

Application Note

KAIROS License Information

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1. KAIROS License Information

1.1. Overview

This document is described license Information which needs to be activated as a technical license in a KAIROS and the model name when ordering.

1.2. Licenses in a KAIROS as technical license

1.2.1. License Description

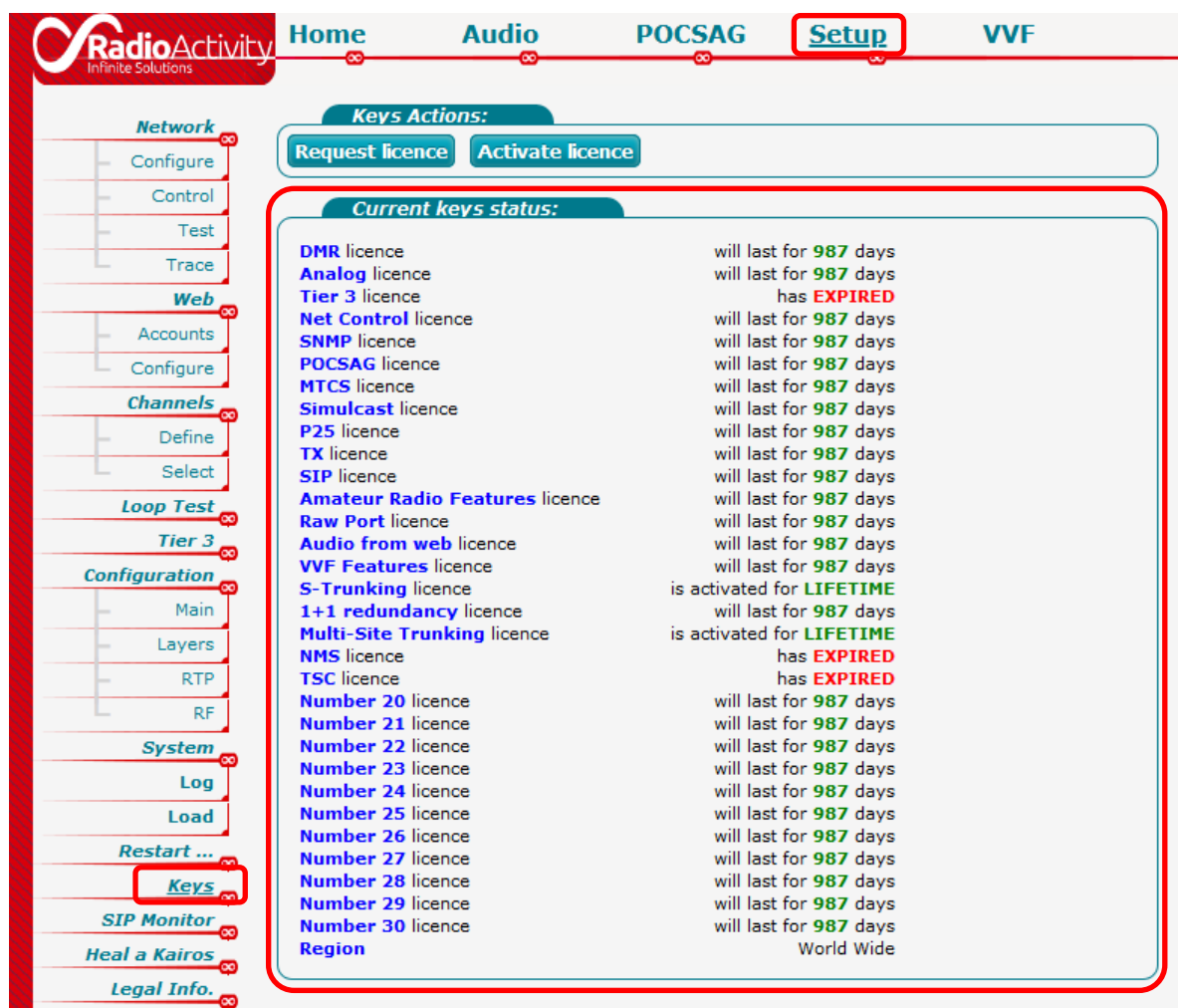
Kairos licenses are the deciding factor on what features are enabled at a given time. Each Kairos equipment has a list of licenses that can have the values:

EXPIRED – A feature not enabled;

LIFETIME – A feature enabled forever;

x days – feature currently enabled but subject to the ageing process (after each day of equipment running, a day from license will be subtracted)

Click "Setup" then "Keys" to show license status in the KAIROS.



