



IP-224 Serial Controlled Radio Feature Set



WORKS FOR **YOU.**

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WARRANTY NOTICE (LIMITED)

For warranty and service information, refer to www.telex.com/warranty.

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MOTOTRBO CLAIM

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WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Do not open the unit. No user serviceable parts are contained within. Bosch cannot be responsible for damage. If the unit is opened, the warranty can be voided.

OpenSSL Project

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>). This product includes cryptographic software written by Eric Young (eay@cryptosoft.com). This product includes software written by Tim Hudson (tjh@cryptosoft.com).

Revision	Date	IP-224 Firmware	Description
A	5/10/2016	v2.100	Initial.
B	6/23/2016	v2.100	Added Call Alert Decode to Supported Features Table.
C	10/20/2106	v2.102	Added Hytera DMR Call Alert Decode and Emergency Decode. Added Kenwood NX-5x00. Added Tait P25 Radio Remote Monitor and Radio Status Request. Added Tait DMR Radio Remote Monitor.
D	11/17/2016	v2.102	Updated Tait DMR with Group Call Known Limitation. Updated Tait P25 with Group Call Known Limitation.
E	4/7/2017	v2.103	Added a Revision Tab. Added Serial Type Information Tab for Radio Firmware and Access Key Details. Added IP Consoles Tab. Added Known Limitations to Hytera DMR, Kenwood P25, Kenwood NX-5x00, MOTOTRBO_Mtrbi, Tait P25, Tait DMR, and Telex Generic - RELM. Added Hytera DMR Radio Check. Added Kenwood NX-5x00 with DMR support. Added Tait P25 Radio Check and MDC ID Decode. Added Tait DMR Radio Check, DMR Group ID Decode, MDC ID Decode, and Selcall ID Decode.
F	4/28/2017	v2.200	Added IP Consoles Tab.
G	9/8/2017	v2.300	Added Kenwood NX-5000 DMR ANI decode support for radio firmware version 2.20.00 or later.
H	11/13/2017	v2.300	Updated with Advanced Interface Option (North American) and Advanced Interface Option (Export) additional features. Added BK Technologies scan channel update support for radio firmware 5.5.13. Added Notices tab.
I	9/1/2018	v2.400	Added support for Sonim Interface for Motorola WAVE 7000.
J	3/22/2019	v2.600	Added support for Kenwood VM5x30.
K	12/27/2019	v2.700	Renamed Serial Type Kenwood VM5x30 to Kenwood VM Series. Updated firmware versions for Kenwood/EFJ VM radios.

