Marauder ®	Raider Xtreme ®	NTS ®	NTS Xtend ® *	
GENERAL FEATURES						DESCRIPTION OF FEATURE
PassPort ® Protocol			x	x	x	PassPort® is a trunking protocol developed by Trident Micro Systems®. It offers advanced trunking features, wide area networking and automatic roaming.
LTR ® Protocol	x	x		x		LTR® is a trunked protocol developed by EF Johnson ®. It allows for basic trunking features using a distributed home channel approach
Supports Conventional Operation	x	x		x		Conventional non-trunked operation is supported.
Roaming				x	x	System will allow radios to automatically roam between sites on a network between affiliated networks.
Auto Registration/Deregistration			x	x	x	Radios register and de-register when affiliating with a site.
Cross-Band Applications **				x	x	NTS ® allows different HSID's on different frequencies to communicate
ESN Security			x	x	x	During over-the-air validation (radio power up and power down) the radio ESN is compared with radios's assigned MIN. Allows only authorized radios to access the system.
Direct Frequency Assignment			x	x	x	All channel assignments in the radios are made directly by the system infrastructure. This eliminates the need to program all channels of all sites into radios. Sites may be added to a network and channels added to a site without the need to re-program radios
STUN & KILL Functionality			x	x	x	Added security allowing the system administrator to "STUN" or "KILL" a lost or stolen radio. If the radio is "STUNNED" it will be remotely disabled by the NTS ® and can be remotely revived by the NTS ® as well. If the radio is "KILLED" it will be remotely disabled and can only be re-enabled if it is brought in for reprogramming.
Private Selective Call			x	x	x	The ability to have a selective call between two radio users that is a true private call. No other radios in the talkgroup or network can listen to their call.
Interconnect		x		x		Allows the radio user to either access a public telephone network (Public Switch Telephone Network- PSTN) or access an organizations own switchboard and associated internal phone extensions in an office (Private Automatic Branch Exchange- PABX)
Advanced System Monitoring				x		Includes airtime logging records, monitors traffic usuage, and system busy's etc.
Emergency				x****		User can push emergency button, to alert all subscribers in a talkgroup of an emergency. Emergency Notification goes to all idle radio users in a fleet.
Priority Access				x*****		Three system priority levels; low, medium, and high. The NTS beacons its current system priority level with every idle message. The system priority level is adjustable based upon loading or types of calls in progress and is adjustable in the NTS Commander.
Channel Backup				x******		Allows the system to activate or deactivate critical backup channels when necessary. Minimizes downtime caused by disruptions in network.
VHF (132-174 MHz)	x	x		x	x	
UHF (400-512 MHz)	x	x	x	x	x	
200 MHz (217-222 MHz)	x	x	x	x	x	
700 MHz (746-794 MHz)	x	x	x	x	x	
800 MHz (806-821,851-866)	x	x	x	x	x	
Primary & Secondary Talk Groups			x	x	x	Each Fleet has a primary and secondary talk group. Can give primary talkgroup priority over your other talk groups
# users supported per site	no limit***	no limit***	2,000	16,000 per HSID with Matercard II	4,000 per Link Controller	
# of repeaters supported per site	20	20	20	30 per HSID	3 per link controller	
# of channels supported per site	20	20	20	30 per HSID	3 per link controller	
# of talkgroups supported per site	250 per channel	250 per channel	2000	16,000 per HSID	4000 per link controller	
# of sites supported	1	1	1	127	2 Xtend sites per NTS (total NTS and Xtend sites combined not to exceed 127)	
Radios that Can be Used						
PR400	x	x				LTR ® capable non-display/display portable
HT1250-LS+	x	x	x	x	x	LTR®/PassPort® capable limited/full keypad portable
HT1550-XLS	x	x				LTR® capable full keypad portable
EX600-XLS	x	x				LTR® capable full keypad portable
PM400	x	x				LTR® capable mobile
CDM1550-LS+	x	x	x	x	x	LTR®/PassPort® capable mobile
MTX8250-LS	x	x				LTR ® capable full keypad portable
MTX850-LS	x	x				LTR ® capable portable
Specifications subject to change without notice						

* The following restrictions apply to the Xtend® product:	**Requires NTS Intrasite networking option			****Requires NTS 4.0 and Emergency Option		
1.) Xtend® can only support three channels per site	is cross-banding is between separate HSID's			*****Requires NTS 4.0 and Priority Access Option		
2.) Xtend® cannot be a "Home Site"	located on a common NTS Master Card or Master Card II			******Requires NTS 4.0, New Dual Channel Card, and Channel Backup Option		
3.) Xtend® sites are always roam sites	*** There is no limit because there					
4.) Only two Xtend sites can be used for every one NTS	are not individual radio id codes in LTR ®					