The screenshot shows the KAIROS web interface. The top navigation bar includes 'Home', 'Audio', 'POCSAG', 'Setup' (highlighted with a red box), and 'VVF'. The left sidebar contains a tree view with categories like 'Network', 'Web', 'Channels', 'Loop Test', 'Tier 3', 'Configuration', 'System', and 'Restart ...'. The 'Keys' option under 'Restart ...' is highlighted with a red box. The main content area shows 'Keys Actions' with 'Request licence' and 'Activate licence' buttons. Below this is the 'Current keys status:' section, which lists various licenses and their status. The licenses are listed in two columns, with their status on the right.

License Name	Status
DMR licence	will last for 987 days
Analog licence	will last for 987 days
Tier 3 licence	has EXPIRED
Net Control licence	will last for 987 days
SNMP licence	will last for 987 days
POCSAG licence	will last for 987 days
MTCS licence	will last for 987 days
Simulcast licence	will last for 987 days
P25 licence	will last for 987 days
TX licence	will last for 987 days
SIP licence	will last for 987 days
Amateur Radio Features licence	will last for 987 days
Raw Port licence	will last for 987 days
Audio from web licence	will last for 987 days
VVF Features licence	will last for 987 days
S-Trunking licence	is activated for LIFETIME
1+1 redundancy licence	will last for 987 days
Multi-Site Trunking licence	is activated for LIFETIME
NMS licence	has EXPIRED
TSC licence	has EXPIRED
Number 20 licence	will last for 987 days
Number 21 licence	will last for 987 days
Number 22 licence	will last for 987 days
Number 23 licence	will last for 987 days
Number 24 licence	will last for 987 days
Number 25 licence	will last for 987 days
Number 26 licence	will last for 987 days
Number 27 licence	will last for 987 days
Number 28 licence	will last for 987 days
Number 29 licence	will last for 987 days
Number 30 licence	will last for 987 days
Region	World Wide

An example of the license status

DMR – Digital Mobile Radio protocol feature
Analog – Analog Radio Communications feature
Tier 3 – DMR Tier III Trunk features
Net Control – Remote Control for radio networks
SNMP – SNMP protocol related features
POCSAG – POCSAG Paging related features
MTCS – Multi Tone feature
Simulcast – Simulcast Radio Communications
P25 – P25 Phase 1 features
TX – RF radio Transmission
SIP – Session Initiation Protocol features
Amateur Radio Features – KA-HAM capabilities
Raw Port – to allow connection to exchange raw data with the base station
Audio from web – Audio Interface to Web browser
VVF Features – special features for Italian fire brigades
S-Trunking - JVCKENWOOD S-Trunking features
1+1 redundancy – hot standby site redundancy feature
Multi-site Trunking – Multisite feature for a multisite trunking system
NMS – Network Management System for DMR Tier III and S-Trunking System
TSC – DMR Tier III and S-Trunking controller feature
Number xx – Reserved for a future update.
Region – Region type to adjust showing the KAIROS manager settings.

1.3. License model name description

When ordering a KAIROS System, the following model names have to be used.
The meaning and/or contains for these model names will be written here below.

1.3.1. Trunking related license model names.

➤ **KA-TR-SS** *DMR Tier III Single Site license*

SW license to enable the KAIROS repeater to operate according to the DMR TIER III ETSI standard protocol in a Single Site system configuration. Price for 1 repeater

➤ **KA-NMS-SS** *DMR TIER3 Network Management System (single site)*

Programming and Web-based SW configuration tool for properly handling a TIER III SINGLE-SITE Trunking system. Related documentation is included.

This option provides for the configuration and management for all devices of the radio system.

Furthermore, it allows configuration, management, operation and maintenance for the entire system together with the TSC - Trunking System Controller agent.

You need 1x KA-NMS-SS for each DMR TIER III Single-site Network - independently from the number of carriers on that site.

➤ **KA-NMS** *DMR TIER III Network Management System (multisite)*

Programming and Web-based SW configuration tool for properly handling a TIER III MULTI-SITE (Simulcast or Multi-frequency) Trunking system. Related documentation is included.

This option provides for the configuration and management for all devices of the radio system. Furthermore, it allows configuration, management, operation and maintenance for the entire system together with the TSC - Trunking System Controller, which is a SW agent present into the Master/Alias Master base stations of the Kairos trunking network.

You need 1x KA-NMS for each DMR TIER III Multi-site (Simulcast or Multi-frequency) Network - independently from the number of sites and from the number of carriers per site.