Serial Type	Device	Tested Device Firmware	IP-224 Additional Features Access Key
EFJ 5300/VMx00	EFJohnson RS-5300 EFJohnson 53SL ES EFJohnson VMx00 <i>Multi-System radio</i>	4.14.5 6.16.18 8.22.10	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Hytera MD782	Hytera MD782G <i>DMR radio</i>	8.00.06.007	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Hytera MT680	Hytera MT680 <i>TETRA radio</i>	V2.06.15.009	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Icom	Icom IDAS IC-Fx061 Option Board UT-126H <i>NXDN radio</i>	Rev.5.4 - Checksum: \$BC4F Rev.3.2 – Checksum: \$F961	Advanced Interface Option (North American) or Advanced Interface Option (Export)
iDEN	Motorola i355 Motorola i365 <i>iDEN radio</i>	NA NA	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Not Tested this Release	Not Tested this Release	Not Tested this Release	Not Tested this Release
Kenwood 5x10	Kenwood TK-5x10 Ver. 2.0 Kenwood TK-5x10 Ver. 2.0 - DOS Kenwood TK-5x10 Ver. 3.0 Kenwood TK-5x10 Ver. 3.0 - DOS <i>P25 radio</i>	F4.41 – Checksum FBF1 F4.41 – Checksum E346 G6.10 – Checksum 0ADA G6.01 – Checksum 9780	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Kenwood NEXEDGE	Kenwood NX-x00 <i>NXDN radio</i>	5.11 – Checksum 1A3E	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Kenwood NX-5x00	Kenwood NX-5x00 <i>DMR / NXDN / P25 radio</i> Kenwood TK-5930 <i>P25 radio</i>	2.31.00 – Checksum 74AE 4.00.00	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Kenwood VM Series	Kenwood VMx00, VMx000 <i>Multi-System Radio</i>	8.26.13	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Kenwood x150	Kenwood TK-x150 <i>Conventional Analog radio</i>	1.07 – Checksum E282	No Access Key Required
Kenwood x180	Kenwood TK-x180 <i>Conventional Analog radio</i>	1.22 – Checksum 035C	No Access Key Required
Kenwood x80	Kenwood TK-x80 Ver. 2.0 <i>Conventional Analog radio</i>	.028 – Checksum 0ADE	No Access Key Required
Kenwood x90	Kenwood TK-x90 <i>Conventional Analog radio</i>	2.30 – Checksum 77F4	No Access Key Required
MOTOTRBO Interface	Motorola XPR4550 Option Board Version (XPR4550) Motorola XPR5350 Motorola XPR5550 Option Board Version (XPR5550) <i>DMR radio</i>	01.12.17 01.07.44 02.06.05 02.06.05 02.06.03	Advanced Interface Option (North American) ONLY Serial Type MOTOTRBO Interface Available on 1 Line Only per unit
MTRBi	MTRBi Motorola XPR4550 Option Board Version (XPR4550) Motorola XPR5350 Motorola XPR5550 Option Board Version (XPR5550) <i>DMR radio</i>	MTRBi version 1.200 01.12.17 01.07.44 02.06.05 02.06.05 02.06.03	No Access Key Required
PowerTrunk	PowerTrunk MDT-400 <i>TETRA radio</i>	27.00.01	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Sepura	Sepura SRM2000 Sepura SRG3500 <i>TETRA radio</i>	V8.3-002 V9.0-006	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Serial Over IP	NA	NA	No Access Key Required
Sprint Direct Connect	AdvanceTec AdvanceBridge Qualcomm <i>Remote Cellular Modem</i>	V0004 V1.306	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Not Tested this Release	Not Tested this Release	Not Tested this Release	Not Tested this Release
Tait TM91xx/TM94xx	Tait TM9100 Tait TM9400 <i>P25 radio</i>	8.03.03 2.07.00	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Tait TM93xx	Tait TM9300 <i>DMR radio</i> <i>(Only Tier II is supported)</i>	2.12.03	Advanced Interface Option (North American) or Advanced Interface Option (Export)
Telex Generic Version 1 - RELM KNG Series	BK Technologies KNG Series <i>P25 radio</i>	5.5.13	No Access Key Required
Telex Generic Version 2 - Sonim	Sonim for Motorola WAVE 7000 <i>Cellular PTT</i>	8A.0.0-03-7.1.1-26.01.65	Advanced Interface Option (North American) or Advanced Interface Option (Export)

<u>Feature</u>	<u>C-Soft Support</u>	<u>Hardware IP Consoles Support</u>	<u>Feature</u>	<u>C-Soft Support</u>	<u>Hardware IP Consoles Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	Yes	No
Zone Change	Yes	No	Encryption On/Off	Yes	Yes
			GPS Read	Yes	No
Group Call	Yes	No	GPS Trigger On/Off	Yes	No
Private Call	Yes	No	Monitor On/Off	Yes	Yes
			Radio Call Alert	Yes	No
ANI Decode	Yes	Yes	Radio Check	Yes	No
Call Alert Decode	Yes	No	Radio Enable/Disable	Yes	No
Emergency Decode	Yes	Yes	Radio Select Call	Yes	No
Status Message Decode	Yes	Yes	Radio Remote Monitor	Yes	No
Text Message Decode	Yes	No	Radio Send Text Message	Yes	No
			Radio Status (Send Status Message)	Yes	No
			Radio Status Request	Yes	No
			Scan Add/Delete	Yes	No
			Scan On/Off	Yes	Yes
			Talk Around On/Off	Yes	Yes

The following table shows what features are supported based on console type, C-Soft or Hardware.
Hardware consoles include IP-2002, IP-1616 and C-6200 (in Ethernet mode).