Motorola Trunking Subscribers
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MOTOROLA Trunking Subscribers	PR400	HT1250-LS+	HT1250-LS+	HT1550-XLS	EX600-XLS	PM400	CDM1550-LS+	CDM1550-LS+	MTX8250-LS	MTX850-LS	GTX 800 MHz Mobile	MTX850 / 950 (Non-display Portable)	MTX8250 / 9250 (Ltd/Full keypad Portable)
Trunking System Type	LTR®	LTR®	PassPort®	LTR®	LTR®	LTR®	LTR® mode	PassPort® mode	LTR®	LTR®	LTR®	Privacy Plus™	Privacy Plus™
GENERAL SPECS													
Band Splits (MHz)													
VHF	136 - 162 / 146 - 174	136 - 174	136 - 174	136 - 174	136 - 174	146 - 174	136-174	136-174					
200		217-218 / 219-222	217-218 / 219-222				217-218 / 219-222	217-218 / 219-222					
UHF	403 - 440 / 438 - 470 / 465 - 495	403 - 470 / 450 - 512	403 - 470 / 450 - 512	403 - 470 / 450 - 512	403 - 470 / 450 - 512	438 - 470 / 465 - 495	403 - 470 / 450 - 512	403 - 470 / 450 - 512					
700		746-747 / 762-764 / 776-777 / 792-794	746-747 / 762-764 / 776-777 / 792-794				746-747 / 762-764 / 776-777 / 792-794	746-747 / 762-764 / 776-777 / 792-794					
800									806 - 821 / 851 - 866	806 - 821 / 851 - 866	806 - 821; 851 - 866	806 - 821; 851 - 866	806 - 821; 851 - 866
900												896 - 902; 935 - 941	896 - 902; 935 - 941
POWER OUTPUT (Transmit)	1-4W (U), 1-5W (V)	1-4W (U), 1-5W (V)	1-4W (U), 1-5W (V)	1-4W (U), 1-5W (V)	1 - 25W (LP); 25 - 45W (HP)	1-25W or 25-40W (UHF/VHF); 1-25W (200); 1-15W (700)			2.5W	2.5W	35W (800MHz)	2.5W	2.5W
Channel Spacing (kHz)	12.5 / 20 / 25										25 / 12.5 KHz	25 / 12.5 KHz	25 / 12.5 KHz
Display Characters	8	14	14	14	14	8	14	14	14		3		14
Display Lines	1	2	2	4	2	1	2	2	2		1		2
Number of Programmable Buttons	2 / 4	7	7	7	6	4	4	4	7	4		4	4
Number of Conventional Channels	16 / 32 / 64	16 or 32	16 or 32	160	160	64	16 or 160	16 or 160	128	16	10	up to 15	up to 49
Number of Trunked Zones / Systems	4 / 10	15	15	15	15	10	15	15	15	1	10	9	15
Number of Trunked Talkgroups per Zone	16 / 100 (total)	16	16	16	16	100 (total)	16	16	16	16	8	up to 16	up to 160
RADIO WIDE FEATURES													
Battery Status Indicator/Gauge/LED		X	X	X	X	X			X			X	X
Adjustable Power Levels	X	X	X	X	X	X	X	X	X				
Signal Strength Indicator		X	X	X	X		X	X					X
X-Pand™ Companding Technology	X	X	X	X	X	X	X	X	X	X			
Home Channel Revert Button	X	X	X	X	X	X	X	X	X	X			
Voice Storage		X	X	X- w/ Answer Mode			X	X	X***	X***			
Clock & Alarm		X	X	X	X								
SIGNALING FEATURES													
DTMF Encode		X	X	w/ Option Bd	X		X	X					
Telephone Interconnect Encode		X	X	X	X		X	X	X	X**	X	Decode	X
MDC1200™ Signaling (LTR / Conventional)		X		X	X		X		X	X**			
Selective Call	X *	X	X	X	X		X	X	X	X**		Decode	X
Call Alert	X *	X	X	X	X		X	X	X	X**		Decode	X
PTT-ID		X*	X	X	X		X	X	X				X
Radio Inhibit		X*	X	X	X		X	X	X			Decode	Decode
Radio Check		X*	X	X	X		X	X	X				
Status Reply		X*	X	X	X		X	X	X	X			
Message (Status /Check Encode)		X		X			X		X				
SCAN													
Priority Scan	X	X	X	X	X	X	X	X	X	X	X	Conv Ch Monitor	Conv Ch Monitor
Dual Priority Scan	X	X	X	X	X	X	X	X					
Nuisance Channel Delete	X	X	X	X	X	X	X	X	X	X		X	X
System Scan	X	X	X	X	X	X	X	X	X	X	X	X	X
All Group Scan	X	X	X	X	X	X	X	X	X	X	X		
Auto Group Scan	X	X	X	X	X	X	X	X					
User Programmable Scan Lists	X	X	X	X	X	X	X	X	X			X	X
One-Button Press for SCAN operation	X	X	X	X	X	X	X	X	X				X
PassPort® FEATURES													
Electronic Serial Number (ESN) protection			X					X					
Direct Frequency Assignment			X					X					
Automatic Registration upon power up			X					X					
Seamless Roaming - RSSI			X					X					
Stun/Kill			X					X					
Site/MIN View			X					X					
PTT-ID (with Mobile Identification Number)			X					X					
Emergency			X****					X****					
Priority Access			X****					X****					
Channel Backup			X****					X****					
PassPort Group Scan			X					X					
Home Channel Redirect			X					X					
Roam Request			X					X					
Home System Lookback			X					X					
Private Selective Call			X					X					
Call Alert			X					X					
Roam Lock			X					X					
Primary Talkgroup Inhibit / Priority Disable			X					X					
Site / Talkgroup Restriction			X					X					
PassPort Service Mode Menu			X					X					
WARRANTY													
	2 Years	2 Years	2 Years	2 Years	3 Years	2 Years	2 Years	2 Years	2 Years	2 Years	1 Year	2 Years	2 Years

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* These features are supported via MDC1200 protocol which can be heard over the air
**Decode only
*** With 4.0 Enhanced Feature Option
****Feature are only available when 4.0 option is ordered