➤ **KA-TR-MS** *DMR Tier III Multi-Site MultiFrequency SW license*

SW license to enable the KAIROS repeater to operate according to the DMR TIER III ETSI standard protocol in a Multi-Site Multi-Frequency system configuration.

Price is intended for each single Kairos repeater and for each carrier

➤ **KA-TR-MSS** *DMR Tier III Multisite Simulcast license (first carrier)*

Combo SW license Simulcast for the 1st carrier + DMR TIER III.

It enables the Simulcast functioning in DMR TIER III systems.

It includes: Synchronization algorithms, Simulcast Register Agent, automatic equalizer, automatic delay compensation.

Price is intended for each single Kairos repeater and for each first carrier

➤ **KA-TR-MSA** *DMR Tier III Multisite Simulcast license (other carriers)*

Combo SW license Simulcast (additional carriers) + DMR TIER3.

It enables the Simulcast functioning in DMR TIER III systems in the additional carriers to the first one.

It includes: Synchronization algorithms, Simulcast Register Agent, automatic equalizer, automatic delay compensation.

Price is intended for each single Kairos repeater and for each additional carrier

➤ **KA-TSC** *DMR Tier3 Main or Backup or Distributed Controller SW license*

Main or Additional Backup or Distributed embedded DMR TIER III Trunking Controller SW agent.

It can be placed on any Kairos repeater or Kairos Gateway of the system (e.g. in every site as local backup or in another site respect to the Main Controller site as network backup or distributed controller).

Price is intended for the first Main Controller SW license or for 1 additional embedded Backup or Distributed Trunking Controller SW license.

➤ **KWD-KA10ST** *S-Trunking License*

This is a SW license to enable the KAIROS repeater to operate JVCKENWOOD S-Trunking feature for both a Single Site system and a Multi-site system. Price for 1 repeater.

➤ **KWD-KA10MST** *S-Trunking Multi Site License*

This is a SW license to construct a Multi-site system for S-Trunking. This model doesn't include KWD-KA-10ST (S-Trunking license). Price for 1 repeater.

1.3.2. Other license model names

➤ **KA-NET-RC** *DMR NetControl - Remote Control SW license*

Radio equipment IP monitoring and remote control SW license, named DMR NetControl.

It allows sites supervision both by the final Customer and the Installer/Maintainer.

License is needed to connect and remotely manage the radio base stations.

Price is intended for each single Kairos repeater, in order to be correctly polled by the DMR NetControl SW tool.

➤ **KA-DMR-L** *DMR license*

SW license to allow the DMR (Tier II, Tier III or S-Trunking.) operation. Price for 1 repeater.

➤ **KA-MCTCSS** *Multi-CTCSS license*

SW license for inserting a list of up to 8 different available CTCSS tones. Price for 1 repeater.

➤ **KA-POCSAG** *POCSAG Paging SW license*

SW license to enable the POCSAG paging service into the KAIROS platform. Price for 1 repeater.

➤ **KA-GT2** *SIP SW license (TIER II only)*

SW license to enable SIP feature on a KAIROS (KA-xxx) or KAIROS Gateway (KA-TI-02).

In order to use SIP feature directly on KAIROS, KA-VOC-2 (Internal embedded DMR vocoder 2lines + GPS Receiver) is required as well. Price for 1 repeater or KAIROS Gateway.

➤ **KA-SI-T2** *Simulcast license - Analog and DMR Tier II*

The license to work in simulcast mode in Tier II.

For in Tier III, KA-TR-MSS and KA-TR-MSA include a simulcast license.

➤ **KA-P25** *P25 Conventional phase1 license*

SW license to enable the P25 phase1 functioning in non-trunking systems. This license is applicable to a single repeater, an IP or RF linked simulcast network. For simulcast networks, the combo license P25 + Simulcast KA-P25-SI has to be ordered on each Kairos. It allows automatic switch between P25/Analog/DMR. Price for 1 broadcast repeater.

➤ **KA-1+1** *Kit and SW for Hot Stand-by configuration (TIER II only)*

The KA-1+1 license represents the site redundancy concept on Tier II system.

The price for the KA-1+1 is including the flat cable and the related SW for activating the Hot Stand-by configuration. It requires an external RF branching system.

Price for 1 pair of repeaters. Please refer to 1.5.1.4. "Tier II 2-Site with 1+1 redundancy Multi Frequency" for better understanding.