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	Yes	Yes
			GPS Read	No	No
Group Call	No	No	GPS Trigger On/Off	No	No
Private Call	No	No	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	Yes	Yes	Radio Check	No	No
Call Alert Decode	No	No	Radio Enable/Disable	No	No
Emergency Decode	Yes	Yes	Radio Select Call	No	No
Status Message Decode	No	No	Radio Remote Monitor	No	No
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	No
Query Encryption	Yes	Yes	Radio Status Request	No	No
Query Monitor	Yes	Yes	Scan Add/Delete	No	No
Query Scan	Yes	Yes	Scan On/Off	Yes	Yes
Query Talk Around	Yes	Yes	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	No	No
			GPS Read	No	No
Group Call	No	Yes	GPS Trigger On/Off	No	No
Private Call	No	Yes	Monitor On/Off	No	No
			Radio Call Alert	No	No
ANI Decode	No	Yes	Radio Check	No	Yes
Call Alert Decode	No	Yes	Radio Enable/Disable	No	Yes
Emergency Decode	No	Yes	Radio Select Call	No	Yes
Status Message Decode	No	No	Radio Remote Monitor	No	Yes
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	No
Query Encryption	No	No	Radio Status Request	No	No
Query Monitor	No	No	Scan Add/Delete	No	No
Query Scan	Yes	Yes	Scan On/Off	*	*
Query Talk Around	No	No	Talk Around On/Off	No	No

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations

Scan On/Off

The Hytera DMR radio does not pass the correct serial channel information to the IP-224 while scan is active so the IP Console's channel will not be updated correctly.

<u>Feature</u>	<u>DMO Support</u>	<u>TMO Support</u>
Channel/Talkgroup Change	Yes	Yes
Zone Change	No	No
Group Call	Yes	Yes
Private Call	No	Yes
ANI Decode	Yes	Yes
Emergency Decode	Yes	Yes
Status Message Decode	Yes	Yes
Text Message Decode	No	No
User Define Scan List	No	No

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, and Status Message Decode.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	Yes	Yes
			GPS Read	No	No
Group Call	No	Yes	GPS Trigger On/Off	No	No
Private Call	No	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	No	Yes	Radio Check	No	No
Call Alert Decode	No	Yes	Radio Enable/Disable	No	Yes
Emergency Decode	No	Yes	Radio Select Call	No	Yes
Status Message Decode	No	Yes	Radio Remote Monitor	No	No
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	Yes
Query Encryption	No	No	Radio Status Request	No	No
Query Monitor	No	No	Scan Add/Delete	No	No
Query Scan	No	No	Scan On/Off	Yes	Yes
Query Talk Around	No	No	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	Yes	Yes
			GPS Read	No	No
Group Call	Yes	Yes	GPS Trigger On/Off	No	No
Private Call	Yes	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	Yes	Yes	Radio Check	No	No
Call Alert Decode	No	No	Radio Enable/Disable	Yes	Yes
Emergency Decode	Yes	Yes	Radio Select Call	Yes	Yes
Status Message Decode	Yes	No	Radio Remote Monitor	No	*
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	Yes	No
Query Encryption	Yes	Yes	Radio Status Request	Yes	*
Query Monitor	Yes	Yes	Scan Add/Delete	Yes	Yes
Query Scan	Yes	Yes	Scan On/Off	Yes	Yes
Query Talk Around	Yes	Yes	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations

Radio Remote Monitor

For P25 systems this feature is only available on P25 Trunking channels.