1.4. Model name for an ordering vs technical license chart

M: Mandatory, O: Option

Site structure		Single-Site Multi-Freq				Multi-Site Multi-Freq			Multi-Site Simulcast				Single	
Protocol		Analog	Tier 2	Tier 3	S-Trk	Tier 2	Tier 3	S-Trk	Analog	Tier2	Tier 3		P25	P25
Model	Order per										Single Carrier	Multi Carrier		
KA-MNG	System	M	M	M	M	M	M	M	M	M	M	M	M	M
KA-NET-RC	Repeater	O	O	O	O	O	O	O	O	O	O	O	O	O
KA-1+1	A pair *1	O	O			O			O	O			O	O
KA-MCTCSS	Repeater	O	O			O			O	O			O	O
KA-POCSAG	Repeater	O	O			O			O	O			O	O
KA-P25	Repeater													M
KA-P25-SI	Repeater												M	
KA-DMR-L	Repeater		M	M	M	M	M	M		M	M	M		
KA-GT2	System		O			O				O				
KA-SI-T2	Repeater								M	M				
KWD-KA10ST	Repeater				M			M						
KWD-KA10MST	Repeater							M						
KA-TR-SS	Repeater			M										
KA-TR-MS	Repeater						M							
KA-TR-MSS	Repeater										M	M *2		
KA-TR-MSA	Repeater											M *3		
KA-NMS-SS	NMS			M										
KA-NMS	System						M				M	M		
KA-TSC	Controller			M			M				M	M		
SYS-PROG	Repeater	M	M	M	M	M	M	M	M	M	M	M	M	M
NTW-PROG	Repeater						O		O	O	O	O	O	

*1 a pair of main and spare

*2 for First carrier

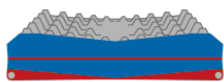
*3 for additional carrier

1.5. Case study

To know which model name for the license is required, some basic case study examples are shown below. Hardware model names are omitted.

1.5.1. Tier II

1.5.1.1. Tier II Single Repeater DMR



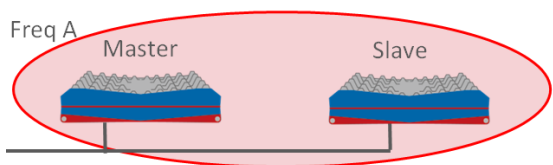
1x SYS-PROG
1x KA-MNG
1x KA-DMR-L
1x KA-NET-RC (optional)

1.5.1.2. Tier II 2-Site Multi-Frequency



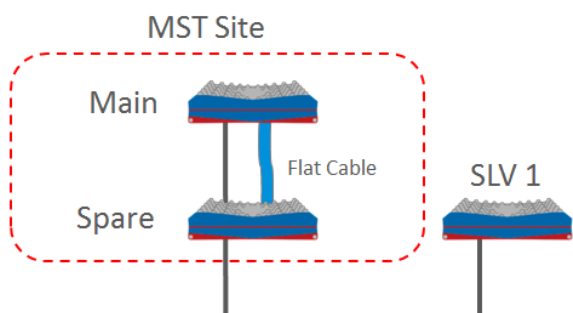
2x SYS-PROG
1x KA-MNG
2x KA-DMR-L
2x KA-NET-RC (optional)

1.5.1.3. Tier II 2-Site Simulcast



2x SYS-PROG
1x KA-MNG
2x KA-DMR-L
2x KA-SI-T2
2x KA-NET-RC (optional)

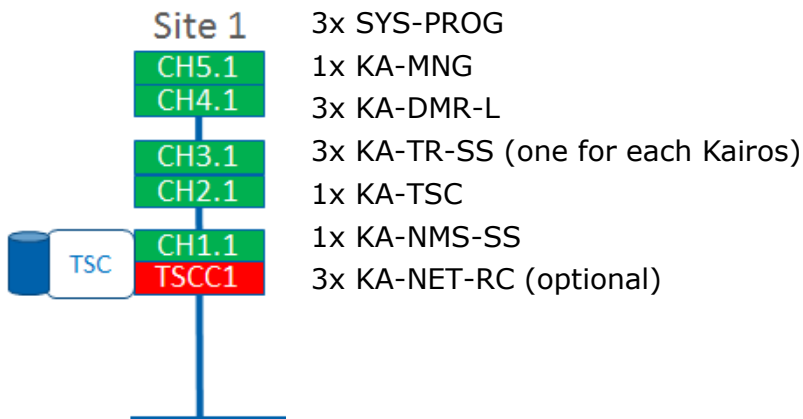
1.5.1.4. Tier II 2-Site with 1+1 redundancy Multi Frequency



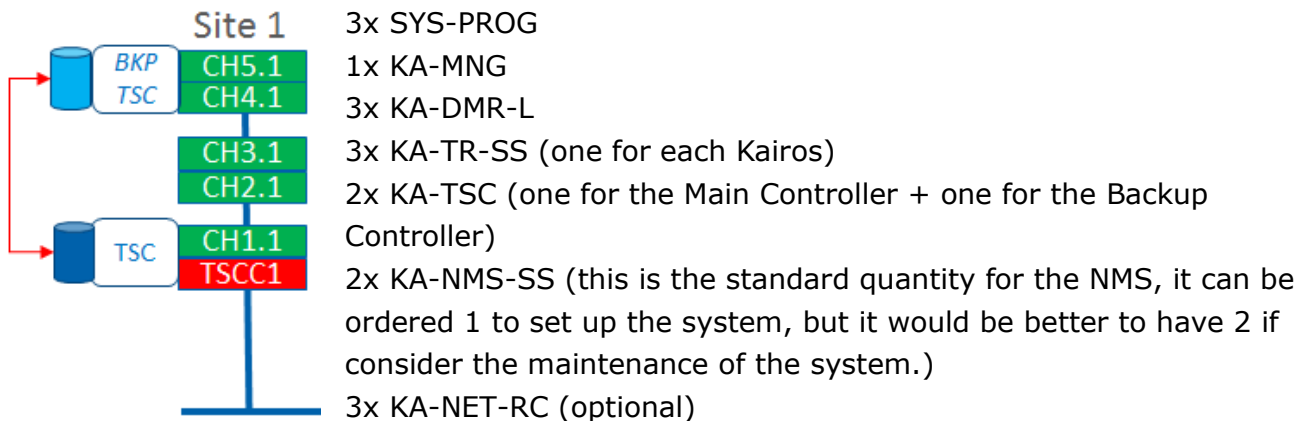
3x SYS-PROG
1x KA-MNG
3x KA-DMR-L
1x KA-1+1
3x KA-NET-RC (optional)

1.5.2. Tier III

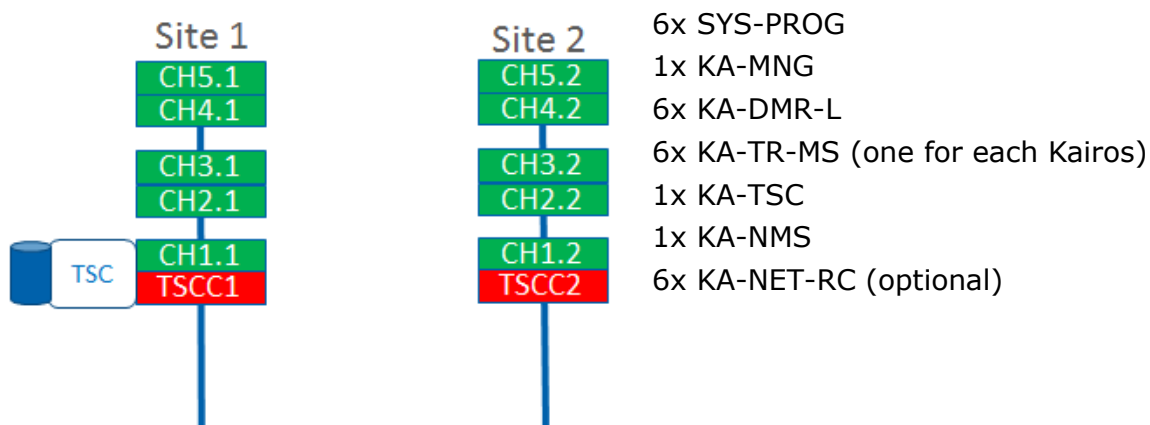
1.5.2.1. Tier III Single Site (w/o redundancy)