Radio Status Request

For P25 systems this feature is only available on P25 Trunking channels.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	Yes
Zone Change	No	No	Encryption On/Off	Yes	Yes
			GPS Read	No	No
Group Call	Yes	Yes	GPS Trigger On/Off	No	No
Private Call	Yes	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	Yes	Yes	Radio Check	No	No
Call Alert Decode	No	No	Radio Enable/Disable	Yes	Yes
Emergency Decode	Yes	Yes	Radio Select Call	Yes	Yes
Status Message Decode	Yes	Yes	Radio Remote Monitor	Yes	Yes
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	Yes	Yes
Query Encryption	Yes	Yes	Radio Status Request	Yes	Yes
Query Monitor	Yes	Yes	Scan Add/Delete	Yes	Yes
Query Scan	Yes	Yes	Scan On/Off	Yes	Yes
Query Talk Around	Yes	Yes	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Feature	Analog Support	DMR Digital Support	NXDN Digital Support	P25 Digital Support	Feature	Analog Support	DMR Digital Support	NXDN Digital Support	P25 Digital Support
Channel/Talkgroup Change	*	Yes	Yes	Yes	Emergency Acknowledgement	No	Yes	Yes	No
Zone Change	No	No	No	No	Encryption On/Off	Yes	Yes	Yes	Yes
					GPS Read	No	No	No	No
Group Call	Yes	Yes	Yes	Yes	GPS Trigger On/Off	No	No	No	No
Private Call	Yes	Yes	Yes	Yes	Monitor On/Off	Yes	Yes	Yes	Yes
					Radio Call Alert	No	No	No	No
ANI Decode	Yes	*	Yes	Yes	Radio Check	No	No	No	No
Call Alert Decode	No	No	No	No	Radio Enable/Disable	Yes	Yes	Yes	No
Emergency Decode	Yes	Yes	Yes	Yes	Radio Select Call	Yes	Yes	Yes	Yes
Status Message Decode	Yes	Yes	Yes	No	Radio Remote Monitor	Yes	Yes	Yes	*
Text Message Decode	No	No	No	No	Radio Send Text Message	No	No	No	No
					Radio Status (Send Status Message)	Yes	Yes	Yes	No
Query Encryption	Yes	Yes	Yes	Yes	Radio Status Request	Yes	Yes	Yes	*
Query Monitor	Yes	Yes	Yes	Yes	Scan Add/Delete	Yes	Yes	Yes	Yes
Query Scan	Yes	Yes	Yes	Yes	Scan On/Off	Yes	Yes	Yes	Yes
Query Talk Around	Yes	Yes	Yes	Yes	Talk Around On/Off	Yes	Yes	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations
<p>ANI Decode For DMR systems ANI Decode is currently supported in the Kenwood NX-5x00 radio firmware version 2.20.00 or greater.</p>
<p>Channel/Talkgroup Change Analog Conventional System Types should not be used because there is not a serial command to query the radio's channel type. The radio's channel type is important in determining what serial command the IP-224 needs to send to the Kenwood NX-5x00 radio. If analog channels are necessary they should be created in a DMR, NXDN or P25 System Type.</p>
<p>Radio Remote Monitor For P25 systems this feature is only available on P25 Trunking channels.</p>
<p>Radio Status Request For P25 systems this feature is only available on P25 Trunking channels.</p>

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	Yes	Yes
			GPS Read	No	No
Group Call	No	No	GPS Trigger On/Off	No	No
Private Call	No	No	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	Yes	Yes	Radio Check	No	No
Call Alert Decode	No	No	Radio Enable/Disable	No	No
Emergency Decode	Yes	Yes	Radio Select Call	No	No
Status Message Decode	No	No	Radio Remote Monitor	No	No
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	No
Query Encryption	Yes	Yes	Radio Status Request	No	No
Query Monitor	Yes	Yes	Scan Add/Delete	No	No
Query Scan	Yes	Yes	Scan On/Off	Yes	Yes
Query Talk Around	Yes	Yes	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