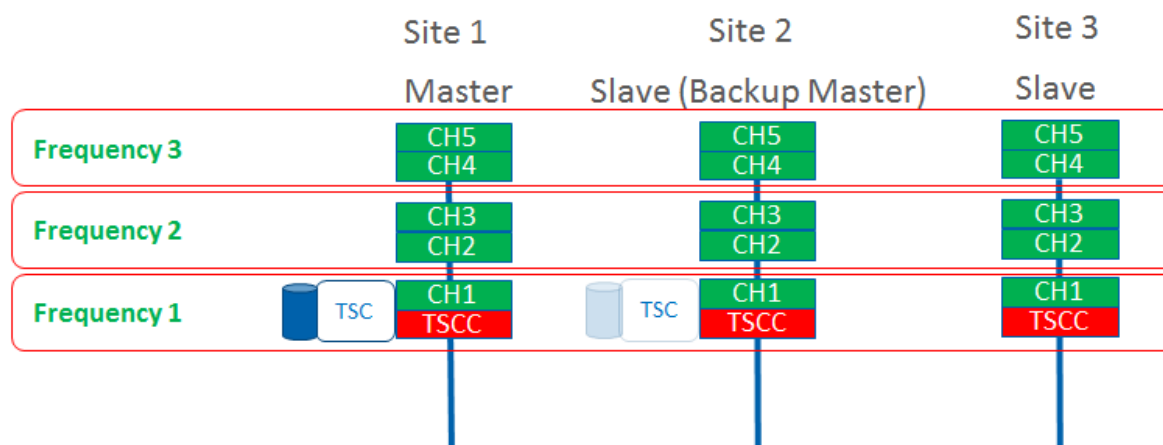
1.5.2.2. Tier III Single Site (with redundancy)



1.5.2.3. Tier III 2-Site Multi-Frequency (w/o redundancy)



1.5.2.4. Tier 3 III-Site Simulcast Multi Carrier (with redundancy)



9x SYS-PROG

1x KA-MNG

9x KA-DMR-L

3x KA-TR-MSS (one for first carrier Kairos)

6x KA-TR-MSA (one for additional carrier Kairos)

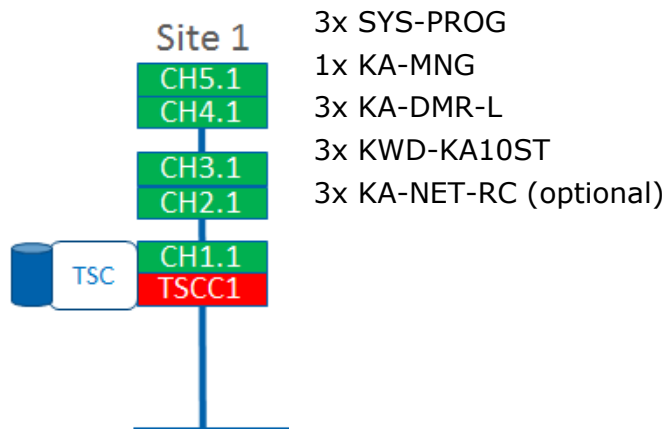
2x KA-TSC (For TSCs in the Master and in the Backup Master)

2x KA-NMS

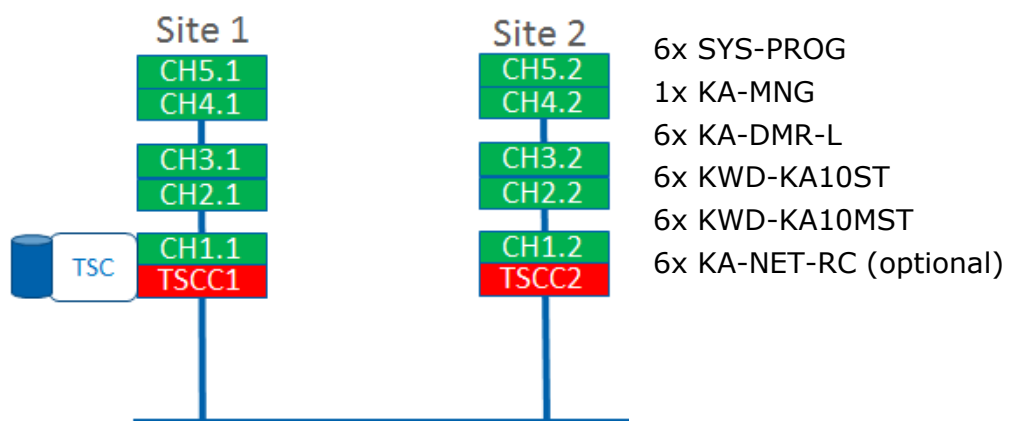
9x KA-NET-RC (optional)

1.5.3. S-Trunking

1.5.3.1. S-Trunking Single Site



1.5.3.2. S-Trunking 2-Site Multi-Frequency



Revision History

Version	Date of issue	Note
1.00	15 Jan. 2020	First Release
1.01	20 Jan. 2020	Minor correction
1.10	21 Oct. 2021	Change from "KA-SETUP" to "SYS-PROG" due to changing policy (Valid from April, 1st 2021)