<u>Feature</u>	<u>Analog Support</u>	<u>Feature</u>	<u>Analog Support</u>
Channel/Talkgroup Change	Yes	Emergency Acknowledgement	No
Zone Change	No	Encryption On/Off	Yes
		GPS Read	No
Group Call	Yes	GPS Trigger On/Off	No
Private Call	Yes	Monitor On/Off	Yes
		Radio Call Alert	No
ANI Decode	Yes	Radio Check	No
Call Alert Decode	No	Radio Enable/Disable	Yes
Emergency Decode	Yes	Radio Select Call	Yes
Status Message Decode	Yes	Radio Remote Monitor	No
Text Message Decode	No	Radio Send Text Message	No
		Radio Status (Send Status Message)	Yes
Query Encryption	Yes	Radio Status Request	Yes
Query Monitor	Yes	Scan Add/Delete	Yes
Query Scan	Yes	Scan On/Off	Yes
Query Talk Around	Yes	Talk Around On/Off	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

<u>Feature</u>	<u>Analog Support</u>	<u>Feature</u>	<u>Analog Support</u>
Channel/Talkgroup Change	Yes	Emergency Acknowledgement	No
Zone Change	No	Encryption On/Off	Yes
		GPS Read	No
Group Call	No	GPS Trigger On/Off	No
Private Call	No	Monitor On/Off	Yes
		Radio Call Alert	No
ANI Decode	No	Radio Check	No
Call Alert Decode	No	Radio Enable/Disable	No
Emergency Decode	No	Radio Select Call	No
Status Message Decode	No	Radio Remote Monitor	No
Text Message Decode	No	Radio Send Text Message	No
		Radio Status (Send Status Message)	No
Query Encryption	No	Radio Status Request	No
Query Monitor	No	Scan Add/Delete	Yes
Query Scan	No	Scan On/Off	Yes
Query Talk Around	No	Talk Around On/Off	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	Yes
Zone Change	Yes	Yes	Encryption On/Off	No	No
			GPS Read	No	*
Group Call	No	Yes	GPS Trigger On/Off	No	*
Private Call	No	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	Yes
ANI Decode	Yes	Yes	Radio Check	No	Yes
Call Alert Decode	Yes	Yes	Radio Enable/Disable	No	Yes
Emergency Decode	Yes	Yes	Radio Select Call	No	No
Status Message Decode	No	No	Radio Remote Monitor	No	Yes
Text Message Decode	No	*	Radio Send Text Message	No	*
			Radio Status (Send Status Message)	No	No
Query Encryption	No	No	Radio Status Request	No	No
Query Monitor	No	No	Scan Add/Delete	No	No
Query Scan	No	No	Scan On/Off	Yes	Yes
Query Talk Around	No	No	Talk Around On/Off	No	No

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

MOTOTRBO DMR Interface Digital System Known Limitations

	<u>IP Site Connect</u>	<u>Capacity Plus</u>	<u>Linked Capacity Plus</u>	<u>Connect Plus</u>
GPS Read	Yes	Yes	Yes	** Currently not supported
GPS Trigger On/Off	Yes	Yes	Yes	** Currently not supported
Radio Send Text Message	Yes	Yes	Yes	** Currently not supported
Text Message Decode	Yes	Yes	Yes	** Currently not supported

<u>Feature</u>	<u>DMO Support</u>	<u>TMO Support</u>
Channel/Talkgroup Change	Yes	Yes
Zone Change	No	No
Group Call	Yes	Yes
Private Call	No	Yes
ANI Decode	No	Yes
Emergency Decode	No	Yes
Status Message Decode	No	Yes
Text Message Decode	No	No
User Define Scan List	No	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, and Status Message Decode.

<u>Feature</u>	<u>DMO Support</u>	<u>TMO Support</u>
Channel/Talkgroup Change	Yes	Yes
Zone Change	No	No
Group Call	Yes	Yes
Private Call	No	Yes
ANI Decode	Yes	Yes
Emergency Decode	Yes	Yes
Status Message Decode	Yes	Yes
Text Message Decode	No	No
User Define Scan List	No	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, and Status Message Decode.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	No	Yes
			GPS Read	No	No
Group Call	No	*	GPS Trigger On/Off	No	No
Private Call	No	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	*	Yes	Radio Check	No	Yes
Call Alert Decode	No	Yes	Radio Enable/Disable	No	Yes
Emergency Decode	No	Yes	Radio Select Call	No	*
Status Message Decode	No	Yes	Radio Remote Monitor	No	Yes
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	Yes
Query Encryption	No	No	Radio Status Request	No	Yes
Query Monitor	No	No	Scan Add/Delete	No	No
Query Scan	No	No	Scan On/Off	Yes	Yes
Query Talk Around	No	No	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations

Group Call / Radio Select Call

When using C-Soft to perform a Group Call or Radio Select Call to a group, the Tait P25 radio channel remains on the new talkgroup until the radio channel is changed. For example, if Channel 1 is programmed for talkgroup 1 and C-Soft performs a Group Call to talkgroup 2, Channel 1's talkgroup remains on talkgroup 2 until the channel is changed.

ANI Decode (Analog MDC1200)

If a MDC1200 ANI is aliased in the Tait radio's ANI List, the Tait radio will not serially send MDC1200 ANI information to the IP-224. To circumvent this limitation, clear the Tait radio's ANI List with the Tait Programming Application.

NOTE: The Tait radio does not serially send MDC1200 Emergency Decode or Status Decode information to the IP-224.

ANI Decode (Analog Selcall)

A limit of 8 digits is supported for Analog Selcall ANI Decode.

NOTE: The Tait radio does not serially send Selcall Emergency Decode or Status Decode information to the IP-224.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	No	No	Encryption On/Off	No	Yes
			GPS Read	No	No
Group Call	No	*	GPS Trigger On/Off	No	No
Private Call	No	Yes	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	*	*	Radio Check	No	Yes
Call Alert Decode	No	Yes	Radio Enable/Disable	No	Yes
Emergency Decode	No	*	Radio Select Call	No	*
Status Message Decode	*	Yes	Radio Remote Monitor	No	Yes
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	Yes
Query Encryption	No	No	Radio Status Request	No	No
Query Monitor	No	No	Scan Add/Delete	No	No
Query Scan	No	No	Scan On/Off	Yes	Yes
Query Talk Around	No	No	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations

Group Call / Radio Select Call

When using C-Soft to perform a Group Call or Radio Select Call to a group, the Tait DMR radio channel remains on the new talk group until the radio channel is changed. For example, if Channel 1 is programmed for talkgroup 100 and C-Soft performs a Group Call to talkgroup 101, Channel 1's talkgroup will remain on talkgroup 101 until the channel is changed.

ANI Decode (Analog MDC1200)

If a MDC1200 ANI is aliased in the Tait radio's ANI List, the Tait radio will not serially send MDC1200 ANI information to the IP-224. The work around is to clear the Tait radio's ANI List with the Tait Programming Application.

NOTE: The Tait radio does not serially send MDC1200 Emergency Decode information to the IP-224.

ANI Decode (Analog Selcall)

A limit of 8 digits is supported for Analog Selcall ANI Decode.

NOTE: The Tait radio does not serially send Selcall Emergency Decode information to the IP-224.

ANI Decode (Digital DMR)

The Tait DMR radio only passes serial DMR ANI information to the IP-224 at the start of a new DMR call session. Therefore, if the radio receives other DMR calls while the initial DMR call session is active, the serial DMR ANI of the subsequent calls will not be sent to IP-224.

NOTE: Verify the radio firmware version is 2.12.03 to avoid this issue.

Emergency Decode (Digital DMR)

The Tait DMR radio does not pass serial DMR Emergency Call information to the IP-224. Therefore, an Emergency Call is seen as a Group Call on IP Consoles.

NOTE: Verify the radio firmware version is 2.10.01 to avoid this issue.

Status Message Decode (Analog)

Analog Selcall Status Message Decode is supported.

Analog MDC1200 Status Message Decode is not supported.

Feature	Supported	Feature	Supported
Channel/Talkgroup Change	Yes	Emergency Acknowledgement	No
Zone Change	Yes	Encryption On/Off	Yes
		GPS Read	No
Group Call	Yes	GPS Trigger On/Off	No
Private Call	Yes	Monitor On/Off	Yes
		Radio Call Alert	Yes
ANI Decode	Yes	Radio Check	Yes
Call Alert Decode	Yes	Radio Enable/Disable	Yes
Emergency Decode	Yes	Radio Select Call	Yes
Status Message Decode	Yes	Radio Remote Monitor	Yes
Text Message Decode	No	Radio Send Text Message	No
		Radio Status (Send Status Message)	Yes
Query Encryption	Yes	Radio Status Request	Yes
Query Monitor	Yes	Scan Add/Delete	No
Query Scan	Yes	Scan On/Off	Yes
Query Talk Around	Yes	Talk Around On/Off	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Note: Features listed are supported in a Generic Serial API protocol built in the IP-224. Radio manufacturers who use this protocol can determine which features they want to support in their radio. Please consult with the radio manufacturer for supported features in their radio. Telex does not test each radio make/model against this protocol.

<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>	<u>Feature</u>	<u>Analog Support</u>	<u>Digital Support</u>
Channel/Talkgroup Change	Yes	Yes	Emergency Acknowledgement	No	No
Zone Change	Yes	Yes	Encryption On/Off	No	Yes
			GPS Read	No	No
Group Call	No	No	GPS Trigger On/Off	No	No
Private Call	No	No	Monitor On/Off	Yes	Yes
			Radio Call Alert	No	No
ANI Decode	Yes	Yes	Radio Check	No	No
Call Alert Decode	No	No	Radio Enable/Disable	No	Yes
Emergency Decode	Yes	Yes	Radio Select Call	No	No
Status Message Decode	No	No	Radio Remote Monitor	No	No
Text Message Decode	No	No	Radio Send Text Message	No	No
			Radio Status (Send Status Message)	No	No
Query Encryption	Yes	Yes	Radio Status Request	No	No
Query Monitor	Yes	Yes	Scan Add/Delete	No	No
Query Scan	Yes	Yes	Scan On/Off	*	*
Query Talk Around	Yes	Yes	Talk Around On/Off	Yes	Yes

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Known Limitations

Scan On/Off

The RELM KNG Series radio does not pass the correct serial channel information to the IP-224 while scan is active so the IP Console's channel will not be updated correctly.

NOTE: Verify the radio firmware version is 5.5.13 to avoid this issue.

Feature	Supported	Feature	Supported
Channel/Talkgroup Change	No	Emergency Acknowledgement	No
Zone Change	No	Encryption On/Off	No
		GPS Read	No
Group Call	Yes	GPS Trigger On/Off	No
Private Call	Yes	Monitor On/Off	No
		Radio Call Alert	Yes
ANI Decode	Yes	Radio Check	No
Call Alert Decode	Yes	Radio Enable/Disable	No
Emergency Decode	Yes	Radio Select Call	No
Status Message Decode	No	Radio Remote Monitor	No
Text Message Decode	No	Radio Send Text Message	No
		Radio Status (Send Status Message)	No
Query Encryption	No	Radio Status Request	No
Query Monitor	No	Scan Add/Delete	No
Query Scan	No	Scan On/Off	No
Query Talk Around	No	Talk Around On/Off	No

* Not fully supported, please see Known Limitations section.

Note: The above list of features are supported when using the latest version of C-Soft. Hardware IP Consoles only support the following: Channel/Talkgroup Change, ANI Decode, Emergency Decode, Status Message Decode, Encryption On/Off, Monitor On/Off, Scan On/Off, and Talk Around On/Off.

Note: Features listed are supported in a Generic Serial API protocol built in the IP-224. Radio manufacturers who use this protocol can determine which features they want to support in their radio. Please consult with the radio manufacturer for supported features in their radio. Telex does not test each radio make/model against this protocol.